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Action Research



A Guide for the Teacher Researcher

The Role of Action Research in Effecting Educational Change

By Jamie Cano

Action research is any systematic inquiry conducted by teacher researchers, or other stakeholders in the teaching and learning environment to gather information about ways that their particular classroom or program operates, how they teach, and how well their students learn. This information is gathered with the goal of gaining insight, developing reflective practice, effecting positive changes in the classroom or program environment, on educational practices in general, and improving student outcomes and the lives of those involved.

Action research is research done by teachers for themselves; it is not imposed on them by someone else. Action research engages teachers in a four-step process, namely to:

- ◆ Identify an area of focus
- ◆ Collect data
- ◆ Analyze and interpret data
- ◆ Develop an action plan

Research done by teachers for teachers involves the collection of persuasive data. The data are persuasive because teachers are interested in the legitimacy of the data collection, that is, they have identified data sources that provide persuasive insights into the impact of an intervention on student outcomes. Similarly, the findings of action research and the actions recommended by the findings are authoritative for

teacher researchers. In doing action research, teacher researchers have developed solutions to their own problems. The teachers -- not outside "experts" -- are the authorities on what works in their classrooms.

Action Research is NOT a Fad

When discussing the apparent failure of research to affect teachers' practices, it is the belief of many classroom teachers that researchers tend to investigate trendy fads and are interested only in the curricular approach or instructional method "du jour." Therefore, you may not be surprised to hear critics of action research say: "Why bother? This is just another fad that, like other fads in education, will eventually pass if I can wait it out." But, action research is decidedly not a fad for one simple reason: *Good teachers have always systematically looked at the effects of their teaching on student learning.* They may not have called this practice action research, and they may not have thought their reflection was formal enough to be labeled *research*, but action research it was!

Benefits of Action Research

Action research has the potential to be a powerful agent of educational change. Action research helps to develop teachers with professional attitudes that embrace action, progress, and reform, rather than stability and mediocrity. In addition, the action research process fosters a democratic approach to decision making, while at the same time, it empowers individual teachers through participation in a col-

laborative, socially responsive research activity.

Commitment to action research positions teachers and administrators as learners rather than experts. Those committed to action research will willingly undertake continued professional development because they believe that there is a gap between the real worlds of their daily teaching practices and their vision of an ideal agricultural education program.

Incorporating action research into pre-service teacher education programs and professional development programs for in-service teachers will help make action research an ongoing component of a professional teacher's practice. Such action will ultimately help teachers to incorporate action research alongside other critical components of teaching, such as curriculum development, authentic assessment strategies, classroom management strategies, teaching strategies, FFA activities, and SAE opportunities. Such actions will encourage teachers to embrace change!



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Reality TV and Action Research: Finding Solutions to Immediate Challenges

By Greg Thompson

Reality TV shows have become popular television entertainment. A record number of viewers tune in to catch people deal with unusual challenges. Whether it is learning strategies, behavioral issues, best teaching practices, or classroom management, the intuitive teacher assesses the situation, explores the possible solutions, and takes steps to carry out an action plan for a successful journey of becoming more effective in a challenging profession.

Action research is a professional development resource designed to help educators learn about themselves, their students, best teaching practices, and management decisions in the complex world of teaching. As managers of learning, teachers can best utilize action research as a tool to become more effective in teaching and learning and to better serve the individual needs of all students.

Often times, there is more than one solution to a teaching challenge. Action research helps to find specific answers to specific questions. Teachers have the opportunity to investigate and choose a solution that works best for them and their situation. We know that one particular theory may not work for all teachers or all classrooms. Teacher researchers learn that action research helps them develop their talent for teaching, while implementing the science of sound teaching foundations and principles.

Questions need to be open-ended enough to allow possibilities to emerge.

Instead of asking, “Is the land laboratory an effective teaching resource?” the teacher frames the question for more useful information (deeper understanding) “Under what conditions can the land laboratory be used to contextualize student learning?”

Action research may open other doors to further research. As teachers investigate specific research problems, they may run across answers to other problems they have not yet encountered or situations they may not know they even had. When a teacher is looking for solutions to problems, they will seek out more professional knowledge through reflecting on their own practices, inquiring about those practices and other practices, and then taking action to improve the situation.

Teachers as researchers can become valuable resources to their colleagues. By sharing findings and conclusions to research activities others can learn and prosper in the profession. Agricultural Educators are known for their collaboration and willingness to help others in the profession grow.

Action Research takes the “luck” out of teaching. Many times we may find a technique that worked well in one class or for a particular student. As a researcher, the teacher can more deeply investigate the theory behind their success.

As researchers, teachers will enhance their skills as they learn from and with their students. As educators, we realize that learning is a life long process and as teachers, teaching is not an end to the means, but teaching is an ever-learning process. Action research

helps teachers become life long learners of their profession.

And finally, I have learned that many teachers initially are hesitant toward the idea of conducting action research – time consuming - another arduous task. However, after successfully conducting action research projects, teachers see the value in finding answers to important questions that directly affect them. Conducting action research is for all teachers. It is practical application designed to help teachers find out what is happening in their classrooms, and then use that information to find solutions to improving the situation.

I encourage you to take the time to read the interesting articles offered in this edition of the Agricultural Education Magazine. You will find articles ranging from the history of action research to teachers actually setting up an action research project. You may not win a million dollars or work for Donald Trump, but the impact you can make in the life of a child is much more rewarding than looking like a fool in front of millions of viewers or taking home the material reward.



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Teacher Action Research as a Worldwide Movement

By Nancy Grudens-Schuck

Action Research has deep roots. Agriculture teachers who use action research to improve instruction are part of a larger tradition. The tradition spans 75 years and several continents (Greenwood & Levin, 1998). Moreover, action research is resolutely democratic. It mirrors other traditions where agriculture teachers are warmly welcomed, such as the populist land-grant tradition and experiential learning traditions.

Strong roots also means that we aren't alone. Teachers in other places are solving important problems in their classrooms using action research (Noffke & Stevenson, 1995). They are making it happen despite crushing workloads and disinterested colleagues. In fact, they are using action research in order to *solve the problems* caused by unfair workloads and the stresses of relationships with colleagues, as well as other challenges. It is work, but it can also be interesting, fun, and professionally rewarding. Some history might help put teacher action research in context.

Action Research Across Continents

Arguably, Australia is in the lead in terms of numbers of teachers using action research (McTaggart, 1997). Action research is increasingly common in the US and the United Kingdom, but most of us consider ourselves beginners (I do). That said, action research is very much "at home" in the United States (Noffke & Stevenson, 1995). In fact, action research was invented here. Here's how it happened.

Early History

When talking about action research, most people give credit to Kurt Lewin, a psychologist active in the 1930s and 40s (Adelman, 1993). Lewin fled Europe as a Jewish refugee during World War II. Finding academic work was difficult for social researchers during this time, even more so for refugees. His reputation as an intellectual of high regard had already been established in Europe, leading to a position at the University of Chicago.

Focus on Everyday Problems: Lewin's pioneering work took shape while working with factories that were experiencing labor problems. His idea was to use psychological research methods to solve everyday problems on the shop floor, especially those occurring between managers and factory workers (Lewin, 1948).

Through Lewin, the era of applied

research had come to psychology, what most of us today would term "organizational research" (Greenwood & Levin, 1998). The purpose was to conduct practical research for ordinary people. This was the beginning of worldwide movement to democratize social research.

