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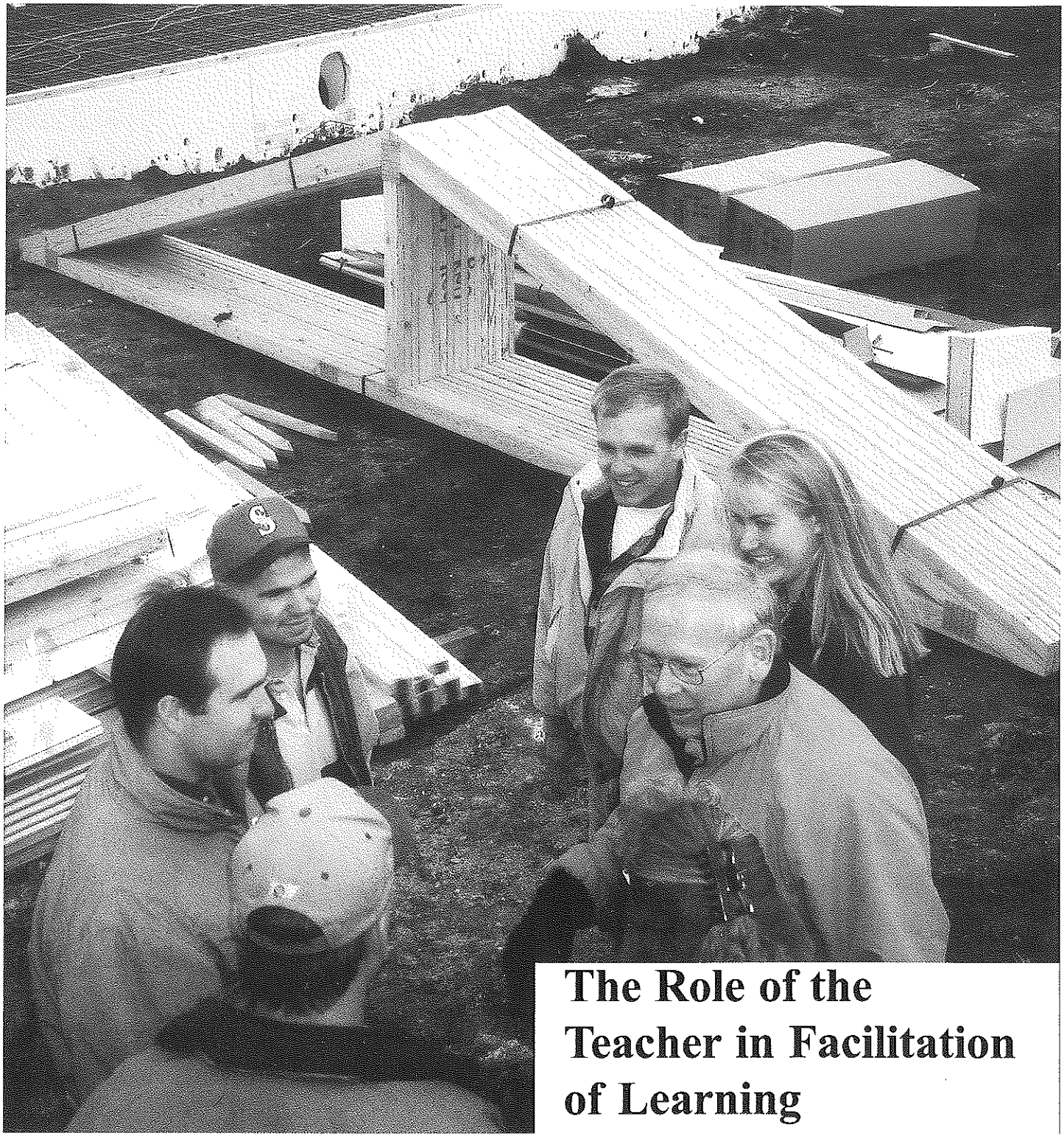

The Role of the Teacher in Facilitation of Learning

Are You in the Zone?

By Robert A. Martin

The role of the teacher in facilitating learning always seems to generate lots of discussion. The word "facilitator" seems to mean different things to different people. For some teachers "facilitating the learning process" sounds lame. They say it appears to be something that people in the ivory tower dreamed up to make life miserable for teachers. Real teachers teach, they don't facilitate!! Get real! On the other hand, many teachers would argue that "all" teachers facilitate learning. That is their job. After all, they welcome students into their classrooms and laboratories with open arms, don't they? However, upon closer examination, facilitating the learning process is a lot more than opening our classrooms and laboratories and filling students' minds with subject matter delivered by the agriculture expert.

Being a facilitator of learning requires great skill in analyzing and being aware of the learner's needs. To accomplish this level of performance the teacher must be highly competent in both the subject matter and the processes of learning and teaching. Those teachers who know and understand the learning processes spend at least an equal amount of time and energy on planning the "processes" to occur in the learning situation as they spend on the preparation of the content or subject matter. Some teachers become quite good at this process planning because they have learned a lot about their students and can manipulate the learning situation to the point that students are not realizing at first how much they are learning. Facilitation is often a "state of mind" or "mindset" but there is one approach to facilitation that seems to speak volumes about the process. The "zone of proximal development" provides a good explanation for the facilitation process in the study of agriculture. According to Wertsch (1991) "the zone of proximal development is the phase in a learning task when a learner can benefit from assistance" (In Wloakowski, 1999, p. 145). Wertsch goes on to say that "the upper limit of the zone is the place at which the learner can learn independently, the lower limit is the place where the learner needs assistance" (In Wlodkowski, 1999, p. 145).

Facilitators of learning are sensitive to where the learners are in the "zone". Facilitators of learning actually think and carefully plan how they will approach the learning process. In a facilitative environment learners become absorbed in the learning process and are motivated to learn the technical knowledge or skill.

Wlodkowski (1999) suggests there are seven steps to assisted or facilitative learning. These steps provide the scaffolding necessary for facilitating the learning process. As Wlodkowski says this process "is a pragmatic blend of individualistic and socioconstructivist thinking" (p. 145).

* Modeling – Demonstrating and providing examples of the end product.
* Thinking out loud – Asking the why questions and sharing criteria measures.
* Anticipating difficulties – Learners and teachers discussing areas where support might be needed.
* Providing prompts and cues – Teachers and learners highlight or emphasize procedures along the way.
* Regulating the difficulty – Introduction of more complex information and tasks as learning progresses.
* Using reciprocal teaching – Teacher and learners rotate role of instruction and learner provides assistance to others.
* Monitoring – Learners acquire skill in monitoring quality of their own learning by using a checklist.

There is no magical formula for facilitating the learning process but it does take a commitment to "learner involvement" in the process. The learner is the focus and agriculture provides the context. In using this process the learner and the teacher are in the "zone".

There is no question about whether or not our authors are in the zone. There is much to learn from this issue of The Magazine. Thanks to all the authors for providing food for thought. A special thank you goes to Dr. Neil Knobloch for his efforts as Theme Editor! Enjoy!

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Theme: The Role of the Teacher in Facilitation of Learning

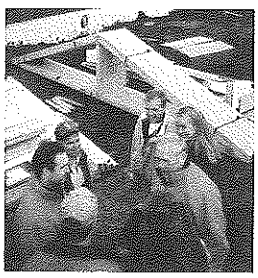
Editorial:

Theme Editor Comments:

General Article:

Theme Articles:

Authors writing for the September-October issue of The Agricultural Education Magazine discuss the role of the teacher in facilitation of learning. (Photo courtesy of College of Agriculture, Iowa State University.)



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Reflections on Facilitation in Agricultural Education

By Neil A. Knobloch

In the true spirit of facilitation, I reflected on my role as the theme editor of this issue, *The Role of the Teacher as a Classroom Facilitator*. I used the following question to guide my thinking, What did I learn about how agricultural educators view the teacher's role as a classroom facilitator based on my experience as a theme editor? Using my constructivist way of knowing, I introspectively studied and reflected on this question throughout the process of calling for manuscripts, responding to prospective authors' ideas, reviewing the manuscripts, and making recommendations to the editor. Five themes emerged from my reflection. This informal study should be considered an intrinsic case study. The themes provide meaning to the current thinking of the authors responding to the topic of facilitation in agricultural education. These themes should not be generalized beyond the authors who submitted manuscripts to this issue of *The Magazine*.

Theme 1: Agricultural educators are interested in facilitation. Twenty-six interested authors responded to the call, which resulted in 16 submitted manuscripts for the theme on facilitation. Although this was my first experience as a theme editor, the editor informed me that this was a good response. Several authors suggested why there is (or should be) interest in facilitated learning.

Theme 2: Agricultural educators have differen, and sometimes contradictor, assumptions about the teacher's role as a classroom facilitator. There were several different definitions for facilitation used by authors. It appeared that some authors used practical experiences to define facilitation. Some used a dictionary. Some used educational literature to help them define this concept. Facilitation is not what a teacher does, but how the facilitator thinks about learning. It appeared that the beliefs and ways of thinking influenced how the authors conceived the role of a teacher as a classroom facilitator.

Theme 3: Facilitation is a way

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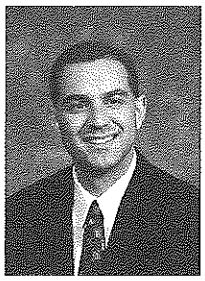
of knowing, not doing. It appeared that the authors who truly understood facilitated learning, not only accurately described what facilitation was, but they did so based on what they deeply believed and valued about learning. These authors appeared to have a constructivist way of knowing and viewed the teaching-learning process with constructivist assumptions. Some authors suggested that teachers should implement tools and strategies to help facilitate learning, yet they appeared to hold behavioralist views about teaching and learning. A teacher's way of knowing shapes what she does, how she will carry out the task, how she will interact with others, and how she will interpret the outcomes.

Theme 4: Facilitative teaching and learning is based on constructivist assumptions: (a) the teacher is a participant in the learning community; (b) students focus their attention on each other and authentic activities, and expend the most energy in the classroom; (c) teacher power and control is shared and students direct the teaching-learning process; (d) processes are used to make learning relevant to students' interests; (e) students' previous knowledge and experiences, not the teacher's, are the sources of knowledge; (f) students are engaged in inclusive and divergent discussions with each other and the teacher; (g) students construct meaning and create knowledge through authentic learning experiences that engage them cognitively, affectively, and socially; and, (h) students are responsible for their own and peers' learning.

