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A Tribute to My Ag Teacher: 2011 AAAE Distinguished Lecture

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What an awesome experience to prepare and deliver the AAAE Distinguished Lecture. I have taught lots of classes and spoken in front of lots of groups over the years. Today reminds me of the most awesome experience I have had. As a state FFA officer I traveled all over Ohio, meeting with chapters and speaking at awards banquet. But the most difficult speech I ever gave was at my home chapter. The speech was basically the same one I had given lots of times. But the audience—there they were: my former classmates, people from the community, my ag teacher, and my parents. I was nervous. If I ever wanted to do a good job, that was the time. And so today, here we are: my former classmates, former students, my colleagues from Ohio State and Florida. I am nervous. If ever I wanted to do a good job, now is the time. And unlike those FFA days, I have never given this speech before!

I am a product of what it is we are all about—school–based agricultural education. In a way, this distinguished lecture could also be called a tribute to my high school ag teacher, John Stimpert. Mr. Stimpert was a true professional and an excellent teacher. He changed and he changed the program with the changing school and community. The more I became involved in agricultural education as a teacher, a state supervisor, and a teacher educator, the more I understood and appreciated just how good Mr. Stimpert was. He once wrote to me that perhaps he was too hard on us; he just wanted us to be successful! What more could we have wanted? I have always wanted to be just like Mr. Stimpert.

I want to share three points with you. Like previous lectures, these are what I believe to be key issues that we need to address. Is there a lot of literature behind what I am sharing? Well, yes and no. Frankly, a lot of what I have to share is based on being an active participant in the profession for 40 years. Sometimes a longitudinal observational study can bring about findings that no survey instrument could ever produce!

Here are the three points:

1. Agriculture is a science and always has been.
2. Call it what you want—it is problem solving.
3. We are the architects of our own fate.

Agriculture is a science and always has been.

Actually I never enrolled in "vocational agriculture," what we now call (for some strange reason) agricultural education. I took four years of Rural Science. Just before I started high school, Mr. Stimpert completely revised the four–year curriculum and changed the name from Vocational Agriculture to Rural Science. Why would he do that? There were at least three good reasons.

First, the science of agriculture was and is important for the future of production agriculture. For those of us who would continue engagement in farming, knowing the science of agriculture was important in our decision–making: what to produce and how to produce it. Secondly, Mr. Stimpert knew that students who were interested in agriculture as a career but were also college–bound needed and wanted the *science* of agriculture as much as or more than the *vocational* aspect of the program. Those of us who planned to continue our study of agriculture beyond high school needed a strong foundation in high school. And third, if the program were to survive, it had to be relevant,

still based in agriculture, but with more emphasis on the study of agricultural science with a look to the future.

For decades, science has made agriculture successful. Without the science of agriculture, we would never have had hybrid corn, leaner meat, higher yields, mechanical efficiency, or healthier fruits and vegetables. So whether students want to *learn* agriculture or learn *about* agriculture, the science of agriculture is the basis for that knowledge.

Perhaps those of us in agricultural education have lost sight of the concept of science in agriculture, even though it is still there. Why do we fertilize lawns at certain times with certain N–P–K ratios? Why do we use different electrodes for different metals? Why do we space poultry buildings a specific distance apart? Why is some bacterial growth in the food science lab good and some not? The pure vocational aspect would simply tell us *what* to do. The science aspect tells us *why* we do it that way. So if we have slipped away from knowing and teaching the science within agriculture, we have cheated our students and we have made others suspicious of us, now that pure vocational education is such a negative term.

Further, we start down a dangerous path when we push the concept that school–based agricultural education is a science course. Such a course becomes just another alternative for meeting the science requirement of the school. But it is an option, and when schools must make reductions in staff it is obvious that biology, chemistry, and physics programs and instructors would not be eliminated. Agricultural education is *not* a science course; it is a course that is based in the science that is applied to the food, fiber, and natural resource system. We must be careful when we try to save an agricultural education program or teacher simply by awarding science credit to student completers. The National Research Council (1988) report is often misquoted. That report did not tell us to *be* science. The report said to *emphasize* the science in agriculture. There is a big difference.

Back to Rural Science. My home FFA chapter was one of the original chapters chartered in Ohio in 1929. In 1979, I put together a 50–year history of the chapter (Barrick, 1979). Since I worked for the Ohio Department of Education, I had access to the files about the program at Johnstown High School. I ran across a supervisory report from the 1960's, when Mr. Stimpert changed the program. The state supervisor wrote of this unusual change with a tone of disapproval. But he concluded that, interestingly enough, enrollments had increased!! Mr. Stimpert may have been the very first *agriscience* teacher!

So point one—–agriculture is a science and always has been.

Call it what you want, it is problem solving.

Problem solving, decision making, critical thinking, active learning, behaviorism, constructivism, inquiry, experiential learning . . . the list goes on. But no matter what the latest authority who wants to sell a book calls it, it is problem solving, pure and simple.

Let's think about this. We just decided—or at least I did—that school–based agriculture education is agriscience. We were all prepared, or are being prepared, to be scientists. We learned about and use the scientific method, from introductory chemistry to completing the research for our graduate degree. The process we use is based on the work of John Dewey (Dewey, 1933), which actually goes all the way back to Plato and the academy, the garden of Academus. Whether it is Dewey's stages of reflective thought or the scientific method, we have learned, used and taught others problem solving.

In olden times, like when my dad was in vocational agriculture 75 years ago, life was a bit simpler. All the boys came from real–life situations called farms with real–life needs: problems. Leading them through a process from identifying the problem to evaluating the chosen solution was relatively straight–forward, since they all had similar projects and similar needs. Fast forward about 30 years, around the time of the Vocational Education Acts of 1963 and 1968, when the student population began to change. Students now had more diverse backgrounds, more diverse career interests, and more diverse opportunities for practical experience. As we in agricultural teacher education have focused more on content and content delivery we have moved away from problem solving because the students have no real–life problems to utilize in classroom instruction. We nearly lost the concept of teaching students to resolve a situation rather than just memorize facts.