Lewin's ideas sputtered in the US after he died, but individuals in Europe and Scandinavia applied his ideas to solve problems in the coal mining and fishing industries (Greenwood & Levin, 1998). It was here that action research became even more democratic. Laborers' ideas and knowledge were taken into account as part of the problem solving process. Lewin's ideas were used to reorganize dangerous, backbreaking work in coalmines through procedures that were safer, more humane, and more productive. It was the beginning of the "ergonomic" trend whereby equipment (such as computers) was designed with workers' habits and phy-

September - October 2004 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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Students being guided through the seeking data and data recording phase of action research.

siques in mind.

Where did action research go next? Of course, this is difficult to answer, because the label “action research” changed everywhere it went. But there is evidence that Deming, the great American organizational consultant, and the improvements in quality in Japanese industries in the past 30 years, are due to the social research revolution that Lewin started (Greenwood & Levin, 1998).

In your hands. Where is action research going now? The focus is on people doing research themselves to solve their own problems. The participatory thread in action research has become stronger in the past 20 years, and is the heart of the teacher action

research movement (Noffke & Stevenson, 1995). However, it is not just teachers! In Iowa, I work with a farmer association that conducts its own on-farm research, explains the results of farmer-centered research during field days, and publishes the results in newsletters (Exner, 1995). That is action research, too, although it is more likely to be called “farmer centered research” or “farmer-to-farmer.” Other programs are termed “citizen science” such as the water monitoring projects in which my students participate as part of service learning projects. The ‘researchers’ in these cases are not necessarily professional research scientists, yet they are conducting bona fide inquiries using techniques for gathering meaningful data systematically. To me, this speaks vol-

umes about the power of the ideas of Kurt Lewin, who began a movement whether he expected to or not.

Example from Teaching

I have used action research in different types of research projects since 1996. Each project has a different feel, from practical to participatory, as explained in the article by Kathleen Kelsey.

Course design. Several years ago, I used action research to design a new course in agricultural education with colleague Cary Trexler (then at Iowa State). We used an action research approach with graduate students to figure out which type of qualitative (i.e., interview-based) re-

search methods course to offer, and what to include in the course. Students conducted interviews of each other about the potential course using both qualitative (interview) methods and quantitative (survey) methods. Then they compared the results. By using the methods that we hoped to teach in the course, we all learned “where we were at” with respect to gaining the skills. In this way, action research is “researching by doing.” As a result of this process, I designed a successful course that combined qualitative inquiry with two other content areas (evaluation and participation theory) to fit our needs.

Other benefits. I was really pleased with the students’ enthusiasm for the action research phase. For example, when we had difficulty scheduling a time to analyze the data, graduate students proposed a 7 am breakfast meeting. They brought fresh eggs, pancake batter, orange juice, and a skillet to cook breakfast for the 25

people who attended. It was great fun.

An added benefit to doing the action research was the protective benefit of many people knowing about the issue ahead of time. When the time came to vote on the new course, everyone understood the need for the course. I did not experience any difficulties getting approvals for the new course.

Conclusion

Action research upholds a commitment to solving the everyday problems of ordinary people in a democratic society through the application of scientific principles. Action research fits agricultural education because it has walked some of the same historical paths.

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Student work, upon completion of the action research project, can be displayed and shared with all.



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Daily Classroom Improvement with Action Research

By David Jones, Eric Kaufman,
and Rick Rudd

“My fifth period class bounces off the walls. They are the rowdiest class that I have ever had. How can I keep that class on track?”

All teachers face a “fifth period” occasionally. Our challenge is to work through this difficult classroom situation to achieve effective teaching and learning! But that is often not easy to do. If we can’t identify the root cause of the problem, changing it is unlikely. We ask ourselves, “What can be done to improve classroom management and effect positive student learning?”

Action Research may be the answer. When the topic of research is presented to many agriculture teachers you may get a roll of the eyes, a quick attempt to change the subject, or even a quick exit! Agriculture teachers often believe they are so busy participating in school activities, FFA activities, classroom instruction, and all of their other responsibilities that research would be too difficult and time-consuming to conduct. But what if the agriculture teacher could combine teaching and research? Action research makes that connection.

What is action research? It is an approach to introducing problem identification, action planning, implementation, evaluation, and reflection into your teaching (Johnson, 1993). Action research is a learning process that allows learning and creation of knowledge through critical reflection on experiences, forming abstract concepts, and testing the implications of these con-

cepts in new situations (Johnson, 1993). Simply put, it is a way of scientifically examining the way we teach and how we can do it better, for positive student outcomes – we learn by doing!

In a practical sense, action research helps us to evaluate our teaching methods and curriculum as well as our efforts to respond to our student’s educational needs.

Can you answer yes to any of the following questions?

- Do you want your students to perform better?
- Do you think about making changes to your style of teaching?
- Do you wonder why your students act and behave the way they do?
- Do you talk about teaching with your colleagues?
- Is classroom management a concern?
- Do you wish students enjoyed being in your classroom?

If you answered yes to any of these questions, action research could be the solution. The answer lies in following the six steps.

Step 1: Pick an area of question.

Let’s address the following question. “Why do my fifth period students come into class everyday bouncing off the walls?” Now that you know what you are trying to solve, working through it will be much easier because now you can focus on an issue and not a broad topic like class management. You won’t just be saying, “my fifth period class is horrible” you will be saying, “my fifth period class is very lively when it comes into the room.” There is a big

difference. If you can control this class when they first come into your classroom it may change the entire class period.

Step 2: Find out what others have to say about your question.

This involves doing some investigation. The best way to do this is to read up on what others say about your question. For our example you might read, “The First Days of School” by Wong and Wong (1998). This book discusses why students may enter classrooms in “hyper” mode. You might need to read up on what time of day has to do with the way students are acting. In some arenas you might call step two the “review of literature.” During this step you can also seek assistance and insight from other teachers, administration, or even the Internet.

Step 3: Gather any and all information you can.

Start collecting data on your class and the problem that you are studying. Count the instances, occurrences, individuals, and events that surround your problem. Arrange the information that you gather by grade level, classes, etc. As you collect the data, write it in the form of a diary or journal. Sometimes just by seeing the information in another format allows you to get a new perspective on your problem. You might consider audio taping or video recording your class. During this step, you could also gather information directly from your students through a questionnaire. You may interview your students or even have an internal class focus group.

When gathering information, at-

tempt to identify all of the reasons that could lead to the problem. For example, determine where fifth period falls during a student's day. Is it right after lunch or a break? Are the students coming into class after physical education? Are "leaders" encouraging the disruptive behavior? What do the students do as they enter the class until the bell rings? Gather as much information about the problem as you can.

Step 4: Make a plan for change.

This step is used to create an action research plan. In this plan you need to restate the research question, the benefits of answering this question, and who is going to be involved in solving your problem. If you think it would be helpful, consult an outside source or colleague. Develop a plan that includes a method of intervention.

Using our example, our action plan might include benefits such as more time on task for the students, less class disruptions, increased student learning, and better test scores. Possibly invite a mentor teacher to come and watch the student behavior and offer insight. Interventions might include taking the first five minutes of class to have open discussion about what is on the student's minds. Incentives developed by the students might motivate the class to cooperate with you.

Step 5: Set a timeline.

Create a step-by-step time plan of actions and intervention(s). Establish times that allow for evaluation and monitoring. This could be a day, a week, or a month. Identify components of your project that you can measure to determine success. You might have your fifth period class come into the room and go directly to their seats. Set up a timeline that establishes successful accomplishment of this goal within one week.

If students demonstrate this behavior within one week, you are successful in your first goal! In two weeks you might want your students to be seated with their notebooks open and writing a pre-lesson warm up activity. In three weeks your class might be journal writing, etc. It is imperative that you set timelines for each of your activities to determine your level of success. Scheduling will lead you to the sixth and most important step.