Theme 5: The role of the teacher as a classroom facilitator is developmental, challenging, relational, flexible, adaptable, integrating, and reflective. The facilitative teacher is an instructional leader of a classroom who designs authentic learning experiences that will engage learners to interact with each other in discovering key concepts of the content. Much of the work of a facilitator happens outside of the classroom. The facilitative teacher becomes a participant in the classroom by serving as a guide in the adventure with the learners and making as many connections as possible between the content, context, and learners. The facilitator listens carefully and asks open-ended questions that serve as trail markers in searching for the key concepts. Facilitation is not easy, and becoming a facilitator is a developmental process. Although it is easier to tell learners what they need to know, a patient, reflective, and facilitative teacher is one who knows that gold is more valuable when it is discovered rather than received from a giver.

This reflection attempted to discover the current thinking of educators about the role of a teacher as a classroom facilitator, and displays a way of knowing of a theme editor who attempted to serve as a facilitative theme editor. I hope you enjoy reading this issue of *The Magazine* as much as I enjoyed facilitating the editing process. If you keep reading, you will learn one more thing. Facilitation makes a teacher's role fun!



Neil Knobloch is an Assistant Professor of Agricultural Education in the Department of Human and Community Development at the University of Illinois. Knobloch served as the theme editor for the September-October issue of The Agricultural Education Magazine.

Agricultural Education and the Pork Industry

Iowa is the largest pork producing state, producing 26% of the hogs in the United States. There are over 86,000 jobs that are directly or indirectly related to the pork industry in Iowa. With over 10,000 hog farms, Iowa's agricultural industry revolves around the pork industry. As a result youth in Iowa and other states are the future of the pork industry. As agriculture educators it is important to educate future leaders in agriculture and our future pork producers. For some teachers, finding resources related to pork production and the pork industry is easy, but there are educators that struggle in finding quality resources for their classes. Educating these students is important because they are our agriculturists of tomorrow.

As a result, the Iowa Pork Producers Association has a list of resources available for teachers to further educate students about the pork industry and swine science. We have a variety of key topics. These topics include general production, breeding, genetics, nutrition, management, housing, manure management, health, marketing, the current pork industry and pork quality topics. We are in the process of putting together curricula that can be utilized in the classroom. If you are an agriculture educator interested in swine production and would like more information regarding our materials or to order, an order form is available at www.porkboard.org.

Rachelle Bailey served as an Iowa Pork Producers Association-Producer Education Intern and is currently a senior in Agricultural Studies at Iowa State University.

Source: Department of Statistics-Iowa Department of Agriculture

Improving Student Learning Through Facilitation

By Diana Mowen

Delivery, often associated with hot pizza and big brown trucks, is all about getting a product, usually in a box, where it needs to be, on time. Successful delivery requires no knowledge of the contents of the box, just speed and proper directions. Is this the principle behind education? If it were, that would mean a teacher's primary job would be to hand ideas to students at the proper time and the students would have the responsibility of determining what to do with the information. If teachers are delivery personnel, they don't have the responsibility of showing students how to use the information that is conveyed. When viewed in this light, it is not difficult to discern the answer to the question, "is teaching about delivery or facilitation?" At the high school level, the teacher's purpose is to help students apply knowledge in practical ways. This definitely requires taking the information "outside the box."

To facilitate means to make something simple and easy to use. For teachers, this means taking information, explaining it, looking at it from many different directions, and then proving that it is useful in real-life situations. There are several necessary components to being a good facilitator. In order for teachers to facilitate and improve learning by students, a three-step process should be followed.

The Teacher

The first and most important detail is for the *teacher* to be comfortably knowledgeable about the wide range of topics generally covered in a comprehensive agriculture program. Those planning to become high school agriculture instructors should utilize their college electives to study as many areas as possible including mechanics, business, and scientific research methods. It is a common mistake to choose a comfort zone and fill elective slots with one area of classes such as animal science or horticulture. For all teachers, and especially graduates who have not gained the recommended spectrum of experience, it is necessary to take advantage of new learning opportunities while in the teaching profession. Summer teacher institutes and workshops are excellent opportunities for keeping up to date with new technology and exploring unfamiliar topics. With an extensive scope of knowledge, teachers are confident in the classroom and more likely to incite interest among students. A teacher's personal knowledge is the first step to improving student learning but the second step rests with the individual student.

The Students

It must be clear to *students* what role they have to play in their own learning. While the teacher has to do

Mowen asks the question, "Is teaching about delivery or facilitation?" (Photo courtesy of Iowa State University, College of Agriculture)

more than deliver the information, the student has to do more than just sign for it at the door. Responsibilities for the student include being in class on time and prepared every day. Assignments must be completed to the best of the student's ability and if there is a problem, it is the student's responsibility to make it known and seek out help. By making these expectations clear at the beginning of the school year and reiterating them from time to time, students will be aware of what their responsibilities are. A good way to establish this is with a student contract explained and signed at the beginning of the year and kept on file in the agriculture department.

The Classroom

After arming oneself with broad knowledge and making it clear what is expected of the student, a teacher can continue to facilitate learning by doing some fine-tuning within the program. There are several things the teacher can do to make learning subject matter easier for students in the *classroom*. The following list is by no means comprehensive, but offers some suggestions for improving student learning.

Tip 1: Simplify. As you prepare lesson plans look at the broad principles each unit includes. Break principles down into bite-size steps to reduce the chance that students will feel overwhelmed by your expectations.

Tip 2: Demonstrate. Never miss an opportunity to physically show students what you are telling them about. Use real-life examples as proof of your point. Whenever possible, incorporate guest speakers and field trips into your lessons to help prove relevancy.

Tip 3: Practice. Let students put principles to the test with hands-on experiments and projects. Useful lab time can make the difference between a good program and a great one. This is also a great tie in for SAE and FFA activities.

Tip 4: Incorporate variety. It goes without saying that using only one method of delivery can get stale rapidly. A big "beware" to new teachers who are enthusiastic about including technology in their everyday teaching. Fifteen years ago, the practice of taking notes from a chalkboard or overhead was common and boring. Lessons are being revamped and put into PowerPoint® presentations today. Students are more interested in taking notes from television, but that too can be overused and lose its appeal. Regardless of the thought and effort put into creating an impressive PowerPoint, seeing it everyday will dull its charm. Be sure to incorporate lab activities, videos, group study, and any other feasible teaching methods into the mixture.

Tip 5: Enhance the environment. Make your classroom an inviting place to learn. Students need to feel comfortable in their surroundings. This can be as basic as regulating the temperature and as elaborate as spicing up the room décor.

Tip 6: Bring to light common threads. Tie units together by mentioning how a concept relates to something previously covered or something yet to come. It's a great idea to mention in the lower classes how students will use what is being covered now in next year's class. This gives purpose to the unit and encourages continued involvement in the agriculture program.

Tip 7: Include students when setting objectives for each unit. Ask questions to determine the students' level of knowledge and create objectives suited to what they don't know and what they think is important to know.

Tip 8: Emphasize. Be clear about what is important. How many times have you been in a classroom, taken pages of notes, then been handed a final exam that asked about none of the things for which you were prepared? When you teach, emphasize the important issues. Repeat things, use bold print on overheads and PowerPoint, and tell students to underline important ideas or facts. When it comes to math equations, make sure students are familiar with the format you will put on an exam. If exams are written to test application of principles, students should be told what principles they will be expected to apply on exams.

Each program should be tailored to the teacher, students, and school community and these three steps can be used to improve learning in any program. A confident teacher, informed students, and tailoring of the program should increase student and teacher satisfaction and facilitate student learning. Always remember that what we do in the classroom is so much more than simple delivery of information. It is our job to help students apply knowledge in practical ways. If you educate yourself, inform students of their responsibilities, and form a customized learning environment there will be improvement in student learning and you will become a successful facilitator of education.

Diana Mowen is an Agricultural Education Instructor at Crescent Iroquois High School in Crescent City, IL.

Reality T.V. and Agricultural Education

By Robin L. Peiter

Survivor...Real World... American Idol...The Bachelor...Star Search...Fame... the list could go on and on! The reality TV craze has hit America! Both the cable and major television networks have created shows to keep viewers entertained and, of course, capture ratings.

But what does Reality TV and the agricultural education profession have in common? Each reality show has a host who interacts with the participants, chats with the judges, and encourages the voters to provide their input. The host helps the voters gain information to reach a decision. The host serves as a facilitator for the show and is an important part of the successful formula. Teachers have a crucial responsibility to lead and impact others. A Chinese Proverb often quoted is, "Tell me and I'll forget. Show me, and I may remember. Involve me and I will understand."

As facilitators in the classroom, teachers should serve as those who go beyond telling and showing...involving all students! Many agricultural education teachers already serve as facilitators as teachers in the classroom, with students' Supervised Agricultural Experience Programs, and as advisors for the FFA chapter. In fact, the mission of the FFA is to provide *premier leadership, personal growth* and *career success*. Facilitation allows us to be motivators, encouragers, and most importantly, leaders for our students and the profession.

In 2001, Copa and Wolff identified specific features facilitators in Career and Technical Education (CTE) should possess. As part of the CTE family, Agricultural Education is included. Their research concluded that CTE teachers who facilitated need to have the following competencies:

1) Knowledge of subject matter.
2) Knowledge regarding making learning authentic and contextualized.
3) Able to guide learning.
4) Work in teams and as partners.
5) Be creative and entrepreneurial.

To reach greater facilitation in CTE programs, Copa and Wolff (2001) made the following recommendations:

Blend with the workplace: Teachers must make connections! Connect to workplace environments and integrate these environments into your classroom. Agricultural education not only replicates work place environments, it allows students to experience learning by doing through each student's SAE and incorporating hands on involvement in classroom and laboratory activities.

Be learner-determined: As with incorporating all methods of teaching, educators must take into account the learning style of each student. Teachers are responsible for involvomg the learner in the design of the material. Giving the learner a sense of identity provides the student a chance to investigate and reach higher cognitive levels and expand his or her creativity.

Be flexible and adaptable: As facilitators, teachers need to embrace change! Agricultural education teachers are no exception! When teachers serve as classroom facilitators, the classroom environment becomes more flexible and the adjustment of the lesson content might occur. As needed, the lesson may shrink or expand depending on the learner's needs. Students themselves will re-examine their own learning and become further challenged.

