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Teachers' Perceptions of Experiential Learning in the 3-Circle Agricultural Education Model

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TEACHERS' PERCEPTIONS OF EXPERIENTIAL LEARNING IN THE 3-CIRCLE AGRICULTURAL EDUCATION MODEL

BY

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This thesis is approved as a creditable and independent investigation by a candidate for the master's degree and is acceptable for meeting the thesis requirements for this degree. Acceptance of this does not imply that the conclusions reached by the candidate are necessarily the conclusions of the major department.

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ABSTRACT

TEACHERS' PERCEPTIONS OF EXPERIENTIAL LEARNING IN THE 3-CIRCLE AGRICULTURAL EDUCATION MODEL

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The purpose of this paper is to describe teachers' perceptions of experiential learning and its effects on student learning, understanding, and engagement through agriculture education's three-circle model. This paper explores teachers' perceptions of the value and importance of experiential learning in agriculture education instruction, FFA, and supervised agricultural experience. Further, I explore experiential learning, constructivism, and hands-on learning as the foundational instructional practices used in agricultural education. Agricultural education teachers from southwest Minnesota were surveyed to determine how they are using experiential learning in their agriculture education programs, including classroom instruction, FFA, and supervised agricultural experiences.

Introduction

The purpose of my applied project is to understand the role of experiential learning in agriculture education's three-circle model. The three-circle model consists of classroom instruction, FFA, and supervised agricultural experiences (Croom, 2008). A complete agriculture education program requires all three circles. In all three, the use of experiential learning is a dominant instructional tool.

Experiential learning was defined as learning which combined mental, emotional, and physiological stimuli (Hansen, 2000). These experiences are brought to the student in and out of the classroom. In the classroom, skills are focused on the content standards that the students will be able to learn through those applied practices. To improve learning, the focus should be placed on engaging students in a process that facilitates optimal learning (Kolb, 2012). According to *How People Learn* (National Academies Press, 2000), new learning involves transfer based on previous learning, and this fact has important implication for the design of instruction that helps students learn (p 53). Students learn through real-life experiences which influence how they learn by shaping their schema through bundling knowledge and past experiences to influence future experiences (Knobloch, 2003). Through experiences, students construct knowledge and achieve cognitive understanding. Learning experientially in authentic contexts has been a foundational model of teaching and learning in agricultural education (Knobloch, 2003).

Experiential learning, a form of constructivism, is the process where students build knowledge through their experiences (Doolittle & Camp, 1999). In agriculture

education, we not only want students to have experiences; we want them to build upon those experiences by using what they already know. According to Doolittle and Camp (1999), the essential core of constructivism is that learners actively construct their own knowledge and meaning from their experiences. In constructivism, students are actively engaged in what they are learning. Knowledge is not passively accumulated, but rather, is the result of active cognizing by the individual (Doolittle & Camp 1999). Frameworks allow scholars to organize knowledge and predict behavior and experience (Doolittle & Camp, 1999). Through the constructivism process, students can organize their experiences to help them make sense of what the next cognitive step would be. In my experience as an educator, students need to be able to not only understand the information given to them through their experiences, but also to build from those experiences to understanding.

In agriculture education, students can experience and learn through three fundamental areas: formal instruction, supervised agricultural experiences, and FFA. The primary setting for students to learn in this way is through their classroom experience. In the classroom, students engage in many hands-on activities which help them understand the standards of the instructional curriculum. For example, students apply themselves through engaging activities in the areas of physical, chemical, and biological sciences. These topics may include animal systems, agribusiness systems, environmental systems, food products, natural resources, plants, power, and technical operations. The students prior experience as well as classroom experience is essential for students to get their primary experiences so they can start building off of those experiences in other settings.

Without this base knowledge, students may not be able to understand many basic elements of agriculture education.

Outside of the classroom, students can experience learning through supervised agricultural experience (SAE). Through an SAE program, students are able to consider multiple careers and occupations and are a process of experiencing learning by physically practicing agricultural principles outside of the classroom (Minnesota FFA Association, 2020). Students can do this by owning their own business or working for a company. The students that own their own business can experience all parts of that business. Through SAE, students will experience carrying out all business practices, financial understanding of running a business, the physical demands it takes to run that business as well as the cognitive understanding to make informed decisions in that business (Minnesota FFA Association, 2020).

Another way to experience learning in agriculture education is through the FFA organization, including by participating in career development events as well as leadership development events. The FFA is a student-run organization that puts on competitions in the form of real-world agricultural skills and leadership experiences. In career development events, FFA members can compete in areas they have successfully built cognitive understanding and showcase that skill in a local and state competition. According to Ewing (2014), career development events provide students wht opportunity to practice, in competitive setting, the skills and knowledge gained through classroom and laboratory instruction. For example, students may compete in agriculture mechanics, and that maybe the scaffolding that gets them excited about a career in plumbing or carpentry. These students will build this knowledge by constructing experiences through

practicing their area of career interest. In leadership development events, students will compete against each other through different leadership competitions. In these competitions, students will show their skills by showcasing their cognitive understanding of public speaking, debates, and communication.