Step 6: Reflect.

The final step is to reflect on what has been accomplished. How has the situation changed? Is your problem solved? Have you seen positive results? Do you need more time? Do you need to start over? Is fifth period now one of my best classes? Is fifth period still bouncing off the walls? Or, fifth period is a little better, but perhaps they just need some more time. Is it time to start with a new question? Don't be afraid to do the process again.

Why should I get involved with action research? The reason is simple, if as a teacher you are dissatisfied with what is happening in your classroom, or you simply want to become a better teacher, action research can change it. You won't be satisfied with the status quo. Action research offers a possible solution to many of teaching's most difficult questions.

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Action Research: A Method for Learning About Your Program for Positive Change

By Kathleen D. Kelsey

Action research is a genera of research methods for the purpose of learning about your program and practice for positive change. Action research aims to improve educational practice by systematically studying an issue or problem faced in an educational setting (Creswell, 2002).

There are two types of action research discussed in the literature, *practical action research* and *participatory action research*. Practical action research is primarily concerned with improving practice and assumes a neutral stance toward study participants. Participatory action research focuses on studying social issues that constrain people and that require the researcher to assume an advocate role for those who are being researched, thus empowering those who are affected.

The first step in doing action research is to decide if action research will help you solve your problem. Next, you must decide which role you will assume: practical or participatory action researcher. The next steps in the process are to identify a problem to study and to secure resources (money and time).

After these initial steps are completed, the process becomes nonlinear. The beauty of action research is that you can enter the process at any stage, unlike other forms of research that require a strict and inflexible protocol.

Stringer (1999) developed a model

for action research called the Action Research Interacting Spiral where researchers *look, think, and act* about their problem. For example, you have a problem with low levels of participation in the National FFA Organization at your school. You *look*, notice that

uniform is considered not cool by your students, and then you *act* to remedy the situation. Stringer's model is a spiral that continues to rotate. As you solve one problem, you may discover others, requiring the process to be repeated.

The difference between research knowledge and folk knowledge is that research knowledge is based on data and analysis of the data. Once you learn why students are not joining the FFA, you can think about how to solve the problem and act to increase membership. But first, you must collect and analyze data or evidence that points to the reasons for nonparticipation in the FFA.

Looking at the problem requires the researcher to first understand, clarify, and gather insight into the problem. Gathering information from your study participants is the next step in the looking phase of the model. You can interview students, parents, and teachers. You can observe students' behavior, and you can read documents that address your problem (review the literature). It is best to involve a team of people to collect data. Complex surveys are not required for understanding most of our daily problems, and this saves us from having to run statistical analysis on the data. One goal of the action research paradigm is to make the process of research available to everyone, not just those trained in statistical methods and survey development.

It is important to record your interviews and observations and to take notes on your findings. Once you feel that you understand the problem with the information you have collected, it

The first step
in doing
action
research is to
decide if
action
research
will help you
solve your
problem.

students are not joining the FFA, you *think* that the reason is because the

is time to analyze the data. Analyzing the information requires the research team to identify key elements in the data. Look for categories and patterns in the data that will allow you to form themes. For example, if 20 students said that they did not have time for clubs because homework took too much time, this would be considered a major theme.

Thinking is the process of interpreting and analyzing your findings to identify priorities for action. Action is the core concept of action research, so you will need to develop a plan for action with your study participants to solve the problem. You can invite students, parents, and teachers to a meeting to discuss what you found out about reasons why students don't join the FFA and brainstorm on ways to reverse the trend.

Another core concept of action research is community involvement. The researcher is working in a community to solve a problem that affects the community; therefore, all members who are affected by the problem should be invited to help solve the problem. The thinking phase of the process should be renamed as group-thinking, as it must be done in a collaborative and participatory environment.

Acting is resolving problems. The researcher, in collaboration with his/her community, will formulate practical solutions to problems that have been the focus of the research. The research team should develop a plan of action, including setting priorities, developing goals and objectives, assigning tasks to persons responsible, and giving a timeline and resources to solve the problem.

The final phase is reflection. The research team should write about their experience and share it with others so they can learn from the experience as

The beauty of action research is that you can enter the process at any stage, unlike other forms of research that require strict and inflexible protocol.

well. Writing a formal report is not required, but some form of sharing of results is necessary for the process to be complete. Consider performing a skit for students, teachers, and parents on your action research process to communicate results, or writing a poem, or other creative avenues. The point is to share your results with a wide audience.

Action research is not "mini-re-

search"; it is real research and should be valued as such. It attempts to collect high quality information for the purpose of solving problems. It is an empowering process that can unite communities who are struggling to improve their lives. Only through the process of looking, thinking, and acting can we improve our situation.

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Teacher Researchers in Agricultural Education: Developing Teacher Leaders Through Action Research

By Cary Trexler

Action research can take on many forms and may be used for many purposes. For example, action research can be conducted while doing a community-based project with the goal of providing after school recreation for kids; or research can be carried out while figuring out “best practices” for organizing a community garden; or rural people can document ways to prevent their towns from disappearing. The distinguishing characteristic of this type of research is that the person/persons doing it has/have a vested interest in the outcome of the research. The researcher(s) is immersed in and cares about the task, project, or cause and actively participates in the research process.

Action research is well suited to those of us interested in improving our teaching practice. One form of action research is teacher research. This does not mean a university researcher coming into a classroom to observe a teacher under a microscope. Rather, teacher research is a type of inquiry where an educational practitioner uses his/her own classroom, or in the case of an agriculture teacher, the shop, SAEs, or FFA activities, as a place to look deeply, thoughtfully, and systematically so as to inform teaching and learning.

For many readers used to research being conducted by an unbiased person in a white coat, the idea of action research that is focused on one’s own teaching may not seem like “real” research. But nothing could be further from the truth. Some educational

thinkers argue that knowledge of interest to practitioners (architects, medical doctors, psychologists, planners, and in this case teachers) is often generated through a “kind of knowing inherent in intelligent practice” (Schon, 1983, p. 50). Schon has referred to this type of knowledge as coming from a way of knowing embedded in practice. A key element to this type of knowledge production is practitioner reflection on everyday practice. In the education field, Mundy and Russell (1994) argue this way of knowing, sometimes referred to as reflective inquiry, is based on practical experience and is a significant form and source of knowledge in the *learning to teach process*.

For many of us, me included, the luxury of spending the time to reflect on our own teaching is often too costly.


But, this may be an investment worth saving up for. If, Schon and Mundy and Russell are right, then taking the time to reflect

on our own teaching may help us improve our life’s work. An added benefit of reflecting on our teaching is that if we tell others about what we’ve found, either through casual conversations with fellow agriculture teachers,

or by presentations at professional conferences, or maybe even by writing up what we’ve realized through reflection and submitting it to the *Agricultural Education Magazine*, we can potentially help others improve their teaching as well.

Action research, focused on teaching practice, typically starts with a problem or question of interest to the teacher-researcher. When I first began teaching a college class on leadership, I ran into problems with student resistance to working in groups. Group work was a significant part of my strategy to help students learn about leadership by engaging students in community-based service learning projects, and when it wasn’t working, I wondered “what am I doing wrong?” Out of sheer desperation, I began to sys-

tematically review each class period and collect data to inform my practice. Through this activity I learned I needed to change a few



Action research is well suited to those of us interested in improving our teaching practices.

things and that groups typically go through stages of development on the road to functioning cohesively (Trexler & Corn, 2003). The point of my bringing this up is that it was when my teaching wasn’t working that I took the time

to reflect on my actions, collect data, interpret it, and then draw conclusions from what I saw. For me, when things are going right, I seldom look back at what I've done. So, action research sometimes is called for when things aren't going right, when we need to learn from our practice.