Be community-centered: Teachers must take into account the culture of the community! Agricultural education programs are already community-centered; and, this is strongly supported through the FFA. Teachers of agriculture already take account of the culture of the community through many partnerships. Our profession must continue to be community-centered and be used by the community, as well as use the community as an excellent resource for education and leadership experiences.

Facilitate and support learning communities: This might be the most challenging recommendation to integrate. Agricultural education teachers must support taking learning anywhere and anytime. The typical "lecture" teaching method should be replaced with an informal learning approach that fosters close relationships and encourages informal learning. Agricultural education teachers currently do this through one-on-one interaction in the classroom. To be an effective facilitator we must continue to incorporate and support learning communities.

Many teachers already incorporate these recommendations into their programs. However, to become better educators we must constantly examine our practices and involve all students. William Butler Yates said, "Education is not the filling of a pail, but the lighting of the fire." Through facilitation, we can create better decision makers by lighting the fire and developing a brighter agricultural industry. The outcome will be students as *Survivors* in the *Real World.*

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Robin Peiter is an assistant professor of Agricultural Education in the Department of Community & Leadership Development at the University of Kentucky, Lexington, KY.

Learning by Doing: Rebuilding New Interests

By John Ferguson

Learning by doing was John Dewey's philosophy that agricultural educators have embraced for many years. Dewey believed that teachers should act as facilitators or guides, instead of teaching without practical application which detours student learning. Recently, the Kingsville FFA Chapter embraced this philosophy when the students started rebuilding a John Deere 1939 H as a shop project two years ago in an Agriculture Power I class. The Agriculture Power I Class started out in the classroom with instruction on the basic principles of how an engine operates, the basic operational procedures of how to rebuild an engine and transmission, and all the way to mixing up the paint to paint the tractor. However, teaching the material to students is not like having a hands-on project. I will explain how this project induced student learning by the teacher simply acting as a facilitator of teaching and learning by doing this project.

After the first semester of the 2001-2002 school year, I asked all the students if they had a project that they wanted to work on in class for the rest of the school year. The next thing I knew was one student had a small antique tractor to rebuild. I told the student to "bring it in" not knowing it was in several pieces and in five baskets of parts. The experience was a real one, looking at several parts and owner's manuals. I also had many years of farm tractor mechanic experience from working full time at my father's farm supply business that was in existence for better than 20 years. The students had a big task scattering out the parts and looking up all the needed and broken parts. The students gave me a parts list that seemed like a never-ending Christmas list. Every day seemed like a new adventure for the students. They found out the connecting rods of this old tractor did not have removable bearing inserts, but molded babited bearings on the rods with fine shims on each rod bolted to adjust the rod bearing clearance. Students also found out some history of this tractor by conducting research on the Internet and through books, which was done on their own time outside of class. The tractor had two fuel tanks—one for gas and other one for kerosene, which the tractor primarily operated on in working conditions. Also, many times while working on this tractor, the students would refer back to the first semester of learning all the basic techniques of overhauling an engine. That greatly helped reinforce student learning by actually overhauling and rebuilding the tractor.

Thus, one semester of constantly working on the tractor was not enough time to finish this tractor-rebuilding project. The same students enrolled in Agriculture Power II, the advanced level class to finish the tractor project. The first two months of the beginning of school students had to review advanced levels of tractor overhaul including sheet metal work and spray-painting techniques. The advanced levels that were taught motivated the students because they knew that they were going to actually work on this antique tractor and finish it by the end of the school year. As the tractor went together, I acted as a facilitator while the students did the work as I was two steps ahead of them by ordering parts and helped schedule what had to be done in a given time frame. At the end of the school year, many high school students, faculty, and administrators who were not involved in the tractor restoration project, came to the agriculture shop to see the progress of a completely restored John Deere 1939 H tractor. This little tractor restoration really brought the curriculum alive along with giving the students opportunities to develop leadership by finishing the project, which increased self-esteem within the whole school atmosphere. It's a holistic approach to teaching students by students gaining self-esteem with students and community support, which brought the whole project together.

The students encountered the full circle of the teaching/learning process through learning by doing. The teacher worked as a facilitator by guiding each student in the right direction and learning at the same time.

Many people in the community, including tractor owners, motivated the students with their support during the process of rebuilding the tractor. This project has been shown at several local fairs and the state fair. I believe that this project was a motivator by getting students excited about learning by doing and the instructor acting as a facilitator. In addition, community involvement greatly helped the students focus on finishing the project and winning blue ribbons at the local fairs. I truly believe in John Dewey's philosophy of the teacher acting as a facilitator of learning by letting students explore and develop a life long learning experience.

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Facilitation as the Main Form of Instruction: The Case of the Odd Duck

By Nancy Grudens-Schuck

Facilitation is a powerful approach to teaching and learning. When facilitation is the main form of instruction, it creates a different climate from that found in a lecture-based, teacher-centered classroom.

We know that most students can learn effectively in facilitated classrooms. Moreover, it is likely that students learn some skills better in facilitated classrooms, such as interpersonal skills and the ability to critically address complex issues (Brookfield & Preskill, 1999). Facilitation also enhances democracy in the classroom, contributing to a more democratic society (Heron, 1999).

As a long-time practitioner of facilitated learning, I highly recommend facilitation to teachers of agriculture. Facilitation shares some characteristics with experiential learning (which agriculture teachers already do), making the cross over easier than for K-12 teachers in other content areas. However, facilitation is relatively unexplored and underutilized. It is an odd duck on the teaching landscape. Here are three guesses why facilitation may be employed less than other approaches and how this situation affects the likelihood that agriculture teachers will embrace facilitation.

#1: No experience. Facilitated classrooms look and sound different from conventional classrooms. I look forward to the effect of facilitation on students: they leave energized, independent, curious, cooperative, and knowledgeable. It may be difficult, however, for an instructor who has never experienced facilitated learning to imagine how it might work. It may also be difficult to be enthusiastic about an approach one has never witnessed. The scarcity of facilitated approaches suggests that most of us are unfamiliar with its use in the classroom, so "no experience" is a major barrier.

For me, facilitation is the main form of instruction for a college agricultural leadership class that I teach in both spring and fall semesters. A facilitated classroom typically restricts the number of lectures, as does mine. For example, I lecture approximately three times per term and those lectures never last longer than 20 minutes. This is rare at the college level. I assist the students to work on projects, plan and assess their work together, debate and discuss, and practice skills with each other. Additionally, the 'signs' in Figure 1 that characterize a facilitated classroom are also true for my classroom (after Brookfield & Preskill, 1999; Kaner, 1996).

For some, lack of enthusiasm may be rooted in experiences with ineffective or disorganized facilitation. One can certainly find cases of poor facilitation. It is unfortunate when this occurs.

#2: Teacher-centered, expert models.

Q: What best predicts how you teach?

A: The style used by *your* teachers.

Q: What was the style used by those teachers?

A: Ask them. *They're* the experts!

The current model of contemporary science and technology instruction is teacher-centered, based on an expert model. The term 'teacher-centered' suggests a reliance on lecture—very true for universities. Teacher-centered can also describe experiential learning environments, including those found in agricultural education programs. The distinguishing feature is control. Who decides what gets talked about? Whose ideas start and stop the discussion? When the "who" regularly includes students, then the classroom features *shared control*, bringing it closer to the facilitation model (Heron, 1999).

It is likely that no one modeled effective facilitation in your school. Chances are, you were taught by instructors who relied upon the teacher-centered, expert model. Styles, formats, uses of materials, and forms of assessment are handed down from one generation of teachers to the next. New practices such as facilitation therefore remain invisible and under- utilized.

Even when pre-service teachers are introduced to novel forms of instruction, such as facilitation, they may not put them into practice. Innovative practices are often squelched once the student lands a job. Ironically, well meaning efforts such as mentorship programs for beginning teachers may limit experimentation by unintentionally perpetuating *same old, same old*—which for most schools is the teacher-centered, expert model. Even when

Indicators of a Facilitated Classroom (Figure 1)

(1) Students talk more than the teacher.
(2) Students take action more often than the teacher.
(3) Students talk to each other as well as to the teacher.
(4) Students co-manage their own learning, and take an active role in others' learning.
(5) Discussion is inclusive and divergent.

supported by administrators, colleagues' expectations (peer pressure) and student reactions to new forms of instruction can discourage innovation.

#3: No training. The first two situations paint a dismal portrait of training for facilitation. If a teacher isn't aware of the benefits of facilitation, she probably won't seek training. On the other hand, if a teacher is socialized into the teacher-centered, expert model, or had bad experiences with facilitation, he is also unlikely to seek training. Because part of the 'adoption' problem is likely due to unfamiliarity with the benefits of high quality facilitation, I would like to say a bit more about what facilitated learning 'is' and 'isn't' (Figure 2).

Like any teaching model, facilitating effectively requires sophisticated skills that depend on an artful blend of theoretical and practical knowledge—gained through lots of practice. In my research on facilitation, I learned that people with different personalities applied facilitation differently, but temperament per se was not a barrier. All sorts of teachers can use facilitation. Second, I learned from experienced facilitators that large groups (up to 60) can be facilitated as effectively as small groups (12). It is also important to realize that facilitation does not ask the teacher to be weak or to dilute the subject matter on the basis of student whims. Facilitation requires a strong teacher who can help students to participate constructively. The goal remains "agricultural education."

Non-Formal, Ongoing

I completed a master's degree in agricultural and vocational education, including student teaching, before I experienced a facilitated classroom. So I didn't get it in college, either. Rather, I honed my approach to facilitation, over 20 years, through non-formal education. I developed skills through workshops, including community-based training in alternative dispute resolution training, which taught me to listen carefully, to tolerate strong emotions in others, and to ask good questions. I took a course in conflict negotiation, which helped me to understand the role of disagreement in learning and provided different models of facilitation for use in different situations. Several times, I invited well-known facilitators to work with me on a project. I then shadowed or assisted them to increase my skills. To stay current, I recently participated in National Issues Forum moderator training in 2002 (Arnone, 1999).

The trainings have been great. With "odd duck" innovations, there isn't pressure to be hasty, so I have learned at my own pace. Additionally, the workshops have brought me into regular contact with people who excel at facilitation, and this has matured into something like a network. Consequently, I am no longer alone in this practice, and (for me) facilitation is no longer an odd duck.

I want to underscore, however, that I did not start with training. I started with commitment. Facilitation remains an unusual form of teaching. It may require an instructor to go against the tide in an unsupportive climate; to be an odd duck (for a while). With commitment, the skills can be gained little by little. Small improvements in skill will be appreciated by others and will be self-reinforcing.

