

Learning to Learn:

By Julie Fritsch

Hands on hips, Spencer Paul surveys his field of sweet corn. The first section will start to bear in a few weeks, meaning Spencer will soon see months of planning, hard work and financial outlay pay off. That is, if he can get the corn out of the field and into the hands of paying customers.

Spencer talks about his crop, his plans for the next few weeks and what he'd do differently given the opportunity, and then we head over to take a look at another enterprise he's working on—a thoroughbred mare standing alert in a paddock just outside a barn. She's been plagued with leg issues, a serious prob-

lem for a racehorse. A local veterinarian worked out an agreement with Spencer to try an experimental therapeutic procedure, letting him take part in the treatments so that he could learn firsthand about equine medicine. After weeks of work, they've discovered another issue, so Spencer is faced with the fact that she'll never run on the track. Like any entrepreneur, he's making the best of a difficult situation and has earmarked her as a brood mare for the next breeding season.

Taking setbacks in stride, building partnerships and managing a busy schedule are just a few of the things Spencer, a high school junior, is learning from his Supervised Agricultural Experience (SAE).

An SAE is a long-term (often multi-year), out-of-class project that allows students to apply what they learn in their agriculture classes. Students can choose to pursue an entrepreneurial experience, like Spencer; participate in research; or work for an employer in the agriculture sector. Agriculture teachers help guide the student with visits and advice, but the student is ultimately responsible for the project.

In theory a complete high school agricultural education program consists of three components: classroom instruction, leadership development (often delivered in the form of FFA) and experiential education (an SAE). Unfortunately, in recent years SAEs have begun to fall out of favor



why the supervised ag experience is key to agricultural education

Photo © iStockphoto.com/jhorrocks

in some programs. There are several reasons for this: as students in agriculture classes become more urban, fewer are able to do SAEs that require access to a farm, and some teachers have not looked beyond those traditional types of projects. As school budgets are cut, agriculture teachers do not have the extended contracts they need to visit each student outside of school to provide guidance. Agricultural education has evolved, and SAEs have been slow to catch up.

Revitalizing the SAE

SAEs may be dwindling, but agricultural education leaders are nowhere near ready to let them go. The National Council

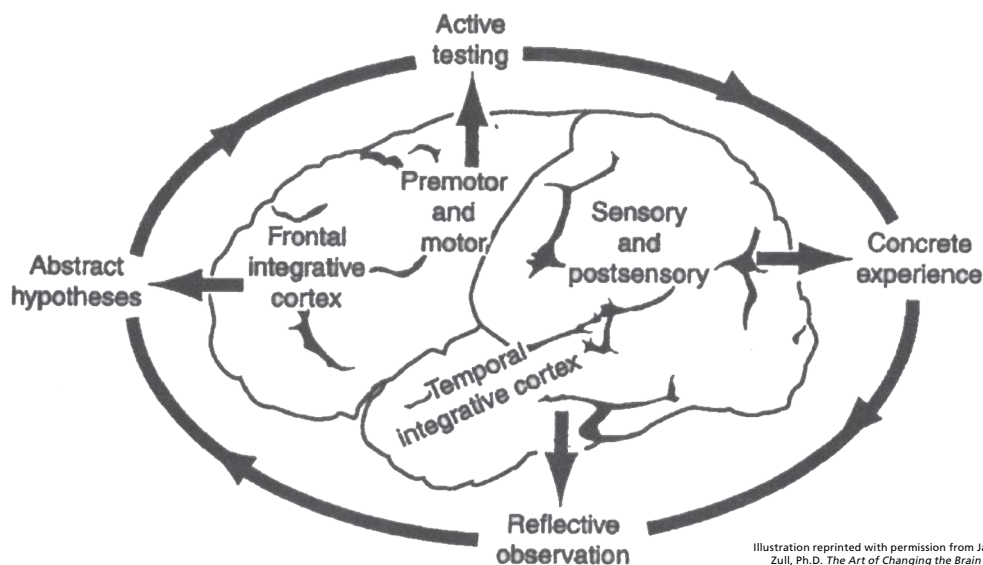
for Agricultural Education, an umbrella group that represents all sectors of agricultural education, is mounting a campaign to bring SAEs back into every high school agricultural education program. They claim that no agricultural education program is complete without equal parts classroom instruction, leadership and experiential education (or SAE). According to the Council, SAEs help students fully grasp complex academic concepts, put what they learn into practice and give them experience that helps guide their paths after high school graduation.