Classroom instruction, FFA, and supervised agricultural education programs provide a positive learning experience and are agricultural educations way of applying experiential learning. According to Roberts (2006), experiential learning emphasis has existed in secondary agricultural education for decades. According to Knobloch (2003), many educators and policymakers have called for models of teaching and learning that change the role of the teacher from being a deliverer of knowledge to one of being a facilitator of more active student learning. In the three circle model administrators, teachers, and parents often recognize that experiential learning is taking place in agriculture education programs and has a significant impact on student understanding of curriculum content.

Theoretical Perspective

Experiential learning has been a valued landmark in education; learning experientially is a "foundational model of teaching" (Knobloch 2003). According to Knobloch (2003), the study of experiential learning goes back about one century ago when agricultural education in America was organized in both formal and non-formal settings. Cheek et al. (1994) described experiential learning as practicing in a real situation, modeling appropriate behaviors and procedures, receiving proper feedback and reinforcement, and providing opportunities to apply knowledge in new situations. Experiential learning was defined as learning which combined mental, emotional, and

physiological stimuli (Hansen, 2000). Boud et al. (1993) offered five propositions about learning from experiences: (a) experience is the foundation of and stimulus for learning; (b) learners actively construct their experiences; (c) learning is a holistic process; (d) learning is socially and culturally constructed; and, (e) learning is influenced by the socioemotional context in which it occurs. Students learn through real-life experiences and experience influences how they learn because experiences shape persons' schema by bundling knowledge and past experiences to influence future experiences (Buriak et al., 1996). Experiential learning through SAE and FFA has been a hallmark of agriculture education (Hughes & Barrick, 1993). After examining the findings of cognitive science, the most effective way of learning skills is "in content," placing the learning objectives within a real environment rather than insisting that students first learn in the abstract what they will be expected to apply (Hughes & Barrick, 1993). Experiential learning is a method of constructivism and should be broken down further.

Constructivism is a theory of learning that has roots in both philosophy and psychology. The essential core of constructivism is that learners actively construct their knowledge and meaning from their experience (Fosnot, 1996; Steffe & Gale, 1995). Von Glasersfeld (1984, 1998) proposed three essential epistemological tenets of constructivism, to which a fourth has been added in light of recent writings. According to Doolittle and Camp (1999), these epistemological tenets of constructivism are as follows:

1. Knowledge is not passively accumulated, but rather, is the result of active cognizing by the individual;
2. Cognition is an adaptive process that functions to make an individual's behavior more viable given a particular environment;

3. Cognition organizes and makes sense of one's experience, and is not a process to render an accurate representation of reality; and
4. Knowing has roots both biological/ neurological in construction, and social, cultural and language-based interaction.

These four fundamental tenets provide the foundation for basic principles of the teaching, learning, and knowing the process as described by constructivism. Experiential learning and Hands-on-Learning are teaching pedagogies that use constructivist theories to help students learn.

According to Knobloch (2003), many agricultural educators are familiar with "hands-on" learning. The phrase hands-on-learning directly relates to kinesthetic learning. According to Kaltman (2010), when designing learning environments, teachers should focus on what the children will be doing, and what objects and materials they can provide for the children to handle and observe. Further, hands-on-learning is the physical action that is taking place when talking about experiential and constructivism learning practices.

According to Kolb (2015), experiential learning is an active pedagogy emphasizing concrete experiences and abstract conceptualization. In our modern system of education, Kolb (2015), stated despite the robust use of experiential learning in agriculture education, the theory behind the practice of experiential learning has had limited attention. Although experiential, or experience-based learning can be regarded as the earliest approach to learning for the human race, the significance and potential of it has not been fully recognized until relatively recently (Hansen, 2000).

History of Acts and Laws.

To understand the importance of experiential learning in agriculture classrooms, we must understand the historical context. Agricultural education programs have been widely accepted and included in secondary education federal funding since the Smith-Hughes National Vocational Education Act of 1917, commonly known as the Smith-Hughes Act (National FFA Organization, 2020). However, the general discussion of vocational education in the United States focuses on common teaching practices that which has evolved in response to federal legislation. Beginning in 1862 (and again in 1890), Congress passed the Morrill Acts providing aid to higher education for land-grant colleges (National FFA Organization, 2020). The Hatch Act of 1887 and the Adams Act of 1906 allocated aid to agricultural experiment stations and the Smith-Lever Act of 1914 provided support for agricultural and home economics extension programs (Roberts, 1957). Many of the previous acts allowed for the Smith-Hughes Act, formally National Vocational Education Act, U.S. legislation, adopted in 1917, provided federal aid to the states for the purpose of promoting precollegiate vocational education in agricultural and industrial trades (Steffes, 2020).