Conclusion

I want to close by emphasizing that facilitated learning is not just about effective teaching—although this remains important. Utilizing facilitation is also about living the democratic life. Successful democracies aren't merely a collection of policies and procedures. They are foremost a consequence of collective habits that get things done while being fair. The habits necessary to successful democracies require skill building, theory, modeling, and practice, all of which facilitation offers in spades. Why not also in the schools? Why not, in particular, in the agricultural classroom?

Myths of Facilitated Learning (Figure 2)

a. Facilitation is neither more complex nor simpler than other forms of teaching.
b. Facilitation can be taught and is not wholly dependent on personality.
c. Facilitation is not dependent on a small class size.
d. Facilitation values autonomous actions of students and lots of sharing, yet this is accomplished through a strong teacher role, not a weak one.
e. The development of high quality knowledge is valued in facilitated classrooms. Facilitation is not the same as "anything goes" (Heron, 1999).

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A Facilitator Asks, "Do I Know You?"

By Kim Juilfs

As a mother of two children who were highly involved in Agricultural Education and FFA in high school, and as an elementary teacher of fifteen years, I believe that we are lifelong teachers and facilitators. *The American College Encyclopedic Dictionary* defines a teacher as "one who teaches or instructs." To facilitate is defined as "to make easier or less difficult; to forward the progress of (a person)." As a parent and as a teacher, I am instructing and facilitating most of the time.

The role of facilitator takes on many different jobs. As teachers, we prepare the environment with the usual desks, chairs, bulletin boards, and technology. We prepare lesson plans, lectures, visuals, worksheets, and assessment tools. Once those things are in place, we feel confident and prepared as teachers, not necessarily as facilitators.

We are facilitating by providing a safe, secure, organized environment, an environment that has a seat and a textbook for every student. We have those lectures ready to go regardless of the needs of the most important element...the students.

I believe a successful facilitator will be "student-centered" rather than "curriculum-centered." In addition to being competent in the curriculum, one must know the students. Some preparation must take place at the beginning of the year/term. Questions to ask about each student are: Are there learning concerns that require accommodations? Are there emotional or health issues? Is the family life in transition? Does the student work evenings and/or weekends? Are the student's basic needs being met? Are extracurricular activities time consuming? Is there a boyfriend/girlfriend? What are the student's strengths/weaknesses? What is the student's background in this curricular area? Once these issues are studied then it is time to prepare the lessons.

A "student-centered" facilitator will be less of an "expert" and more of a "guide." A program dominated by a predetermined curriculum and evaluated by constrictive testing will stifle the creativity and background knowledge of many of the students. It may also impede their learning if they need a different style or accommodations. Within the required curriculum, there is always room for the student's input and ownership.

A "student-centered" facilitator's classroom will, at times, look very different from the traditional "curriculum centered" teacher's classroom. Of course there will be times that the facilitator is in the traditional role of "teacher"—lecturing and providing necessary background knowledge along with a rubric, guidelines, or grade contract for the end results. Even during those times of lecturing, one must know his/her students and their needs. When providing the background knowledge necessary to go forward, can all the students learn from pure lecturing, or do they need more visuals and hands-on activities? Maybe some of them need to have notes given to them while others may learn best taking his/her own notes. Is there someone who learns best from the first row? Possibly some students need some extra review from outside the classroom. Or could a student have some previous knowledge on the topic that he/she could share with the class? There is no prescribed method that works for every student so knowing one's students is imperative to good teaching and facilitating.

After the lecturing, it is time for the student's individuality and ownership to take place. "Teachers may find it difficult to place the responsibility for learning in the hands of the students. Using the learner's rather than the teacher's knowledge is unsettling and for some a counterintuitive idea. However, we need only think about the influence of the outside world—television, computers, the marketplace—to realize that no one comes to the classroom empty of experience and knowledge, be it formal or informal. Students can take their current conceptions and build on them with new experiences from the classroom to produce a powerful and lasting understanding (Southwest Educational Development Laboratory, 1994). It is after the teaching that the facilitator will help his/her students go forward with their understandings in individual ways. It is then that the classroom will look different with student learning the central focus and the teacher facilitating to the needs of each student rather than to the needs of the curriculum as a whole.

A "student-centered" facilitator will use the knowledge he/she has about each student combined with the "curriculum-centered" expectations to guide each student to the maximum amount of new learning. This can only be done if the teacher truly knows his/her students.

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The Agricultural Education Magazine: 2004 Themes

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

January – February Issue
Theme: LifeKnowledge

As the National FFA Organization launches it's new "LifeKnowledge" leadership curriculum, there are some questions that may be worth investigating. How will a leadership curriculum enhance our agricultural education programs? How is this leadership curriculum different from other leadership curricula? What will this leadership curriculum do for my students? How was this leadership curriculum developed?

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Articles Due to Theme Editor:
November 15, 2003
Due to Editor: December 1, 2003

March – April Issue
Theme: Teaching

Teaching and learning are the very basic foundations of our profession. This issue will address the teaching aspect of agricultural education. What is the very essence of teaching? Is there really a psychological basis to teaching? Is there a philosophical basis to teaching? Is there a sociological basis to teaching?

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Articles Due to Theme Editor:
January 15, 2004
Due to Editor:
February 1, 2004

May – June Issue
Theme: Action Research

Many teachers of agriculture are continually doing "mini-research" studies within their departments. What are some of those research findings? What is action research? Is action research a natural match for agricultural education teachers and students? What are the basic steps to getting started in utilizing action research to benefit my program?

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Due to Theme Editor: March 15, 2004
Due to Editor: April 1, 2004

July – August Issue
Theme: Changing Purposes of Agricultural Education

Many reports have asked for changes in agricultural education. What has happened to all those reports? What changes in the local program have been implemented as a result of the reports calling for change? What is the current purpose of Agricultural Education? What should be the purpose of Agricultural Education?

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Due to Theme Editor:
May 15, 2004
Due to Editor: June 1, 2004

September – October Issue
Theme: Program Standards

With the ever changing face of agricultural education, how or what standards am I applying to my program? What are program standards, and how do they affect me as a teacher? What kind of standards are there for me to respond to? What is the connection between learner achievement and program standards?

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Due to Theme Editor: July 15, 2004
Articles to Editor: August 1, 2004

November – December Issue
Theme: Professional Measurement

As a teacher, how do I know that I am making a difference in the profession? What can I use as a teacher to show that I am making a difference to the students that I teach? How can I as a teacher, verify to my administrators, that my program is of high quality? How does a beginning teacher, as opposed to a veteran teacher, begin to manage his/her time to ensure that all aspects of the program are carried out, yet still have personal time?

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Due to Theme Editor: September 15, 2004
Articles to Editor: October 1, 2004

Enhancing the Teacher's Role as a Facilitator through Action Learning

By E. Karami, G. H. Zamani, & K. Zarafshani.

A growing competitive environment, coupled with significant technological change in recent years, has led to the need for the development of more innovative approaches to teaching and learning in agriculture. These new approaches emphasize learning by doing, experiential learning, solving real problems, social cognition, andragogy, and reflective practices (Whittington et al., 2002). If agricultural teachers are to encourage their students in reflective practices, they need to hand-over the chalk and facilitate the learning process. To facilitate learning, students should inquire into rather than be instructed in the subject matter. For students to inquire into the subject matter, teachers should take the role of facilitators of learning.

What is Action Learning and how does it develop facilitative teachers?

Reg Reavans developed the idea of action learning in the early 1960s (Naftalin, 1996). The decision to adopt an action learning paradigm to teaching is based on the idea that learning would be best facilitated through a reflective, hands-on, and shared experience. In other words, action learning involves, learning from experience, sharing an experience with others, critical evaluation of that experience, and then implementation and review of the experience (Mailick et al., 1998).

There are many "schools" of action learning. However, action learning literature is essentially linked by the premise that in the learning process, there must be a relationship between reflection on knowledge and action based on that reflection. In other words, action informs reflection and is informed by it so that there will be no learning without action and no action without learning. The reflection produces the learning by allowing students to think about what they are learning or have learned from their experiences and to analyze the personal and societal impact of those experiences. The teacher facilitates learning by providing opportunities for students to observe, participate, and reflect. This process of observation, doing, and reflection allows students to take an active role in learning. The teacher is the facilitator of a total educational experience and not the only source of knowledge or expertise.

How to adopt action learning in agricultural curriculum?

Action learning can be used in supervised agricultural experience programs. SAE is an opportunity for students to engage in planned experiences with projects at schools

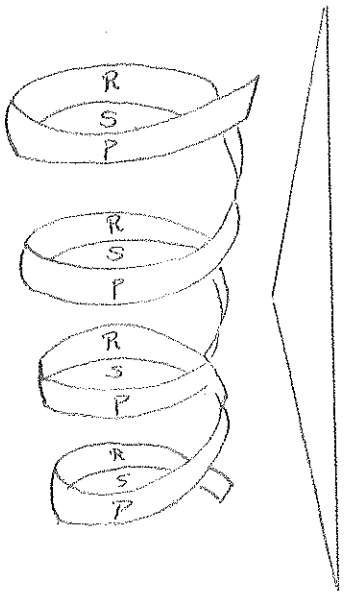
Action learning involves not only learning from experience, but also sharing that experience with others, the critical evaluation of that experience, and then implementation and review of the experience.

Fig 1. Action Learning Spiral

P= program learning

S= student

R= reflection



Teacher as a facilitator of learning

and local businesses. Through action learning, SAE becomes a unique learning experience. For example, students who are engaged in SAE come together and are given an opportunity to reflect on their experiences with support from other students and then convert the learning to action. Some of the problems that students may encounter during SAE are responsibility, setting goals, conflict resolution, time management and communication skills. Any of these problems can be brought to an action learning set (group of individuals) and each student has time for presenting an issue. Set members offer support, and challenge through open questioning. While teachers keep their facilitative role, students continuously reflect on their problems at work and plan for further action. The students will go back to work and practice what has been learned in the action learning set. Students then report back on learning and reflect and review the outcome with other students. This cycle continues until a newly learned behavior will emerge (Figure 1).