“We know that actually doing something taught in the classroom as an employee or entrepreneur is the very best

learning there is,” said Ken Couture, a Connecticut agriculture teacher and goal leader for the Council’s SAE renewal initiative. “It helps connect students to the community and uses the expertise of business leaders to help mentor students. It gives students an opportunity to earn and learn how to manage money and a business.”

A prime example: Spencer used what he learned in his high school agriculture mechanics class to build one good corn planter out of three junk ones, and he will be able to take what he learned helping that vet with his horse’s therapy and apply it to lessons about blood and anatomical systems in his biology class.

Figure 1: The Experiential Learning Cycle and Regions of the Cerebral Cortex



More Than Just a Project

But why do SAEs have to be long-term, out-of-class projects? Why can't students just get the hands-on experience in a 50-minute classroom lab? A good place to start to understand that is by examining experiential learning theory, an idea that learning occurs in a spiral, where the learner experiences, reflects, thinks and acts in "a recursive process that is responsive to the learning situation and what is being learned."¹

In other words, an SAE provides much more than just concrete experiences, like how to fix a piece of machinery or give an injection. These concrete experiences become the foundation for observation and reflection, which can be "distilled into abstract concepts, from which new implications for action can be drawn."² That means that even if Spencer never grows another crop of sweet corn, the lessons he's learning from his project are providing him with understanding that he'll apply for the rest of his life, directly and indirectly.

Researchers Alice Y. and David A. Kolb note that biologist James Zull, founding director of the Center for Innova-

tion in Teaching and Education at Case Western Reserve University, has linked experiential learning theory to neuroscience research, "suggesting that the process of experiential learning is related to the process of brain functioning."³ According to Zull, "concrete experiences come through the sensory cortex, reflective observation involves the integrative cortex at the back, creating new abstract concepts occurs in the frontal integrative cortex, and active testing involves the motor brain. In other words, the learning cycle [of experiencing, reflecting, thinking and acting] arises from the structure of the brain."⁴ (See Figure 1.)

Another important thing SAEs do, according to experiential learning theory, is help students see themselves as learners. "People who see themselves as learners are those who trust their direct personal experiences and their ability to learn from them."⁵ The opposite of this would be learners with a fixed self-identity, who have not had experiences that have led them to consider themselves as learners. A student with a fixed self-identity might believe that he struggles with math because he "just can't do math," whereas a student

who believes she is a learner might believe she's struggling with math because she learns in a different way. That might lead her to keep trying, while the student with the fixed identity may give up.

SAEs help create a learning self-identity because they allow students to experience themselves as learners in a way they don't necessarily get in the classroom. "Students with a learning identity, regardless of their tested intelligence, are more successful in school than those with a fixed identity,"⁶ because they believe they can learn, and they trust what their own experiences teach them. This empowers them to learn anywhere, from any experience, not just in a classroom.

Another way to look at why SAEs are so effective could be through the lens of Howard Gardner's multiple intelligences theory. Gardner questioned the idea that intelligence is a single entity that can be measured by IQ tests.⁷ He brought forward the concept of multiple intelligences, postulating that any given person might be more intelligent in any of seven identified areas during any point in his or her life. An SAE lets students express their intelligence in not only the ways traditionally

valued in schools, but also in other areas, in ways that are relevant to themselves and to their own situations at the moment.