Rather than explain the process of teacher research in excruciating detail, I've asked two UC Davis student teachers to share their plans for researching their own practice (these perspectives are found in two other articles found in this issue). From these examples of novice teacher researchers, I hope the reader can get a taste of what it's like to begin an action research project. The examples are provided in two very different subjects. Wendy Evans shares her concern for the trend toward teaching to standards in the most efficient way possible, through lecture and workbooks. As a new teacher, she is recognizing the trade-offs of teaching through applied learning activities, more time and resources, but wants to see if a more hands-on oriented approach is worth the extra effort for her suburban high school Animal Science students.

Dan Frank, another student teacher, is concerned with teaching pre-algebraic concepts in his Agricultural Mechanics course. One day he realized only a few students were answering math-oriented questions in his shop class and then proceeded to investigate past student performance in math-related tasks and tests. He found his students did not understand basic mathematic concepts needed for shop work, this is compounded by the fact that many of his students are English language learners. In Dan's research, he is trying to identify ways to help his students learn foundational skills in mechanics and academic subjects by incorporating two very different types of teaching strategies.



A teacher prepares her students for action research engagement.

Preparing Teacher Researchers at the University of California, Davis

In California, the Commission on Teacher Credentialing requires, beyond the Bachelors degree, an additional year of coursework and supervised student teaching to become fully credentialed to teach. To meet these requirements, University of California, Davis students enroll in combined credential/Masters of Art (MA) program within the School of Education. The credential aspect of the program has a long history dating back to the 1920s. The MA degree, on the other hand, is new and was added in 2003.

When designing the MA program, UC Davis faculty wanted to make sure graduates could actually benefit from the research skills they would learn. As a result, the program's design focuses on the development of teachers who understand the basics of how to conduct action research within their

own classrooms. Students are required to take three, one quarter length, courses that focus on educational inquiry. The first course introduces students to the idea of teacher research. Most agriculture students have a hard time accepting the idea that research can be conducted without a control group and by a teacher who is an interested participant and who cares about what happens in his/her classroom.

After this early exposure, and a bit of brain washing, students begin a second course that features a mini teacher-research project in their own student teaching site under the supervision of an experienced university research mentor. The second course finishes up in the Spring quarter around the time student teachers begin looking for their first real job. In the Fall and Winter quarter of their first year of full time teaching, they enroll in a final research course and begin another more significant research project that

serves as the culminating activity for their Masters degree. The research series concludes with students sharing their research findings with their colleagues, who are now practicing teachers themselves. Through this year and one-half experience the credential/MA students engage in real teacher research and become novice action researchers prepared to begin a career in teaching along with skills to reflect on their own practice.

Is Teacher Research Worth It?

Most research conducted by university researchers has little direct application for agriculture teachers. Action research, conducted by teachers in the field, offers practitioners a way to share their experiences with others who are in similar situations and deal with similar problems. As a former high school teacher, I know that I was more willing to listen to another teacher about how to improve my own

teaching than I was from someone who hadn't been in a high school classroom for years. Teacher conducted action research offers an alternative to traditional top-down research that has dominated education for the last century. For those of us in agricultural education, action research brings us back to our historical roots of sharing with others the lessons what we've learn from our own practice.

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A more hands-on oriented approach is worth the extra effort for suburban high school students.



Seven Steps for Improving Teaching Through Action Research

By *Kiumars Zarafshani, Hossein Azadi, and Nozar Monfared*

There are different ways of doing research. It could be argued that some methods are more useful in particular contexts. However, certain processes and procedures are common to all kinds of research. It is these processes and procedures that qualify research as research and not just ad hoc activity. Good action research shares the basic characteristics of all good research, but it also has its own special characteristics. According to McNiff, Lomax & Whitehead (1996) the linking of the terms action and research highlights the essential feature of the method: trying out ideas in practice as a mean of improvement and as a means of increasing knowledge.

Action research shares the following characteristics with other research:

- ◆ it leads to knowledge
- ◆ it provides evidence to support this knowledge
- ◆ it makes explicit the process of enquiry through which knowledge emerges
- ◆ it links new knowledge with existing knowledge

Action research is different from other research because:

- ◆ it requires action as an integral part of the research process itself

- ◆ it is focused by the researcher's professional values rather than methodological considerations
- ◆ it is necessarily insider research in the sense of practitioners researching their own professional actions

Action research is useful in "real" concrete situations. It is useful where change and understanding is sought in a situation in which it is usually too difficult to control variables because the situation is "concrete", complex, and on-going. Action provides change and research provides understanding. Atwen, Kemmis & Weeks (1998) refer to action research methodology as a cycle progression from fuzzy questions through fuzzy methods to fuzzy answers to less fuzzy questions, methods and answers.

Action research is used extensively on pre-and in-service programs of professional education, particularly teacher education. In recent times its scope has broadened to include other professions, such as health, service professions, civil and military services, as well as other contexts as the basis for participatory action in bringing about social reform and cultural renewal; and is embraced as a valuable form of personal and social development for young people and adults in school and community contexts.

Agricultural educators can use action research to improve their professional practices in many different types of workplaces. The agricultural educator acts as a practitioner in order to make a deliberate intention to intervene in his own practice to bring about improvement. Unlike the conventional positivistic research paradigm, action research question begins with: "How

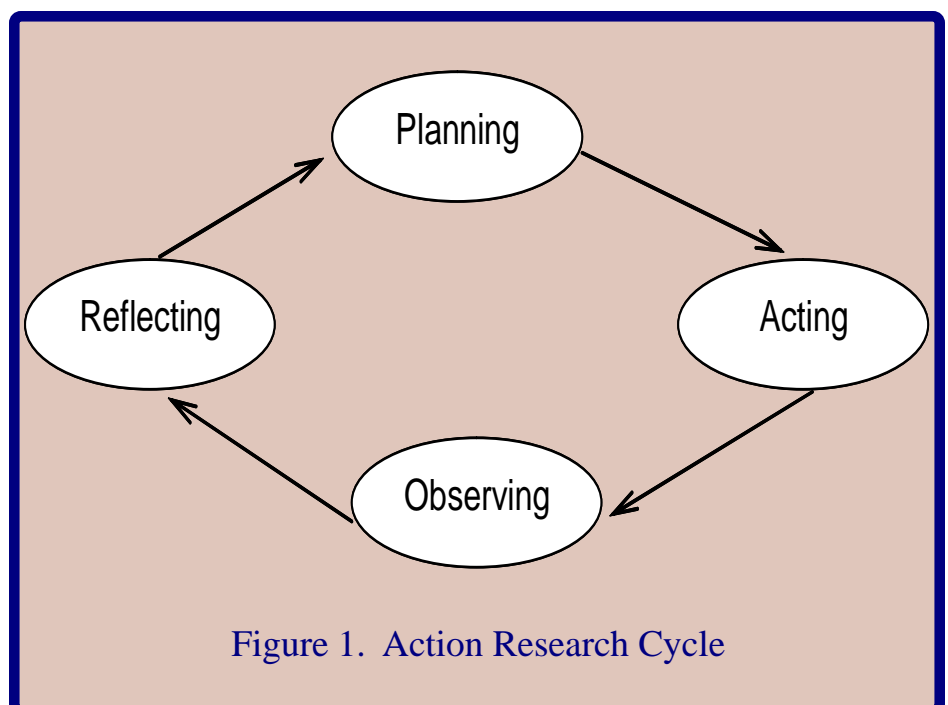


Figure 1. Action Research Cycle

can I improve...?, because action research should be about your action, not the action of others.