Skills that are developed through action learning are: (a) listening and questioning (giving and receiving feedback); (b) reflective practices (action planning and linking theory to practice); (c) enhanced interpersonal and facilitative skills; and, (d) recognition of different teaching styles, values and approaches. Action learning in agricultural classrooms calls for learning that is hands-on, minds-on, and authentic. In hands-on learning, students learn from experience through reflection and action. In minds-on learning, students develop thinking processes, ask and answer questions that enhance their knowledge through activities that focus on core concepts. In authentic learning, students are presented with problem-solving activities with real world questions and issues that support collaboration and communication. Agricultural educators who engage students to learn actively through hand-on, minds-on, and authentic activities will truly facilitate learners in action.

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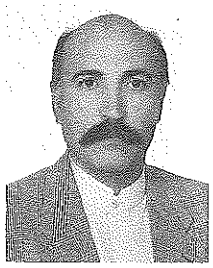

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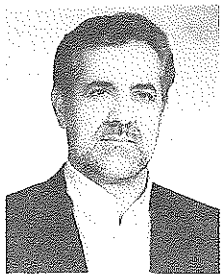

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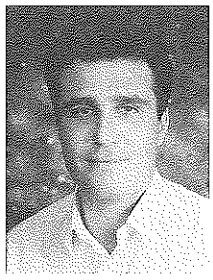

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From Teacher to Facilitator: A New Role for the Teacher

By Jamie Cano

Apathetic students, illiterate graduates, incompetent teachers, impersonal schools – so rolls the drumfire of criticism towards education. More than twenty years of reports have spelled out the problems. States have been quick to respond by holding out carrots and beating with sticks! There are neither enough carrots, nor enough sticks to improve education without the commitment and action of students and teachers. They are the precious resources on which the improvement of education depends. But how can students and teachers improve education? Many schools around the country are asking this question. One thing that is known for certain is that the "traditional" role of the teacher is no longer traditional!

Schools, teachers, and communities must be willing to accept new standards that address the need for long-term intellectual growth in a world that is rapidly changing. Teachers will be teaching fewer facts and figures and more in-depth explorations ("less is more") of larger themes such as change, patterns, models, and systems. Emphasis will be less on definitions and classification skills and more on student-directed exploration and theorizing ("hands-on/minds-on" approaches). New knowledge will be built on the experiences and understanding that students bring to the classroom ("constructivism").

Furthermore, the influence of constructivism in classrooms is expected to change the role of the teacher in the classroom from the expert dispensing knowledge, to the facilitator of student learning (Dwyer, Ringstaff, & Sandholtz, 1991). The notion of the teacher as a facilitator in a student-centered classroom may have been useful to advance pedagogical thinking, but limits attempts to create a knowledge-building community. Scardamalia and Bereiter (2002) argue that where a collaborative knowledge-building approach is adopted, the work to be done in schools becomes the construction of collective knowledge in which students become participants in the learning organization. A teacher in a constructivist classroom will act as a facilitator, guiding learning, and not just teaching facts.

Thus, it is clear that the role of the teacher will become less that of an expert and more of a facilitator, a guide to student exploration. The role of the facilitator is to accept a position of leadership – to shape the environment and guide discussion so that learning can take place. As such, our goal as teachers is to assist students in taking responsibility for their own learning and the application of that learning in their daily roles.

The facilitating teacher begins the lesson with an essential question. Essential questions are not questions that can be answered in one or even two sentences. They are far reaching, thought-provoking questions. These essential questions begin the quest for knowledge and understanding.

Because essential questions are so global in nature, the facilitating teacher then provides more guidance by providing subsidiary questions. The subsidiary questions are more unit specific questions that combine to help build answers to the essential question. With the subsidiary questions in hand, the students are then able to research, using technology, to discover some answers. By creating an open, questing atmosphere in the classroom, the facilitating teacher allows the learning to be student driven. Students are investigating areas of learning and providing answers. The facilitating teacher guides and encourages the student in the process, without directing the student in what to do. This process allows the student to be actively engaged in his/her learning.

The temptation has always been to provide a lot of "how-to's." Some "how-to's" are important, but most important is to provide processes and the environment which encourages students to go beyond the confines of a few hours in a classroom, make use of the many resources available to them, network, and explore their own interests. It is important for us to think of ourselves as facilitators rather than teachers. Some of the differences between the common perceptions of "teaching" and "facilitation" are outlined in Table 1.

The differences include some of the following: A teacher traditionally controls the process and the content of learning by defining the situation and the procedures and by specifying what is right and what is wrong. Facilitation environments, on the other hand, are those in which the teacher still has specific content to teach and still defines the process through which the learning takes place, but the teacher uses processes which are designed to guide the learners in determining the relevance of the learning for their own lives and work. The learners are encouraged to use

their own judgment and decision-making capabilities.

These changes are not easy. Teachers may find it difficult to place the responsibility for learning in the hands of students. Using student's, rather than teacher's, knowledge is an unsettling, and for some, a counterintuitive idea. However, teachers need only to think about the influence of the outside to realize that no one comes to the classroom empty of experience and knowledge, be it formal or non-formal. Students can take their current conceptions and build on them with new experiences from the classroom to produce a powerful and lasting understanding.

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	TEACHING	FACILITATION
Underlying Philosophy	• Knowledge is passed from teacher to student. • Organizations are improved through technical advances. • Instruction is oriented towards the teacher.	• Knowledge is discovered through mutual investigation of problems and issues. • Developing resources and allowing learners to direct their own capabilities improve organizations. • Instruction is oriented towards the student.
Assessment of Needs for and Results of Instruction	• Observable measurable behavior is examined.	• Attitudes as well as behavior are examined.
Content	• Technical knowledge and skills, psychomotor skills are appropriate content for teaching.	• Interpersonal and other kinds of skills, requiring some degree of analysis and judgment, managerial skills, and leadership skills are appropriate content for facilitation.
Learning Methods	• The structure of the content is oriented toward the subject; the process of devising instructional methods tends to be mechanical. • Programmed learning, lecture, and audiovisual methods are primarily used. • Delivery is based on presentation and participative methods that are designed to produce a prescribed, measurable result.	• The structure of the content is oriented toward the students and the situation. • Discovery learning methods are used. • Delivery is based on presentation and participative methods that are designed to enhance skills of analysis, judgment, and problem solving. More difficult but still possible to measure results.

Table 1. Operational Differences Between Teaching and Facilitation as used in the Classroom

Finding Your Place in a Student-Centered Classroom as a Teacher-Facilitator

By Michael M. Grant

Implementing student-centered learning takes work. It's always easier and less time consuming for teachers to lecture. But, in doing so, we are shortchanging our students. We're denying them the opportunity to take charge of their learning and the freedom to direct their own learning. But teachers, who are comfortable in teacher-centered classrooms, often feel out of place in a student-centered classroom.

These teachers either discard the notion of facilitating student learning, reverting back to didactic teaching, or recede into the instructional background, implementing a student-centered, unfacilitated classroom (Bickford, Tharp, McFarling, & Beglau, 2002). But again, students are coming up educationally short with no guidance at all.

So, how do teachers become more comfortable and confident in student-centered classrooms, using pedagogies like project-based and problem-based learning? Five factors influence the transition from teacher-centered to student-centered, teacher-facilitated instruction. While these factors may seem discreet, there is constant interaction among them within a classroom and in the larger school context.

Influencing the transition to facilitator

First, as teachers transition to student-centered instructional strategies, they have to *recognize and accept their new roles and responsibilities* as a facilitator. A teacher's dominant responsibility for and control of learning is reduced in a student-centered classroom. What the teacher teaches also shifts. A teacher may teach more "soft skills," such as time management and group negotiations. In addition, the pressure for a teacher to be the sole source of content is relieved. As students direct their own projects, the teacher assists in decisions about learning, such as prerequisite knowledge and skills, potential resources, scope, depth and critical thinking.

A teacher also has to *achieve comfort* in his new student-centered learning environment. The activity, noise and physical dislocation can be unsettling and chaotic to a didactic teacher. As students collaborate and share resources, moving in and out of peer groups, the classroom can easily become a messy place when desks and benches are pushed together. Classrooms and laboratories may even be insufficient to support student investigations. In some instances, students may need to meet in computer labs, the media center or an outdoor laboratory.

Teacher-facilitators must also *tolerate the ambiguity and flexibility* inherent to student-centered learning. In directed classrooms, learning management is controlled by the teacher. Student-centered learning has students exploring areas that may be unfamiliar to the teacher; the range of questions about content and relevancy can be quite broad. The teacher has to reconcile with himself the management of this dynamic environment. The need for scaffolding, modeling and guidance by the teacher is heightened.

Many student-centered pedagogies include technology as an integral element in the learning process. Teachers must be *confident integrating technology* into their classrooms. Teachers have the opportunity to increase the authenticity of content and tasks by reflecting the actual work of professionals in the field. Technologies, such as scientific processes, computer technologies and electronic resources, lend credence to these assignments by demonstrating appropriate and purposeful uses. When integrating technology, teachers may need to become a teacher of technology, as well, expanding the content area. Introducing students to Internet resources, science probes and spreadsheets can become part of a teacher's curriculum.

Finally, a teacher has to incorporate student-centered learning within the *realities of the larger school culture*. As teachers, we want our students to succeed. However, some students may struggle with the added

As teachers, we want our students to succeed. However, some students may struggle with the added responsibilities and changes in their roles.

responsibilities and changes in their roles. We have to be prepared to support these students. A hallmark of student-centered learning is allowing for in-depth study. However, standardized tests and district curricula can demand a broader scope with less depth. So, incorporating student-centered learning into an existing teacher-centered school culture can be frustrating.

Striking a balance

With these factors in play, how does a teacher balance student-centered learning into everyday instruction? First, since students' roles and responsibilities are shifting along with the teacher, begin slowly. One teacher suggests beginning with two projects a year, instead of a continuous stream of projects (Scott, 1994). This way, the in-depth investigations, can be tempered with other content dictated by district and state standards.

Second, almost all student-centered learning strategies attempt to capitalize on cooperative and collaborative learning. Teachers will need to aid inexperienced students as they manage conflict within groups and within the stages of group formation—forming, storming, norming and performing (Tuckman, 1965).

Sometimes groups or teams are used in classrooms for more practical reasons, such as insufficient copies of textbooks, equipment and supplies. Making sure all students have the opportunity to interact with resources may be necessary. However, if access to resources is not an issue, then teachers should be more creative with the incorporation of cooperative and collaborative learning, such as peer reviews and client role-playing relationships.