In the not so olden days when I was a student, Mr. Stimpert taught us to write plans of practice. They were required in vocational agriculture in Ohio. Before even one seed was put in the soil or the market calf was selected, students identified all of the problem situations that could arise during the length of that project. With guidance from Mr. Stimpert, we delved into the knowledge bases available to us and wrote detailed plans as to how we would address the problems in order to have a successful project. That was the problem–solving process.

Fortunately, in a sense, some agricultural educators have jumped on the bandwagon of these seemingly new concepts mentioned above, when they are essentially re–packaging a tried–and–true way for students to learn so that it looks new (and therefore publishable). The concept, however, remains the same. Students must be ready to learn, caused by some felt need. They must inquire into the content, using a variety of directed and undirected learning strategies. And they must select and test a solution to the problem and resolve the situation.

A secondary issue is the concern with behaviorism, constructivism, or inquiry–based instruction. Note that these are approaches to problem solving; they are what *teachers* do. The more important issue is what are the *students* doing? Regardless of the teaching approach, students are following good problem–solving processes, learning to utilize the information they have learned to bring about a positive change in their environment. It is time for us to end the debate, end the justification for meaningless change, and emphasize the basics—helping students learn how to solve problems independently. When Mr. Stimpert changed the *name* of the program, he held fast to teaching this new–found *agriscience* using the problem solving approach.

So point two—it is problem solving, it has served us well, and most importantly it has served students well.

We are the architects of our own fate.

Actually the Roman statesman Appius Claudius said it first, about 2,300 years ago. "Each man is the architect of his own fate" (circa 300 B.C.). Let's expand that thought beyond a single man to include the fate of our program, our science and ourselves.

First, let's think about our program: agricultural education in higher education. We are the architects of our own fate. We do not need to be comprehensive, we do not need to do everything, and we do not need to be only a service unit for the rest of the college. We must focus. The National Research Agenda (Osborne, 2007) provides good leadership for that, although it could still be construed as something for anyone and everyone. What are the needs that we can address, and what do we not have time to do? We must be clear in our focus. We have a bit of Rodney Dangerfield in us—no one understands us. And it's true. Administrators and faculty do what we teach. So what is so special about teaching and learning if everybody else can do it? Standing in a classroom does not make one a teacher any more than standing in a garage makes one a car.

In addition to being the architects of our programs, we are also architects of the science. What is our science? Here are some issues I have identified regarding our science. First, we seem to be perpetuating the idea that we can only conduct research that is derived from someone else's theory. That is not our science; it is their science. Our research must be derived from a well–developed theoretical framework, but it does not have to be only a theory that we will only test.

There are lots of examples of replicating research that has been done in some other setting or state. I remember when I was Editor of the *Journal*. Computer–aided instruction (CAI) was a hot topic. Manuscript after manuscript was submitted that showed CAI was better than non–CAI instruction. The studies were typically quasi–experimental and were accepted because there was little to argue about. I told my assistant once that if I saw another manuscript like this I would get sick. Sure enough—the next day another one arrived. I felt ill! Are we contributing to our science? Or are we getting manuscripts published?

We tend to distribute our research internally: our main journal and our research conferences. Not only do we not draw from the literature outside of our science, we also make it fairly difficult for others to find us. And we keep outsiders from seeing our most recent work. We need to be more in the main stream of things; citation *is* important. And back to theory: we tend to tweak theory in a 20–page manuscript

and believe we have made a major contribution. A new theory is not developed by writing one article for the *Journal of Agricultural Education*. It takes lots of iterations, lots of critique. Our economist friends develop an idea, give seminars, write thought pieces, give presentations, and then attempt to postulate a new theory. What are the possible areas of our science that need new theory?

We have made great progress in developing our science, but we have lots more work that could be done. We are the architects of our own fate as the science of agricultural education in universities.

We are also the architects of our own fate as individual scientists. We do control our destiny. But we have not done that well. How do we make progress?

Each of us needs a well–defined research model, and we need to follow it over time. We need to advise only those graduate students and seek funding that will be a part of that research agenda. We need to collaborate across universities. Many in our profession are in relatively small programs and departments, yet they are just as competent and just as bright and have just as much to contribute. They just don't have enough time to go it alone in meeting all the requirements in teacher education and to further their own research agendas. We also need to collaborate with K–12, with university faculty, with extension, and with business and industry. Collaborate means working together from the beginning, not as an add–on or a service. And we need to stick to our research agenda. Finally, we need to publish in the *Journal of Agricultural Education*, but we also need to publish in other reputable journals that fit our research. They know us by our quality contributions to the body of knowledge.

We are the architects of our own fate, whether it is our program, our science, or ourselves as scholars.

To summarize, agriculture is a science. Problem solving is what matters. And we control our destiny. What's the final message? We need to be more like Mr. Stimpert. He knew the science of agriculture and taught it that way. We need to be sure that our graduates not only know agriscience but also know how to teach agriscience. Mr. Stimpert taught using problem solving. We need to be sure that our graduates know how to teach students to solve problems rather than simply memorize scientific facts. Problem solving is what sets us apart from other subjects, including other sciences. And we need to control our future. Mr. Stimpert revamped his program to better fit the needs of a broader range of students. We need to do that in school–based agriculture education and in our university programs. Each of us must take up the banner to be career–long contributors to that which has served us so well. I hope you will join me in helping to create the future of our program, our science and our personal pathways. I wish you well on your journey.

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