Researchers have described the processes of action research in different ways, and produced various diagrams and models to represent them (George, 1996). A significant feature of action research that everyone agrees about is that it operates in cycles. The action research cycle or spiral is sometimes used as a way of representing action research. Its essential features are the cyclical moments of planning, acting, observing and reflecting (Figure 1).

How can teachers of agriculture practice action research?

In the following paragraph, we will provide a practical guide for teachers of agriculture to benefit from action research in their professional career. To make the action research model in figure (1) more applicable, we will use a hypothetical situation and break down the model into a seven step procedure:

Step one: Identify a situation that needs improvement

A teacher of agriculture realizes that students in his/her class do not participate in class discussions.

Step two: Check literature to identify solutions

He/she reviews teaching methods and class management techniques to solve his/her problem.

Step three: Program of action

He/she decides to use different teaching techniques in order to increase students' participation in class activities.

Step four: How each action will

be evaluated

He/she will decide to use observation techniques in order to evaluate his action research project.

Step five: Perform action

He/she will utilize the new teaching techniques during the next a few classes

Step six: Review

He/she evaluates students' participation and makes any adjustments deemed necessary.

Step seven: Repeat steps 4-6

Conclusion

You might say that you already do action research, that many aspects of good professional practice and ways of working that you already use are a form of action research. You probably often reflect on your practice and change it in the light of what you learn. However, good professional practice emphasizes the action but does not always question the motives for the action. To be action research, there must be praxis rather than practice. Praxis is informed, committed action that gives rise to knowledge rather than just successful action. It is informed because other people's views are taken into account. It is committed and intentional in terms of values that have been examined and can be argued. It leads to knowledge from and about educational practice.

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Overwhelming? Yes! Valuable? Definitely!

By *Melissa Weinblatt and
Tim Eggleston*

‘Please, not another assignment.’ Our class was informed that each student would be responsible for creating, organizing and conducting an action research project during our student teaching experience. This assignment’s intent was to give us a tool as teachers that we could use to increase our effectiveness. As students, all we could envision were the countless hours that this research project would require.

Late nights lost in stacks of periodicals, struggling to stay awake as we typed just one more paragraph, not to mention collecting and analyzing the final data. Why are they adding one more task to an already overwhelming student teaching experience? However, as we write this article nine weeks later, we are able to reflect upon the experience with an entirely different outlook. Once we recognized the useful application of this project, we became excited and eager to improve ourselves as educators through exploration and implementation of a wide variety of methods. What began as a just another assignment, turned into a very valuable tool in a matter of weeks.

Righty or Lefty?

It is a well-known fact that people are usually either right or left handed, but who would have guessed that this concept had a direct effect on teaching? At the end of my first week of student teaching, my cooperating teacher and I discussed my progress.

He brought to my attention the fact that I often directed myself towards the left side of the classroom. My body position was oriented in that direction as well as the majority of my hand gestures and eye contact. But why was this happening? What could I do to change this? Questions such as these flooded my thoughts. And then it hit me; two little words that my professor had mentioned came rushing back – action research. With the help of my cooperating teacher, I had designated a challenge and now had the opportunity to find a solution.

My greatest endeavor would be to locate the stimulus for my left-sided communication. Did I favor the left side of the classroom as a result of the students who were seated there? Or, was it because of the physical orientation of the room itself? *The Effects of*

Classroom Orientation on Interpersonal Communication became part of my everyday teaching experience. I was more aware of myself as an educator, speaker and presenter and strived to find ways to evenly communicate with my students. I was able to directly involve them in my research by allowing them to complete data sheets and record their observations. They assisted me in creating new seating arrangements and were ready to relocate themselves whenever necessary.

This was a process that did not lend a solution overnight, but eventually, I arrived at a method of classroom orientation that worked well for me. I learned that there is no *right* answer to a situation such as this. Instead, I learned that you have to experience a number of approaches through trial and error until you find the method of in-

Dr. Joe Sabol leading student teachers on an action research lesson at CalPoly-San Luis Obispo.



struction, or in this case arrangement, that works best for you as an individual.

Blocked Out

Imagine back to your student teaching days. You come into the class in the middle of the school year and take over teaching where your cooperating teacher left off. Your college professors and cooperating teacher have prepared you to take on this daunting task. You are ready, but there is one burning question in the back of your mind: “How do I keep all of these students on task and learning for 90 minutes straight?”

As a student teacher in a school that utilized the 90-minute block period, I was faced with this very dilemma. I was prepared to deliver information to my students and I had been introduced to basic classroom management concepts. It all seemed so easy, but I soon found out that I was wrong. Delivering information to students is relatively simple when they are on task, but the question was *how* do I get them on task? How do I keep my students interested in what they are learning? How do I create a desire to learn? These are all questions that we, as educators, must ask ourselves. However, when we are working in longer block periods, as opposed to traditional 45-50 minute class periods, these questions become much more prevalent due to a considerable decline in attention spans.

How do we determine the best way to teach in the block schedule, or any schedule for that matter? *Action Research!* As a student teacher, I was put in the setting of trying to keep students’ attention while teaching them for 90 minutes per day. This is a challenging task for experienced teachers, much less beginning teachers. I quickly found out that the traditional lecture and guided practice methods were not the most effective for teaching students and maintaining interest, so I had to find

a way to incorporate other methods.

In order to determine how to best utilize the block period I created a plan for an action research project. I took into consideration what other teachers had tried as well as some of the historical theory behind block scheduling. Using information from my initial research, I created an implementation plan involving different methods of instruction. My goal was to determine which teaching methods held students’ attention and which were most helpful in retaining information. I also hoped to find out which methods could be utilized together to add greater variety to daily lessons. Through action research, which included researching the topic, developing an implementation plan, collecting data, and analyzing the results, I was able to gain some insights that have helped make *me* a better teacher.

Research...Taking...Action!

Although these two action research topics are entirely different in content, they share many commonalities. An effective teacher is always looking for ways to improve upon his/her teaching abilities, as well as getting students more engaged in classroom activities; action research provides us with a systematic approach to do so. Whether or not we realize it, we are conducting action research projects on a daily basis. Throughout the course of our student teaching experiences, there were numerous things that we tried in relation to classroom management, organization and various other teaching methods. If they were successful, we stored them in our repertoire. If they failed or worked less effectively than we would have hoped, we tried to determine if there was a better way to utilize them.

The take-home message is not to be hesitant to try different things in your classroom. If they are successful – use them, if not, keep trying to determine

how you could make your attempts more effective. One of our cooperating teacher recommended, “Don’t be afraid to try new things. If they work, great; if not, that’s okay, too.” The students are not the only ones learning. Action research allowed us to not only “try new things,” but also to investigate why our strategies worked or didn’t work. We both agree that we are better teachers as a result of our action research. Guess that assignment was pretty good after all.



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Exploring Applied Learning Techniques in the Agri-Science Classroom

By Wendy E. Evans and
Cary Trexler

In California, the face of today's agri-science classroom has changed drastically as the focus of education turns more towards standardized testing and less on the actual learning experience. Educators scramble to cover vast amounts of material required for these tests. As a result, less time is spent on creative lesson planning as

“...are students really learning more, or are they actually learning less?”

teachers are forced to use the textbook and lecturing to cover more material. However, in replacing the use of applied learning techniques, I wonder, “are students really learning more, or are they actually learning *less*?” In an attempt to cover more material, “are students losing interest in the world of scientific exploration?” “Is the de-

crease in the use of applied learning techniques actually doing more harm than good?” While the use of lecture and book work can increase the amount of material covered, I wonder: “How does the use of applied learning techniques result in an increase in scientific interest and comprehension for my Integrated Animal Science students?”