Time management within student-centered learning is also vital. Because of the open-ended nature of projects, it can be difficult to delineate parameters for how much time should be allocated to each segment of the project.

Planning ahead with assignment sheets, resources, scaffolds and rubrics can help facilitate the management within a student-centered classroom, so the teacher is freed from directing next steps. Job-aids, such as checklists and step-by-step instructions, as well as progress charts, can help students to negotiate through a project, while setting deadlines throughout the project also gives students benchmarks for progress.

The notion of "technology as content" is another issue that must be reconciled within a student-centered classroom. While many projects use technology components, such as word processors, electronic spreadsheets and electronic presentations, to collect, analyze and present data, technology cannot be an end unto itself. The technology must be a means to interpret the content, not as content itself. In addition, teachers must not be apprehensive about using technology within their classrooms. Leveraging students' knowledge and skills allows them to become experts in the classroom, as well (Bryan, 2000).

Finally, as described earlier, student-centered learning takes more time than didactic teaching. Having students complete two or three extended projects within an academic year will give them the experience of working in a more open-ended, student-driven classroom without the need to sacrifice curricular content.

While the scope of this article limits fully exploring each of these factors, teacher-facilitators should take the risks to implement student-centered strategies. The rewards for students are immense. As a content expert, model, coach and scaffold, teachers are preparing students to recognize when to employ different cognitive, psychomotor and affective skills, in order to perform in ill-structured learning environments now and in the future.

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Turning the College Learner into a High School Teacher

By Bret Hitchings

After six years as an undergraduate and graduate student, and then two years as an instructor at the University of Illinois, I finally entered the world of secondary agricultural education this past year. I knew the change from teaching college level students back to teaching high school students would be significant, but I had no idea to what extent! I believe many first year high school teachers share my experiences and require some adjustment time as they transition from being collegiate learners to becoming high school teachers.

First year high school teachers bring with them a set of assumptions about what their agricultural program and classroom should be like. One of the main factors influencing a person's approach to teaching is what teaching styles he or she has observed to be effective in the past. It is fair to assume that throughout an individual's collegiate career he or she was able to observe many effective teaching styles and activities, especially in the *Methods of Teaching Agriculture* class. I believe many new teachers enter the high school classroom expecting to implement these same facilitative-constructivist strategies and achieve the same success that they observed while in college. I have spoken to many first year teachers who have become frustrated when this is not the case. Many new teachers question why the same strategies that were effective for a group of college students turn out to be less than effective when applied to a typical high school classroom. From my observations, the typical students found within a high school and collegiate classroom differ considerably. When these differences are noted, it makes perfect sense as to why different learning activities would be more effective for each group.

Student Differences

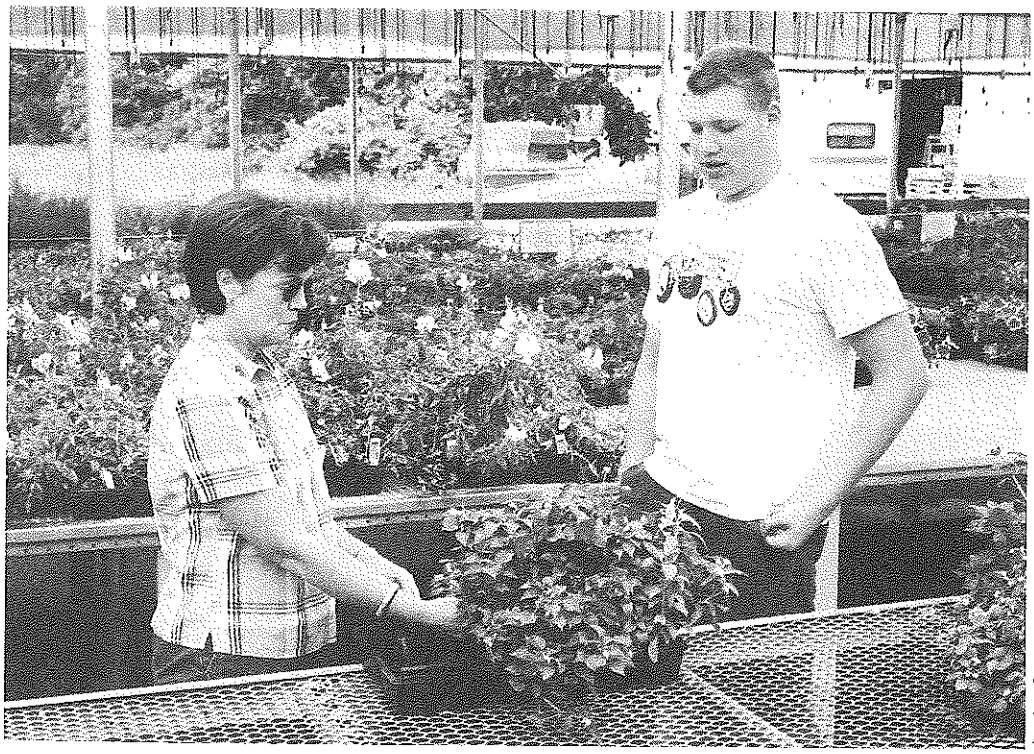
From my experiences, some basic differences that the high school classroom presents include:

More student diversity in terms of abilities. Students in the college classroom passed some sort of admissions requirements and represent a different population than a high school classroom that contains many students who are not college bound.

More student diversity in terms of motivation. Many high school students are in school because they have to be there. In college, not only do they choose to be there, most are paying for it on their own.

High school students view teaching as transmission of knowledge and learning as memorizing facts. The old adage that high school students want information presented to them to memorize and repeat has held true in my experience. Recognizing this has enabled me to gradually implement more constructivist practices that contribute to creative thinking, problem solving, and higher level reasoning skills.

The "type" of learning expected. High school students expect a classroom that is very teacher-centered where the student role is more passive. It is easier to facilitate a student-centered or cooperative learning



Hitchings discovered that a "facilitative approach not only helps a collegiate learner become a good high school teacher, but also helps our high school students become more collegiate in their learning".

paradigm in a typical college classroom.

College students more easily see the application and relevance of material. I've always said the best learners are those who can most easily see relevance in any instruction. At the high school level, more students are unable, or unmotivated, to make learning meaningful. The connection of education to real life needs to be as explicitly stated as possible.

Student accountability is enhanced. Accountability is a serious issue at the high school level. From my experiences, many high school students do not perceive any serious consequences for not completing an activity, while college students would be more likely to fulfill their responsibilities on their own.

This list represents differences that have become apparent to me through my observations and from discussions with teachers making the transition from college to high school instruction. The first responsibility of a teacher is to determine what teaching strategies will be most effective based on his or her teaching style and the group dynamics of the class. New teachers that enter a high school learning environment expecting to find a group of learners with college levels of motivation, achievement, accountability, and expectations can be in for a rude awakening. In this case, we will find that teacher and student expectations fall on opposite sides of a continuum, and valuable classroom time ends up being wasted trying to get students to participate rather than being spent in actual learning activities.

Teacher Strategies

So what can a teacher in this situation do? A comfort level must be attained. There must be a level of agreement between what both the teacher and students expect in the learning environment. Some strategies for fostering a positive learning environment are listed below:

Make sure expectations are appropriate. Remember the differences that exist within students, and how the students in a high school class differ from collegiate classes. Evaluate your assumptions about what students know, can do, and are willing to do. If students are resistant to your type of teaching, you may need to initially modify your instruction until you "have them." Then you can gradually get them to buy into what you want to do.

Be supportive in the learning process. I have found that students, who prefer passive learning, like the fact that they are told what they have to know and that's all they have to do. These same students get frustrated in cooperative and constructivist activities because they don't know "what facts" they need to bring out of the learning. It is important to point out what they have learned, and what was gained periodically during the task. Similarly, when students see you supporting their learning, they will feel more comfortable sharing with you. You will be better able to monitor the appropriateness of your activities for their abilities and expectations.

Engage and reward. I have observed that the need to feel accomplishment is extremely important for all high school students. A "great idea!" or "good thought!" can do volumes in getting high school students to become "repeat responders." If you have students that you must prompt to participate, make sure that after they are done, they see their participation as a positive experience.

Show the "WHY." High school students constantly need to know "why" they are doing something. In agricultural education, it is not hard to make what we teach meaningful. I have found it is also helpful to explain the relevance in "how" we teach. I have experienced better student responses when they are aware that certain activities enhance their problem solving, critical thinking, public speaking, and cooperation skills in addition to increasing their knowledge base.

Personally, my goal has not been to change my teaching styles to meet the expectations of my students, but rather to gradually raise my students' expectations about what a classroom should be like, and what role they should play in the classroom environment. This has required me to alter my expectations to some degree. Primarily, I had to become sensitive to the fact that the students are not as familiar with the facilitative-constructivist approach and cooperative learning activities. Having this sensitivity has helped me to get them to buy into the teaching activities that I ask of them. Each week I could see progress that they not only were more willing learners, but that the activities were increasingly effective and the learning environment was a more enjoyable one for the learners as well as the teacher.

A facilitative approach not only helps a collegiate learner become a good high school teacher, but also helps our high school students become more collegiate in their learning.

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From Agri-science Teacher to Agriscience Facilitator

By Dwayne Pavelock & Doug Ullrich

Lenny* was by no means an exceptionally gifted student in any of his high school subjects. Sure, he had tremendous skills in the agricultural mechanics laboratory, but even in the classroom portion of agricultural science courses he seemed to struggle. His young agri-science teacher sought methods to keep him interested and involved in the learning process. All he wanted to do was "work in the shop."

Mrs. Lester*, the geometry teacher, hurried out one day to the agri-science classroom with an aura of excitement about her. She explained to the agri-science teacher that her lesson for the day centered on the concept of determining the length of the hypotenuse, the longest side of a right triangle. Several students failed in their attempt to provide the correct answer to a posed question. Lenny unexpectedly blurted out the correct answer. Mrs. Lester, knowing that Lenny was a weak math student, asked him how he had derived his answer. "It's simple," he replied. "You're building a trailer. We learned about measuring the length of the hypotenuse in Ag. Mech. just the other day when we started building a trailer for the Houston Ag. Mech. Project Show."

Imagine how many times agri-science teachers have told students to cut metal or wood a certain length. By doing so the teacher missed a valuable opportunity to integrate the curriculum with core academic subjects. Most teachers are intent on doing a project right with a vision set on the end result, not the process. Indeed, most see themselves as the agri-science *teacher* that directs students, not an agri-science *facilitator* that guides them. The immediate objective is to teach a good lesson, regardless of whether real learning occurs.