These acts brought about the basis for the three-circle model that is very well known today in modern agriculture education classes. The three-circle model is an integrated agricultural education model requires that agricultural education programs combine instruction, supervised agricultural experience and FFA (Croom, 2008). The conceptual model for secondary agricultural education programs as learning through classroom/ laboratory instruction supervised agricultural experience, and participation

in the FFA organization further supports the notion of agriculture as a context for learning in agricultural education (Roberts & Ball, 2009).

The three-circle model for organizing instruction in agricultural education involves the interrelationships between three major concepts: classroom and laboratory instruction, supervised agricultural experience, and agricultural youth organization participation (Phipps & Osborne, 1988). The classroom and laboratory instruction concept is the standard to most realms of education. It includes formal education in the forms of lectures, demonstrations, assessments, and other guided student activities. Agricultural education also includes an intra-curricular activity known as the National FFA Organization (FFA). FFA programs are designed to encourage student performance as well as develop an interest in agricultural careers. FFA activities include career development events (CDE), individual member awards programs, scholarships, and leadership programs (Phipps & Osborne, 1988). The FFA and classroom concepts are tied together with the concept of supervised agricultural experience (SAE). An SAE is an individual independent learning program for students enrolled in agricultural education. SAEs are designed to provide learning experiences in the pathways of CTE. All three concepts are incorporated into a successful secondary agricultural education program.

Classroom Instruction

The first component for agricultural programs is classroom instruction. Agricultural education is an encompassing study of applied sciences and business management. According to Knobloch (2003), extension and agricultural educators built their entire educational programs on the philosophical foundation of experiential

learning. Agricultural education provides, at a minimum, hands-on, experiential, science and mathematics education that meet the demands for cross curricular integration and needs of students in the nontraditional settings (Daily et al., 2001). Agricultural education is also a cluster in Minnesota's Career and Technical Education Programs of Studies that contains pathways including animal systems, agribusiness systems, environmental service systems, food products and processing systems, natural resources systems, plant systems, and power, structure, and technical systems (Minnesota Career and Technical Education, 2015). These programs of study use experiential learning to build on knowledge obtained through experiences. In Roberts (2006) article, *A Philosophical Examination of Experiential Learning Theory for Agriculture Education* Roberts references Dewey's work by stating education is characterized by observations from an experience reflecting on that experience, and then forming conceptualizations based on those reflections and pre-existing knowledge (Roberts, 2006). In the early twentieth century, John Dewey rejuvenated attitudes toward education (Dyer, 1996). John Dewey a philosopher, social reformer and educator, changed fundamental approaches to teaching and learning (PBS, 2020). Dewey proposed basing education on the personal experiences of the learner and charged teachers with the responsibility of providing those experiences (Dyer, 1996). It was an important idea that personal experiences are an important facet of learning. Agriculture education covers a diverse group of learners while applying the motto of "agricultural education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber, and natural resources systems" (National FFA Organization, 2016).

Supervised Agricultural Experience

The second component of secondary agricultural education programs is supervised agricultural experience. The supervised experience was one of the first components of the agricultural education model to be developed and was more likely in the form of youth apprenticeships to skilled tradesmen or as informal education at home (Croom, 2008). The supervised agricultural experiences program changed focus as the Vocational Education Act of 1963 allowed for supervision to be provided without direct practice on a farm (Stewart & Birkenholz, 1991). Instead of having a school farm or direct access to a farm, the bill allowed for students to begin to engage in other types of supervised experiences. This change is the basis for today's SAE.

Through the supervised occupational experience program, the students put the principles and practices learned in the instructional program to practical use (Croom, 2008).

Programs like these allow students to develop a wide variety of practical and even professional life skills they can apply throughout their college and professional careers. The life skills encompassed areas of "record–keeping, record analysis, financial management, and money management as a means to enhance decision–making and employment skills while developing skills related to student responsibility (Retallick, 2010, p 63).

This unique structure of SAE's allows for agricultural educators to make a difference in the education each student receives. With proper implementation of a complete agricultural education program, Talbert et al. (2007) stated that:

> Students realize several benefits from SAE participation including: development of decision–making skills, including career and personal choices, improved self–confidence and human relation skills, application of knowledge learned in the classroom, knowledge of a variety of occupations and careers, development of time management and record–keeping skills, document of experience needed on job applications, discovery of areas of personal interest, practice of responsibility and development of independence, and development of pride through personal accomplishment. (p. 420–421)

These skills are available through many different opportunities for students who participate in SAEs. The structure of SAEs allows students to have successful experiences throughout a variety of categories.