I'm currently student teaching under the direction of Jerry Moore at Armijo High School in suburban Fairfield, CA, about 45 miles from San Francisco. Most of my students do not come from an agriculture background. In my Integrated Animal Science course about one half of the students are in 11th grade, the other half is 12th graders. There is only one English Learner in the class, a student who moved two years ago to California from Tonga, a small island nation in the South Pacific. His English Proficiency is moderately strong, although he sometimes has difficulty with the academic language and concepts. There are seven resource students in the class, although none of them have severe learning disabilities. For the most part, they are successful in the class and I only sometimes need to provide a minimal amount of extra attention.

Academically, there exists a large gap between the high and low achievers. A little over one third of the class is extremely bright. They are the students who excel in all of their classes and attain a strong understanding of scientific concepts. On the other end of the scale are the students who struggle academically. They have a difficult time learning scientific concepts or remaining motivated to master the material. There are a few stu-

dents who fall in the middle, but for the most part, the class is split between the two extremes.

The Integrated Animal Science course itself is rooted in scientific principles. It's an upper level class and counts as a third year of science toward high school graduation requirements. In addition, the course meets the elective entrance requirement set forth by the University of California. By learning about animals, students explore scientific concepts such as anatomy and physiology, animal reproduction, and animal health. Over the past year, I've been troubled by the tension between focusing on the delivery of content and teaching for deep understanding by slowing down instruction and incorporating more applied opportunities to learn the course's scientific principles.

“Is the decrease in the use of applied learning techniques actually doing more harm than good?”

While it became obvious through assessment techniques such as testing and homework assignments that stu-

dents appeared to be more successful on assignments related to applied activities, the culminating piece of evidence came in a recent unit on Fetal Pig Dissection. At the end of a weeklong dissection, the students were asked to write for two minutes answering the following two questions: 1) What did you learn from this dissection that you would not have learned from a book? and 2) Was the dissection worth the time and the money to complete? Nearly all students indicated it was indeed worth the time and the money. In addition, without my prompting, many students said the dissection helped them learn the material because they used their senses. Several commented that they were visual learners and that the hands-on activities helped them to see the concepts.

In addition to the quick-write, I gave the class a Likert-type survey (a ranking of 1-5) to find out their perceptions about: 1) the relationship between science and agriculture, 2) what learning methods they preferred, and 3) the importance of personal relevance to learning. The majority of the students believed that they learned better when the content related to their personal life. Likewise, many felt they could relate to agriculture principles. Nearly all felt that there was a relationship between science and agriculture, with many feeling as though the applied learning techniques in the agriculture course helped them in their more conventional science classes. Further, while most agreed that hands-on learning was their preferred learning technique, some preferred to only learn what they needed to learn, usually by focusing on a text book.

Since I have collected some baseline data, I now plan explore the effectiveness of applied learning techniques in encouraging the success of my students. I plan to collect three forms of data to help me understand my students and my own teaching.

First, I plan to administer a second, more detailed Likert-type survey similar to the one already administered. This second survey will be more focused on the specific question at hand and will be administered to all students in the Animal Science course. The second data source will come from personal interviews with my students. During the interviews, I will focus questions on students' preferred learning styles and how I might structure learning experiences to meet their needs.

In addition, I hope to gain information related to students' scientific understanding of the Animal Science concepts I've taught and interest in the subjects. I plan to interview students who are representative of the entire class and; therefore, will talk with at least one high achieving student, one low achieving student, one English learner, and one resource student. I hope the diversity of these students will represent the various types of learners in my Integrated Animal Science class.

Finally, to help me answer the question about how my students learn most effectively, I plan to compare results on two similar unit tests in terms of content and difficulty. The teaching of the two units will differ in terms of the amount of applied learning techniques used. Upon the completion of the two units, a comparison will be made between the tests scores of the class as a whole, in addition to the individual scores of the high achievers, low achievers, English Learners, and resource students.

By focusing on this action research in my own agriculture science classroom, I hope to see if a relationship exists between the use of applied learning techniques and student interest in and comprehension of scientific principles. From my base line data, I expect most students will learn better through the applied techniques and that these techniques will increase students'

interest in animal science. If my hunch is correct, I will be able to use this information to counter the push by some educators and administrators to focus more on textbook-oriented content and less on the process of learning through applied, hands-on techniques. With data in hand, I can better make a sound argument for "learning by doing."



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Documenting Student Impact Through Action Research: A Study on the Impact of Teaching SAE in an Experiential Way

By Sue E. Hoop and
Neil A. Knobloch

Agricultural educators try new ideas to motivate their students with different approaches. However, how do teachers know if their innovative ideas work? About two years ago, we shared an experiential learning approach to introduce and teach SAE to high school students. The purpose of this follow-up article was to illustrate how we conducted an action research project to determine if the experiential learning approach motivated students to continue their SAE project one year after the learning experience.

Revisiting the Class Project

The experiential learning approach in the article (Hoop & Knobloch, 2002), "Teaching SAE in an Experiential Way," focused on making SAE relevant to students with different backgrounds and motivating students to want to conduct SAE projects. The teaching idea emerged from our discussions about the oxymoron that agricultural educators tend to introduce the student-centered SAE program using teacher-centered approaches and production agriculture examples. Two introductory agriculture courses of 38 first-year agricultural education students struggled to find SAE projects they could do after studying the FFA Student Handbook about SAE's. A class project was designed to give the students a real-life experience of their first SAE project around the six components of the experiential learn-

ing cycle (Knobloch, 1999; Martin, 1991).

The students conducted their "first" SAE project by teaching agriculture to elementary students at an agricultural awareness day at a local elementary school. The students decided on agricultural topics to teach and designed activities about each topic. Next, the students were organized into cooperative learning groups and worked in these groups to develop lesson plans from the blank lesson plan template that had been provided to them. The students were responsible for practicing their activity and performing it in front of the class. They developed their own visual aids and brought the supplies that were needed to conduct the activities.

Throughout the project, students revised their lesson plans and filled out their record books that were designed to fit this SAE project. The record book consisted of an enterprise agreement, goals and accomplishments, plan of practices (lesson plans), competencies to be gained, hours worked, expenses for activities, beginning and ending inventory (knowledge and skills possessed before the project vs. knowledge and skills possessed after the project). A detailed description of the process of the introductory unit of SAE that was taught can be found in Hoop and Knobloch's (2002) article.

Action Research Study

Immediately following the project, students reflected on their experiences. Students had a better un-

derstanding of SAE and were very excited to get started on one of their own. However, students may have been caught up in the positive experience of the class project, so we decided to do a follow-up action research study to determine if this project had a long-term impact on the students and their SAE programs. About a year later, the same students were asked to reflect on the class SAE project and how it influenced their own SAE projects. The students completed a questionnaire and their responses were coded for each question.

Outcomes of the Class Project

Out of the 38 students that were originally involved in this project, 35 were still enrolled in the Agricultural Education program a year later. The following table shows the responses to five "yes-no" questions on a questionnaire that 26 of students completed.

Of the 19 students that currently had an SAE project, 15 (79%) had agricultural production SAE projects and four (21%) had job placement SAE projects. Several students had more than one SAE, and one student also had a research SAE. Students were also asked to share their opinions on several open-ended questions. The questions and coded responses are as follows according to the frequency of highest to lowest.