The traditional school mode of operation includes structured classrooms with desks lined up in rows and classes lasting for a set amount of time. Teachers become accustomed to such structure and adapt it to their teaching practices. We associate such structure to our administrators' cries for students to remain on-task. *Surely,* we think, *learning can only occur in the type of classroom that requires students to do what the teacher tells them, do it how the teacher tells them, and do it when the teacher tells them.*

We may like our job as an agri-science teacher, but is being an agricultural science facilitator all that bad?

Reform efforts of the last several years have asked teachers to change to a learner- or student-centered classroom. Using the student-centered model of learning encourages teachers to view their students as academic partners who work together to produce relevant and meaningful learning experiences (Boud, 1995).

These efforts have asked teachers to be more of a guide, or facilitator, in the educational process. Prime opportunities exist for agriscience teachers to be a facilitator due to the scientific nature of agriculture. Science involves hypotheses, research and problem-solving. Students are asked to imagine through questions such as "what if" and "how." The highest levels of Bloom's taxonomy are called upon in the learning process, not through statements of fact made by teachers, but through the questions that are asked. Students call upon their own ability to use reason and think abstractly. But they must be given the chance and be properly guided in our classrooms.

Perhaps the first element to being an effective agriscience facilitator is providing an environment conducive to learning. Smith and Lusterman (1979) described a model of learning facilitation that centers on the teacher eliminating conditions that inhibit learning and creating circumstances that promote learning. The model includes:

1. Enhancing positive feelings;
2. Enforcing desired behavior;
3. Modeling desired behavior; and,
4. Promoting cognitive clarification.

Agri-science teachers know about, and constantly incorporate, the model's four aspects *outside the classroom*. They motivate students to get involved and work hard in chapter events and are willing to serve as a parent-figure for students. They congratulate the student who is named high point individual at the district livestock career development

event (CDE) and put the student's name in the local newspaper. When students attend a state or national convention in official dress, the teacher dons professional dress as well to set a good example and project a positive image. And after an event is over, the teacher willingly discusses those things the student has done right and how they can further improve. Agri-science teachers do these things frequently in extracurricular activities, but it is important to remember that a primary purpose of agricultural education calls us to incorporate this model *inside the classroom,* as well, so that true learning occurs.

Educators of all subject areas and education levels know that lecturing is the easiest teaching method to incorporate into the classroom. Lesson planning notwithstanding, lectures allow teachers to readily call on their personal experiences and knowledge in presenting the subject matter to students.

This form of direct instruction can be effective and even allow teachers to be facilitators through the use of the Socratic method of questioning, but other models allow teachers to serve more as facilitators and more directly involve the student in the lesson. Utilizing a few of these models can enhance the learning process and ensure that the various learning styles of students are addressed. A few of the models, as discussed by Joyce and Weil (1996), and their implications for teachers include cooperative learning, role playing, and inquiry training.

Cooperative Learning

After dividing the class into groups that include students of all learning abilities and styles, the teacher presents a situation to the group. Students formulate individual responses and discuss these responses within their group. The group then takes on the task of developing possible solutions with attention to predicted outcomes and problems that may occur. The teacher's role is to guide on-task group discussions and reduce distractions. The teacher may also play the role of "devil's advocate" to encourage students to broaden their view of the situation presented.

Role Playing

As done in cooperative learning, a situation is presented. The different players, or people involved in the situation, are identified and students select the role they will play. Students then act out the scenario according to their chosen role. A follow-up activity then centers on the contribution of each role player. The role of the teacher is to encourage students to understand the viewpoints presented and help them examine all sides of the issue or situation.

Inquiry Training

Requiring active participation in scientific inquiry, the development of the independent learner is the focus. The general goal is to help students develop the intellectual discipline and skills necessary to raise questions and search out answers stemming from their curiosity. Again, a problem is first presented to the student. The teacher should help students identify hypotheses and procedures, but not tell them how a solution may be determined. Teachers also call attention to invalid points and press students to make clearer statements of theories.

Other models exist, but these are a few that have a common and natural application in agricultural education. The student is the primary focus and performs the majority of the work. While a teacher may be tempted to resort to elements of their traditional lecture methods and be more directive in the process, it is important to remain a facilitator and allow learning to occur through student exploration. We may like our job as an agri-science teacher, but is being an agricultural science facilitator all that bad?

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* Names have been changed.

Preparing Students for the 21st Century Workplace through Facilitation

By Mike Honeycutt

Conduct an Internet search for agricultural careers and you will soon have at your fingertips many corporate and non-profit websites ready to help you navigate through the possibilities for most any type of agricultural career interest. Some of these websites offer you the opportunity to look at certain career areas for the skills needed to be competitive in these specific job markets. Others will link you to research studies conducted to see which skills are most valued in today's industry. When you search for the skills needed in agriculture, you will see the standard academic needs of science, math and reading. But if you take a hard look, you will also see a great number of other terms associated with the twenty-first century view of the agricultural workplace. You would find that today's agricultural workplace also values skills such as deductive reasoning, oral communication, self-confidence, decision-making, management of resources, individual responsibility and the ability to apply hands-on skills with technology and equipment.

In today's fast paced work environment, the advancement of equipment, information technology and processes requires the modern employee to be better able to quickly solve problems or make decisions without hesitation and with complete confidence in his/her abilities. How do you build skills such as reasoning, decision-making, individual responsibility and problem solving within students? How do you allow students to build their confidence in such skills?

These types of skills are best served in the classroom and laboratory when the educator assumes the role as a facilitator of learning. The student-centered approach helps engage students more actively in their learning. This internalization of the learning through student-centered approaches, such as problem-solving instruction, yields better retention and achievement as many in agricultural education have experienced. It all goes back to the old adage, "Tell me, I forget...Show me, I remember...Involve me, I understand." This allows students to see the importance of the topic and the relevance to real-world situations.

Facilitation in the Classroom

In agricultural education, facilitation of learning should mean exposing students to a wide variety of information and skills related to subject matter and allowing the students to use those ideas and skills in a real context. Within the classroom, it is unreasonable to think that educators will not have to continue using such teaching methods as lecture or other subject matter based approaches to expose students to technical information, however, this should not be the only method used to expose students to this type of information. Research, experimentation, and self-discovery should be incorporated into the agricultural education program where possible. Students should be held accountable to learn the information and be able to use the information to solve problems or make recommendations that can be applied to situations and contexts in the agricultural workplace.

Student interest in subject matter is sparked by relevance. How many educators can tell stories of students being all too ready to ask the question, "When am I ever going to use this again?" It is the responsibility of a good facilitator of learning to find ways to spark that interest in learning by not only teaching information, but also teaching the relevance of information and how these processes may affect other similar problems in various contexts. Teachers should find ways to show the students how they already use pieces of this information in their daily lives and how this information can impact their futures. This will help prepare students for the modern workplace, and also make learning more tangible and exciting.

Facilitation in the Laboratory

Another area where facilitation of learning is extremely important is in the laboratory and shop environment. There are excellent opportunities within these projects to build the students' abilities to use problem solving skills, self-confidence, reasoning capabilities, and decision-making. In shop and lab projects, it is important to give the students the base skills and knowledge to be successful. Beyond those skills, the educator should be willing to give basic control and management of the projects to the students on a limited basis. Teachers should serve a more advisory than dictatorial role. For example, in greenhouse projects have groups of students assume management over the crops to be produced. Teachers should make sure that students have access to all necessary information, and then allow the students to identify problems and make the decisions about how to deal

with them. It may go against the nature of most educators to subscribe to this school of thought but sometimes failure can be the best teacher. When decisions succeed or fail, teachers should be there ready to discuss what went right and wrong. They should help students analyze how to better react to the same situation when it appears again to build confidence in their ability and skill.

Facilitation in SAE and FFA programs

Agricultural educators should not be afraid to let the attitude of facilitating learning spread to other areas of the program beyond the classroom and laboratory. Agricultural education programs have used a specific form of facilitation of learning for years. Supervised Agricultural Experience (SAE) is an important tool to allow students to use the technical information and skills learned in the classroom and apply them to a real-world setting with true, yet guarded consequences. Teachers should expose students to the information and skills necessary to be successful, but give students the responsibility for applying them appropriately to the program. Teachers should serve as their personal extension agent. In the end, analyze the results to help students understand how to make better management decisions, understand the impact of those decisions, solve problems more efficiently and better prepare their students how to handle these situations in the world of work and business.

The management of an FFA program also gives agricultural educators a unique opportunity to become facilitators of learning and develop marketable skills in their students. Utilize activities such as Career Development Events as instruments of the facilitation of learning. Rather than mass all the information on the event and have students memorize the information, give students the resources and help them discover for themselves the information, skills and training methods needed to be successful in the event. Also, encourage students to participate in activities such as the Agriscience Award programs that will help students develop the important skills of problem solving, decision-making, and management of resources. Within FFA chapter planning, the educator has to be willing to allow students to make decisions and solve problems on a routine basis. The teacher should be able to expose students to the techniques that will lead to success in planning but hold the students responsible for making decisions along the way.

What future does facilitation of learning create?

It is hard for many educators to give up such responsibility to their students. However, in agricultural education, we should believe in learning by doing. By becoming a facilitator of learning, an educator gives students an experience that is unlike many others in the educational environment. These methods of teaching agriculture help students build confidence and a basic understanding of leadership and management that many are not exposed to until they join the workforce. By using every facet of the program to strengthen these necessary skills agricultural educators have historically produced strong leaders and individuals with the confidence to be successful in many lines of employment. In the future, using facilitation of learning strategies will continue to increase the confidence and success levels of our students by preparing them for a workplace that will require many more skills than just knowledge of specific subject matter.

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Internet Resources Agriculture Career Skills

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- www.farms.com
- http://www.agricareers.com
- American Farm Bureau, http://www.fb.com/today/class/careers.htm
- Vocational Information Center, http://www.khake.com/index.html
- Occupational Outlook Handbook, U.S. Department of Labor, http://www.bls.gov/oco/

Related Studies

Boone, Harry N. "Effect of Level of Problem Solving Approach to Teaching on Student Achievement and Retention" *Journal of Agricultural Education* Vol. 31, No. 1

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Teaching, Coaching, Mentoring, Facilitating, Motivating, Directing...What is a Teacher to Do?