In his 1999 book, *Intelligence Reframed: Multiple Intelligences for the Twenty-First Century*, Gardner stated:

“I want my children to understand the world, but not just because the world is fascinating and the human mind is curious. I want them to understand it so that they will be positioned to make it a better place. ... An important part of that understanding is knowing who we are and what we can do. ... Ultimately, we must synthesize our understandings for ourselves.”⁸

From this perspective, SAEs aren't just nice to have. They're critical. They take students beyond a simple concept and endow them with a sense of understanding that they can apply to a multitude of situations. It becomes easy to see why those with a national vision for agricultural education want to see SAEs in every classroom.

Although from a national perspective SAEs have been declining, there are many agriculture programs that still follow the three-component model of agricultural education, which includes SAEs (along with classroom/laboratory instruction and agricultural youth organization participation). “In some programs, the SAE is truly one-third of the model,” said Couture. Those programs have innovated as their student population has changed, adapting SAEs to fit students' needs and interests. For instance, Tara, also a high school junior at Spencer's school, isn't from a farm and has no interest in becoming a farmer. She has an entrepreneurial SAE in agricultural communications, writing stories for the local newspaper, photographing events and serving as her FFA chapter's reporter.

To get all stakeholders thinking about how to revive SAEs, the Council has targeted three groups: state department of

education employees responsible for supervising agricultural education programs, professors who train agriculture teachers and agriculture teachers themselves. They've gone to these stakeholders with specific questions and have asked them to formulate a plan to help renew SAEs. A national summit is planned for January to bring these groups and their plans together.

If you asked Spencer what he's learned from his SAE, he would probably list myriad skills, from learning to scout for pests to how to prep a mare for a vet visit. What his teacher and national agricultural education leaders know though, that Spencer may not right now, is that his SAE is preparing him for success later in life, one ear of corn at a time. **I**

Julie M. Fritsch is the communication/marketing coordinator at the National Association of Agricultural Educators. She can be reached at jfritsch.naae@uky.edu.

Endnotes

1. Kolb, A. Y., & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. *Academy of Management Learning & Education*, 4 (2), 193–212.
2. Kolb, A. Y., & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education.
3. Kolb, A. Y., & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education.
4. Kolb, A. Y., & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education quoting James E. Zull in: Zull, J. E. (2002). *The art of changing the brain: Enriching teaching by exploring the biology of learning*. Sterling, Virginia: Stylus Publishing, LLC.
5. Kolb, A. Y., & Kolb, D. A. (2009). The learning way: Meta-cognitive aspects of experiential learning. *Simulation and Gaming* 40 (3), 297–327.
6. Kolb, A. Y., & Kolb, D. A. (2009). The learning way: Meta-cognitive aspects of experiential learning.
7. Smith, M. K. (2002, 2008). Howard Gardner and multiple intelligences. In *Encyclopedia of Informal Education*. Retrieved from www.infed.org/mobi/howard-gardner-multiple-intelligences-and-education
8. Gardner, H. E. (1999). *Intelligence reframed: Multiple intelligences for the twenty-first century*. New York: Basic Books.

PROFESSIONAL LEADERSHIP

ACTE Fellowship PROGRAM

The Fellowship Program introduced me to and indoctrinated me in advocacy. Through the program of work and book study, I truly was instructed about and pushed to participate in the advocacy process.

Connie Strebe, Region I, Ohio

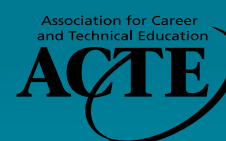
The Fellowship Program has certainly prepared me to be a future leader and advocate for CTE.

Chaney Mosley, Region II, Tennessee

Take part in this unparalleled opportunity for professional development, increased policy knowledge and leadership development!

More information is available at www.acteonline.org/fellowship.

APPLICATIONS FOR THE CLASS OF 2014 ARE DUE NOV. 1



Association for Career and Technical Education
1410 King Street, Alexandria, VA 22314
Toll-free: 800-826-9972 • Fax: 703-683-7424
www.acteonline.org • Connecting Education and Careers