"What students remembered about the experience:

It was fun; it was an educational experience; what they had taught in

Student SAE Follow-Up Questions (N = 26)

	Yes	No
Do you currently have an SAE project?	73%	27%
Were you more motivated to start your own SAE after doing the Ag Ed one with the rest of the class?	81%	19%
Did doing the class SAE project help you to better understand how to conduct your own SAE?	92%	8%
Did this SAE project encourage you to choose an SAE that you had not thought of before?	62%	38%
Do you recommend that other teachers teach SAE in this way?	92%	8%

their groups; that the elementary students learned a lot; it was a great experience.

“Students who stated that they were not more motivated to start their own SAE:

Already knew what they wanted to do; or had already started their SAE before this project; liked the comfort of working in the group; were nervous to do it on their own; didn’t understand all of it.

“Students that were more motivated because of the class SAE project:

Gave them an idea of what they wanted to do as an SAE; were excited that it could be fun; were less confused about the process; was a positive learning experience; knew could make money; found out that it wasn’t boring;

made them anxious to get started on their own SAE.

“Students who did not think that the SAE project helped them better understand how to conduct their own SAE:

Wanted to have more practice and experience filling out “real” record books.

“Students who did think that it helped them to better understand SAE:

It was good practice; taught to keep better records; realized all of the work that is behind completing a good SAE project; filling out the record book made the project better; the project clarified what they wanted to do as an SAE project; it was nice to work with other people.

“Students that did not agree that the SAE project encouraged them to choose an SAE that they had not thought of before:

Already had a project either in mind or already started.

“Students who agreed that the SAE project encouraged them:

Liked to learn about different things; gave them good ideas that they had not thought of; knew they all could be fun; learned about all kinds of projects; “It made me eager to try and do something original that most others had not ever done” and “I would never have dreamed I would show chickens and get 1st in my class.”

“Students were also asked to give suggestions to other teachers who might try something like this

project:

Make sure that the teacher spends more time describing the record books in detail and the purpose of them; make it fun and energetic; do as many practice activities as possible; make it more your own, try new things; be patient and encouraging.

“Students recommended that other teachers teach SAE in an experiential way because:

It helped make learning about SAE fun; they really understood better and learned well from this way of doing it; it encouraged them to work better with other students; easier to learn than notes; one student had this to say “It’s a very fun and educational process. I will never forget the ways we were taught to do the SAE’s.”

Documentation of Impact

This action research project demonstrates how an agricultural educator studied a new way of introducing SAE students. The results document the impact of the educational innovation.

In summary, the students who were taught how to start and conduct their first SAE in an experiential way enjoyed the SAE class project and thought that it was a fun and educational experience. Many of the students recommended that other teachers try this method when teaching SAE. The students had a good memory of the project over a year after it took place, which tenably reflects that it was a positive and motivational experience for them.

Teaching SAE in an experiential way can have a long and lasting impression on Agricultural Education students and get them excited about starting or continuing their own SAE programs. Agriculture teachers who study their practice in action and summarize the results will have documentation of their impact on students. Agriculture teachers who do action research will have the evidence of what works and in doing action research they will be improving their practice and programs.

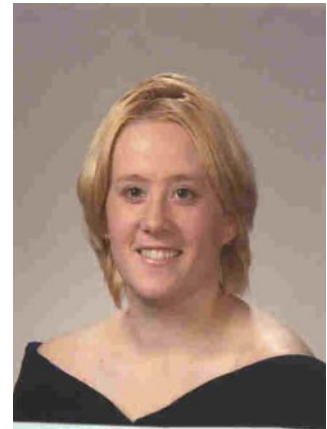
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Agriculture teachers who study their practice in action and summarize the results will have documentation of their impact on students.



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Practical Use of Action Research for the Beginning or Busy Teacher

By Amanda Wright

Discovering a Problem

Jason

The kid was making me crazy! In the middle of a discussion, there was Jason at the back of the room attempting to throw his freshly sharpened pencil into the ceiling foam. What next! Earlier, I caught him unscrewing the legs on the desk next to him and practicing origami with his record book pages.

Jason has ADHD and has trouble sitting still, let alone concentrating. At first, I thought he was just acting out to get attention, trying to upset me and disrupt the class. Now, after studying him a little more, I have noticed his eyes when I am talking. They wander all about the room as if he can't even focus his vision for more than a few seconds. His hands and feet are constantly tapping and moving and he bounces in this seat.

Sarah

"What the @!&%*# is your problem!"

The expletives were just beginning. Sarah stood straight up, knocking over her chair and scattering the students around her. Every eye in the room, including mine, was fixated on her. Someone had made the mistake of giving her a "look". Sarah had frequent outbursts like this, not only in class but nearly everywhere else. I had her

psychologist practically on speed dial and no one in class wanted to even sit next to her anymore.

Same Difference

Both of these students and their difficulties will come and go in my program. Each is from very different backgrounds and homes, ranging from loving and supportive to non-existent. They have a lot of similarities but nearly as many differences.

Jason and Sarah are both what I would call "good kids". They each really want to succeed at school and don't like to be singled out from the class. They think they are the same as their classmates and are uncertain as to what about them makes others look at them differently. They all just want to be left alone.

The root of the difficulties in each student is different. Jason has physiological problems that, for the most part, he cannot control. Sarah has behavioral problems that are difficult for her to master. Their parents have differing levels of involvement but are moderately interested in solutions for their kids at best.

So, what now? We all know that teaching is more about developing skills for life than about mastery of the subject matter. These students were my responsibility while in my class and I had two simple choices: make some changes or take a chance on losing them.

Two Steps Forward and One Step Back

Using action research has helped

me work wonders with students like Jason and Sarah. Not all have been successes but even little victories have been encouraging. Action research projects for me have been the most useful when I can adapt them to real problems that I face every day. Seeing these obstacles in my classroom and the hurdles that each student faces when trying to simply get by has consistently led me to develop my own little action research project for each student that can assist me in meeting their needs.

For each student, the counselor was not surprised to see me. Jason and Sarah are both students with 504 modifications. After discussing each with the counselor, talking with parents and the resource room, and some research on ADHD and anger problems, I decided to solicit some input from the kids, try a few things and attempt to improve the classroom environment.

While observing Jason, I noticed that he could concentrate and focus his mind more when his body is busy. He was increasingly articulate and alert when we were working outside on a project or he was completing hands-on tasks. He had considerable trouble when I asked the class to stay inside and listen during the term though. At first, I tried allowing him to walk around the room while he was reading or to move to a more secluded area of the room to concentrate. This worked well for a while but did not address his difficulties in every situation. As a result, I came up with a compromise that he agrees to. When we are inside, he is allowed to hold one of the class pets. I have a hedgehog, two hamsters, a cat and other random animals that he enjoys handling. When his hands are busy

petting and holding an animal, he can listen and focus on discussions and pay attention to speakers. I give him a copy of the notes or outlines that I use for the class and he reviews those at home and keeps them in his binder.

This system works for me because Jason is always considerate to other speakers and myself when he has the animals to occupy his hands, and it works for him because he can listen and participate in the class. Jason has found that he enjoys the class much more. When I had a mini conference with him after class, he mentioned how he enjoyed class so much more and is planning on taking an advanced class next term. He still acts out on occasion and continues to find creative ways to irritate me, as all youth should, but has come a long way from the kid I met in September.

Sarah was my biggest challenge. I sought the advice of the counselor, her parole officer, and her other teachers. After discussions with other teachers, I found that Sarah seemed to respond particularly poorly to open displays of authority and didn't like feeling controlled. I gave her the option of leaving class when she found that she was angry enough to explode but she usually couldn't tell when that was going to happen. In observing her, I finally discovered what would work in my class for Sarah. I happened to see her face as she was preparing to blow and quickly snatched the opportunity to ask her to step outside. That worked well as long as I could catch her before she got to the breaking point. Then, the term ended. Sarah had made marked improvements since the beginning of the year but got in another fight and it was the second "last chance" the administration had given her. She is currently expelled until the end of the year and will hopefully return in the fall. I am encouraged by the fact that she still comes to visit and

indicates she wants to return to school here next year.