By James R. Lindner, Kim E. Dooley, and Jennifer R. Williams

We often tell our students that we are not responsible for their learning. Is this correct? What are we responsible for?...teaching, coaching, mentoring, facilitating, motivating, directing? The easy answer is that, it depends.

We believe holistic teaching methods result in greater synthesis of knowledge and understanding. To foster deeper and more meaningful learning, teachers need to take into account a student's unique background, experiences, knowledge, skills, abilities, personality type, social style, and/or personal styles and values. This can be achieved through student-centered learning plans. Effective teachers should attempt to design and deliver individualized instructional sequences to provide the greatest opportunity for student growth. Failure to do so results in teaching to "the middle" and providing material that is too challenging for some students and too simple for others.

As teachers, we aspire to help learners take responsibility for their own learning. Gerald Grow (1991) points to four hierarchical stages of learning. Dependent learners need authoritative teachers who *coach* students. Interested learners need motivating teachers who *guide* students. Involved learners need teachers who *facilitate* learning activities. Self-directed learners need teachers who *consult* and *delegate* in the teaching-learning process. It is a teacher's responsibility to identify where students are in the hierarchy and help them progress toward self-directedness. So, what is the role of the teacher? The complex answer is that teachers need to tailor their teaching based on students' identified stage of self-directedness or degree of dependency...situational teaching.

In Malcolm Knowles' (1990) seminal book, *The Adult Learner: A Neglected Species*, he noted that the appropriateness of teaching methods were contingent on students' maturity and degree of dependency. Pedagogical approaches (teaching children) are appropriate for students with high degrees of dependency. Knowles noted that

The pedagogical model assigns to the teacher full responsibility for making all decisions about what will be learned, how it will be learned, when it will be learned, and if it has been learned. It is teacher-directed education, leaving to the learner only the submissive role of following a teacher's instructions. (In Knowles, Holton, & Swanson, 1998, p. 62)

As a student gets older, the degree of dependence tends to lower and adragogical approaches (teaching adults) become more appropriate.

But it seems that the process of gaining a self-concept, of self-directedness, starts early in life and grows cumulatively as we biologically mature, start performing adult-like roles, and take increasing responsibility for making our own decisions. So we become adult by degree as we move through childhood and adolescence, and the rate of increase by degree is probably accelerated if we live in homes, study in schools, and participate in youth organizations that foster our taking increasing responsibilities. (In Knowles, Holton, & Swanson, 1998, p. 64)

There is no magic age when students stop being dependent and interested learners, and begin being involved and self-directed learners. There is no magic grade level when a teacher's role should move from being an authority/coach to a motivator/guide to a facilitator to a consultant/delegator. It depends on the student. Infants, adolescents, and adults may under a variety of circumstances exhibit both, low or high levels of dependence. It is the teacher's responsibility to adjust his/her role based on a student's level of self-directedness. Failure to do so results in what Grow refers to as mismatches. For example, if a student is a dependent learner and the teacher is acting in the role of a facilitator, a mismatch will occur. "Students may resent the teacher for forcing upon them a freedom they are not ready for...they may even hate the teacher..." (Grow, 1991, p. 138). If a teacher is acting in the role of an authority/expert and the student is an involved learner, reversing the previous example, a mismatch will occur also. This is a classical example being carried out in many public schools today. "This mismatch may cause the learner to rebel or retreat into boredom" (p. 137).

So how can a teacher determine a student's level of dependency or self-directedness? Knowing and working with students on a daily basis affords teachers the ability to make workable estimates of students' stages. First, notice the students' level of motivation and performance when doing daily work and class projects. Do the students "run with it" or ask the teacher to provide the steps to complete the task. Can they explore a topic on their own or do

they stop at the first obstacle? Secondly, observe the students' participation in class discussion. Were they able to incorporate the material and then make it their own? A third way to gage students' stages involves their ability to work with others. Can they take a project, define it and then schedule tasks such that the group can be successful? These are just a few ways to determine your students' ability to be self-directed and to match your teaching role to their stage of development.

Is it possible for a teacher to identify perfectly all students' levels of self directedness in her class and adjust her role for everyone and every situation? Probably not. A teacher can, however, make some assumptions about her class and develop strategies for minimizing mismatches and for helping students to become more self-directed...with the goal of fostering deeper and more meaningful learning. First, the safest role (in terms of minimizing mismatches) for a teacher is one of motivator/guide (leaning toward pedagogy) or facilitator (leaning toward andragogy). Second, students' level of dependency and self-directedness will vary and a teacher will initially not have control over this, however a teacher does have control and a choice on his/her role. Third, students can be taught to be self-directed.

A recent online discussion in one of our graduate classes at Texas A&M University focused on moving from teacher to facilitator. Following are some highlights of the conversation that illustrate the difficulties in balancing the roles between teaching and facilitating.

Student A. Have you ever sat in a class where the facilitator was not the expert? I just sat through a class with a "facilitator" who did not seem qualified. He lost the class after about two minutes, could not answer a single question asked. I hope this was due to his being unprepared and not for lack of knowledge in the subject matter.

Student B. I am glad you mentioned that, because I have been in that situation where the teacher did not fill the expert role and that was why the class was being "facilitated"...simply because there was no other way for them to do the class. You are right; it does not work. The students can sense it almost immediately. It is important to know your material well.

Student C. Since the concept of the teacher as a facilitator is not the customary role that most students expect, it seems like you would have that moment of truth where you had better know your stuff or lose credibility. I, too, have had instructors (in the workplace) who lacked competence, and tried to cover that deficiency by retreating to the facade of being a facilitator.

Student D. In addition to being a subject matter expert, a facilitator must also be able to effectively initiate discussion, maintain discussion parameters to make best use of time, redirect discussion when it is veering off course or becoming stagnant, and promote active participation by all so that the discussions are not monopolized.

We understand that the secondary agriculture science teacher has his/her hands full with numerous activities, so just the thought of trying to incorporate self-directed learning activities may seem overwhelming! Strategies such as lecture-discussion and applying the basics in a stimulating way stimulate the interested learner. Using facilitated discussion, application of material, and teams working on real problems enhances critical thinking skills and provide active involvement—the students doing *more* and the instructor *less*. The students will actually learn more when the teacher moves toward the facilitating role. When agriculture teachers consider that they may teach their students for an entire semester, year, or over the course of several years, they can teach young people to be self-directed. This will greatly improve their students' ability to be successful in college and future endeavors.

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Omission

The Subject and Author Index, in the July-August 2003 issue of *The Agricultural Education Magazine,* did not include author Tom Paulsen's article. Paulsen's article, entitled "Differentiating Instruction in Agriculture Education", appeared in the January-February 2003 issue. We regret this omission and apologize for any inconvenience or problems this omission may have caused.

Did You Enjoy Your Vacation?

G. Victor Beekley (a pseudonym) taught agriculture at 1000-student Country High School, grades 9 to 12. His experiences, recounted in a series of vignettes, describe the challenges and opportunities teachers face as they teach and learn from students.

The time was fast approaching for agriculture teacher G. Victor Beekley to make plans for the upcoming FFA and 4-H regional livestock show to be held in the state's capital city. This December event, requiring two day's absence from school, meant supervisory responsibilities, with the county agent, of the students who participate and also required planning for handling, during his absence, the five agriculture classes he teaches each day.

Beekley proposed to the principal an alternative to hiring a substitute teacher for the two days. He outlined a plan whereby he would select certain junior and senior agriculture students to supervise the two freshmen classes, the sophomore class, and the junior class the two days he would be away. Beekley explained that he would plan activities for each class, selecting juniors and seniors who had an open class period when the classes to be supervised met, and teach the selected "student teachers" to supervise the classes. For the senior class, he proposed the agriculture teacher's traditional ploy of having the students, under their own supervision, clean the agricultural shop. The principal bought the proposal with the qualification that he would make unannounced visits to each class. If he found the system not working, he would immediately assign another teacher to supervise the students for the duration of Beekley's absence.

Beekley explained the plan to the students; letting the students know he was confident that they were capable of this challenge. He made clear the principal's unannounced visit policy, and its possible consequences. The students were aware of and respected the principal's tight-ship style and his reputation as a strict disciplinarian. The juniors and seniors selected to be "student teachers" worked diligently and enthusiastically to prepare for their responsibilities. Beekley was not aware that other teachers in the school knew that he would be away for two days.

Beekley left for the livestock show confident that both his plan for supervising students and the livestock show would be successful. The show turned out to be trying, at best. The weather was cold and rainy, which made the two days absolutely miserable, both for Beekley and the students who were showing livestock. Nothing seemed to go as planned.

The next day Beekley arrived at school early and made a beeline to the principal's office. "Welcome back, Victor," greeted the principal. "How was the livestock show?" After unloading his misery, Beekley asked how things had gone with the agriculture classes. "Fine, everything went well," replied the principal. With a smile on his face and a spring in his step, Beekley left the principal's office and headed for his classroom.

Just as he entered the hallway he met Mrs. Powell, a typing and shorthand teacher. She greeted Beekley, "Well Victor, how was your vacation?" The tone of her voice was unmistakably serious, in no way a kidding, friendly greeting. Taken aback, Beekley gave an innocuous reply, wisely choosing not to respond sarcastically to explain that he had not been on vacation. Beekley proceeded to the classroom pondering how he could do a better job of informing colleague teachers of the responsibilities of an agriculture teacher, including occasional absences on school days. Following the first two periods, Beekley proceeded to the auditorium for assembly and took his seat among the students as an adviser to a his home room group.

One or two days each week during the home room period the principal scheduled an assembly for all students and faculty for short performances by student groups, presentations by invited speakers, or pep rallies before athletic events. The principal presided and always made a few comments and announcements. Beekley, still preoccupied with Mrs. Powell's greeting earlier that morning, was caught short when, after some routine announcements, the principal said, "Students and teachers, I want you to know that one of our teachers has been away from school the past two days, and during his absence, his students supervised themselves in completing work that had been assigned. This was all planned in advance with my approval. I checked on the students occasionally and always found them hard at work. All you 'ag boys' and Mr. Beekley, please stand. Congratulations! All of you need to know that a good agriculture program requires Mr. Beekley to work away from the school sometimes. For the past two days he has been supervising students who were showing their animals in the livestock show held at the state capital."

As Beekley and the students were seated, he glanced toward the section of the auditorium where Mrs. Powell and her home room group were seated. As he settled into his seat he thought, "Now you know. I'll trade this for a snide remark any day."