Changing Strategies vs. Changing Standards

The one mistake I made, and I only made it once, regarding these students was to alter my expectations. As a beginning teacher, I don't have time to sleep, let alone offer individualized attention to every single student. I just do my best to fight the major fires and keep things running smoothly.

The first easy fix that occurred to me when becoming bombarded with students like Jason, Sarah, and Brian was to adapt to them by changing what I expected of them. Quickly, that idea proved its lack of forethought as I found the student's behavior to be worsening rather than improving. Slowly, I began to make clear that I expected the same from all students and held the same level of achievement and acceptability of behavior for all. The three had trouble adjusting to the new requirements at first but found that other students were more accepting of them if they were required to behave in class and also found they didn't stand out so much.

Experience

During my student teaching experience, action research to me was only interesting if I felt it would have a positive and lasting impact on my teaching NOW. I wasn't looking for abstract teaching and learning research or comprehensive plans for improvement that I would likely never have the time to read while teaching, let alone implement. I wanted experience working with and understanding students that I would come in contact with in any place I chose to teach. While student teaching I researched students with learning disabilities, common to hands-on elective classes like Agricultural

Science, and how to reach them successfully. Using this basic observation of students, brainstorming solutions, countless discussions and questioning sessions with counselors, solicitation of advice from other teachers, and advice from the students themselves, I found that the strategies to help these students were in front of me all along.

Keep it Simple

Action research for a beginning teacher, and likely all teachers, can rarely be truly productive if it takes away valuable and scarce time. No one can manage to pull off detailed and complicated research while teaching full time but I have found that my action research project and the techniques I used to understand students have worked wonders in my classroom. I never need to think too long or hard about a solution for these students, I simply try to observe them without their knowledge and bring them on board to help me help them. There will always be students who emphatically refuse to succeed in their school lives and in life in general but I find that if I truly try to help them and make an attempt on their behalf, they are nearly always willing to meet me halfway.



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Solving Problems through Action Research: Engaging the Teacher and Student Through Exploratory Learning

By Benjamin G. Swan

Each agriculture teacher has things they can improve in their program, whether they teach in a one or multiple person department. Facilities tend to be an area that can always see improvement. As teachers begin their new positions, many lists begin to form, and then a list of lists is created, just to keep everything straight. For veteran teachers, I am sure the number of items on those lists may seem to dwindle, but the importance of those few items remaining and/or added probably increase. Nevertheless, agriculture teachers have plenty of things to do to ensure their students have the best opportunities available to learn, in preparation for their futures.

The Beginning

My agricultural education career began as my wife, Mendi, and I moved to the great Central Valley of California to teach at Ripon High School. After signing the contract with the superintendent, we were offered a deal that we couldn't pass up, as we agreed to pay low rent for residence at the school farmhouse which resided on the 20 acre high school farm, detached from our high school by 5 miles. Students that had projects at the school farm or simply worked on our farm did so before or after school, either driving themselves or getting rides with parents, guardians, or myself.

Of course there was plenty to do back at the school within the classroom/labs and around the horticulture facil-

ity and department in general. But I think some excellent opportunities arose at the school farm to illustrate some points and opportunities for student learning. I hope these points will be encouraging to you. I think the biggest thing that I felt starting my new job was that I put a tremendous amount of pressure on myself to get the rest of the facilities up to par with what had already been upgraded. I suppose the pressure arose from the fact that we lived at my work and the school farm was "destined" to be a centerpiece for the local agricultural community and our department.

The first month I tried to do things on my own, but the moment I began to involve other people in the process, things began to fall in place. Parents, farmers, supporters, and students alike became involved. Looking back, the result was a very improved facility with many people to give credit to.

Something more important happened along the way. Several students became very interested in giving time and effort to move "our" farm forward to meet its' potential. The best way to describe what happened can be illustrated through a multiple step process identified as Action Research. As I, the teacher, became engaged in tackling project after project, I went through a process, whether I knew at the time what it was called, nonetheless, the process worked. The first couple of projects I worked on alone or with my wife, involved:

- ◆ identifying a situation that needed improvement (too

many to remember them all)

- ◆ check literature to identify options (usually internet, college notes, & textbooks) develop program of action (step by step on lists with check boxes)
- ◆ how each action will be evaluated (not usually very formal, but essential before moving on)
- ◆ perform action (being conscious about safety, and efficiency)
- ◆ review (look back and evaluate: did we accomplish what we set out to accomplish?)

Involving Students

After I had gone through these processes, it became very easy to involve students who showed interest. Several students, who had animal projects, stepped up to the plate big time. One particular student, James, had done very well in the class when it came to concrete, electrical, framing, plumbing, and of course safety. James knew that we needed to improve a dark and dreary one room restroom in the horse shed. The restroom measured out at 5' by 8'. James also knew that if that restroom wasn't fixed, that our farmhouse restroom would continue to be the only means of using a restroom on the twenty acres.

As James and I began to talk about the need for a restroom, he got excited about helping. The situation to improve

the bathroom had been identified. Our conversation turned to possible solutions and opportunities for improvements. He simply said, "I'll take care of it Mr. Swan". The next couple of evenings he stopped by the farmhouse after he fed his lamb and we shared ideas. His research actually included utilizing me as a resource. As the floor plan became clear, a list of materials ensued, all of which he managed to get donated. Wow! The checklist of steps was never formalized, but the progression of the project was smooth and turned out beautifully. The end project turned out much better than anything inside our farmhouse. James had actually ripped out all of the interior siding, rewired the building to code with a GFI circuit, replaced the siding with drywall, taped, textured, and painted the walls, tiled and grouted the floor, installed a toilet, and installed a gorgeous sink/cabinet with a mirror and light strip.

In a nutshell, the student was interested in helping. I as his teacher

said, "Here's a problem James (student), solve it. We'll talk about all of the options, give me a bill of materials, I'll get your 'stuff', and you're on your way." As mentioned, he got the "stuff" donated, so my only efforts were in providing a sounding board and supervision.

The Rewards

What in the world did James get out of this? James of course completed a non-paid placement contract with me and entered all of his activity in his record book. Along with the restroom upgrade, James assisted in our recreation area improvement project, including installation of a six station automatic sprinkler system and 4000 square feet of sod. In addition, he assisted with the many landscape projects including planting a redwood forest to cap off the recreation area. James competed in our local and county project competition and did very well. Beyond project competition, James, through the encouragement of our three-person de-

partment, completed the state "home and/or community development placement proficiency" application and placed first in the state for his efforts. Wow! I was incredibly thrilled and proud of James as his name was announced at the state convention.

My Reflection

When looking back at James' and other students' efforts at the school farm, I am reminded of how exciting it was to realize how these students took the knowledge learned in our class and put it to excellent use. These students further sharpened their skills through real life application while developing confidence in their abilities by doing quality work and making a positive difference. Isn't our job as teachers to prepare students for jobs where a supervisor isn't watching all of the time? I am not suggesting we don't supervise for safety and become negligent, but we should be preparing future employees (our students) to be able to solve problems for themselves and do things correctly. Albert Hubbard says it well, "The object of teaching a child is to enable him to get along without the teacher."

Providing an opportunity for a student like James to blossom, while benefiting everyone who walks on or drives by that school farm makes a whole lot of sense. My wife and I especially appreciated the absence of students knocking on our door to use the farmhouse restroom.

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“The object of teaching a child is to enable him to get along without the teacher.”