FFA

The third component of secondary agricultural education programs is FFA experiences. FFA is a student-run organization that includes math, science as well as hands-on work experiences and the development of life skills, helping members discover their career development and future success. FFA gives students a platform to showcase what they learned through experiencing several diverse agricultural topics as well as showing off their leadership skills. FFA members elect their officers and plan and conduct activities with supervision from their advisors (National FFA Organization, 2020). Six national officers play a key role in planning the annual national FFA convention and other events. FFA members demonstrate their proficiency in competition based on real work agricultural skills and experiences. Leadership activities conducted through the FFA provide opportunities for students to learn about teamwork, public speaking, and debates, writing for communication of ideas, and other skills identified as important for the worker of the future (Dailey et al., 2001). FFA members can be active

in the local region state and national levels. FFA activities include career development events, individual member award programs, scholarships, and leadership programs. The FFA awards system is also a driving force for the use of SAEs according to Retallick. "Degree advancement in FFA, proficiency awards in FFA are great portfolios where you can document skill development and ability to perform on certain levels" using SAE (Retallick, 2010, p 63).

Background of Experiences of Agriculture Education

Many rural and some urban schools have implemented agriculture education programs to bridge the gap between theory of agriculture and the importance of the vast resources that agriculture entails in our daily lives. This study will investigate the experiences of agriculture education instructors currently teaching agriculture education. Over the years, I have noticed that many programs "do it differently." I have seen programs that do very minimal career development events and supervised agricultural experiences, and I have seen programs that implement as many co-curricular practices wherever they can. I want to have an honest conversation on what teachers in our area are doing and how that is affecting their program and student involvement.

Purpose

What are the perspectives of agriculture education teachers about the inclusion of career development events, supervised agricultural experiences, and experiential instruction into their classroom? I have explored educators' perceptions in what occurs when agriculture education teachers include this experiential instruction, career development events, and supervised agricultural experiences into their curriculum. I interpreted how experiential teaching, career development events, and supervised

agriculture experiences affected the learning experience of students in agricultural classrooms through teacher perceptions of inclusion of these programs to facilitate an atmosphere of learning and understanding better.

Other teachers in our area are implementing these programs into their classrooms so that I may be able to understand what is working and what is not working and come up with a solution as to why agriculture teachers believe that it is or is not important to implement one or all of these forms of experiential learning. The study setting will be current agriculture teachers in southwestern Minnesota. All research will be gathered in an interview type of setting, whether over the phone or in person. I will be interviewing and recording this research. The purpose of these interviews is to determine teachers perceptions about the importance experiential learning is in agriculture education programs.

Methods

This case study focused on agriculture teachers using the three-circle model in their agriculture education program. The target population was focused on agriculture teachers that teach in southwest Minnesota. The researcher believed in the importance of teacher voices; therefore, the interview process was selected as the data collection method to gather understanding pertaining to experiential learning through classroom instruction, SAE's and FFA. These teachers, are both male and female in a rural setting in both single and multi-teacher settings that range in teaching experience from under five years to over fifteen years. Ultimately, eight Minnesota certified schoolteachers who were currently teaching were willing to participate in the study. Participants originated from various types of programs in southwest Minnesota. Of the eight participants three were female and five were male. The criteria for participation included being a certified teacher that teaches in southwest Minnesota. For purposes of the participants I have done the following: assigned pseudonyms, obscured identifying information and presented aggregate information (APA, 2020).

Prior to contacting potential participants, Internal Review Board approval was sought through South Dakota State University. Once IRB approval was granted (appendix A), the researcher attempted to locate appropriate participants by verbally talking to potential participants at events held in southwest Minnesota. Many potential participants stated that they would be willing to conduct an interview as such that it did not take a lot of time as many were very busy with other activities

I have "entered the field" by sending out a preliminary email to colleges in my region and neighboring regions stating I would be conducting a research problem for my

thesis paper and need some participants from this region. It was important to me to gain the interviewees trust through the entire interview process. I assured the interviewee understood what it is for, but I did not want to give away any inkling of the questions that I will be asked. I wanted the interviewer to be unprepared by the interviewee responses to get an unbiased reaction of their thoughts recorded. I confirmed that if anyone does not want to participate to let me know to make sure that I am not wasting one's time in this process. I made sure to make myself available at a certain time of the day as well as setting up times to interview in person depending on one's preference. I confirmed in my email, that the interviews would assist in understanding what types of experiential learning took place as well as what that involved in each program. I also explained to the agriculture education instructors what it is that I am researching and why it is that I am researched it. It was important that they were aware of my inquiry According to Flick (2000), explain to themselves and others what the researcher and the project are aiming at.

Once a potential candidate was established, and initial communication was completed by the researcher, a short email was sent to verify participation. The email thanked the candidates for participation and asked if they were willing to set up a short-recorded interview at some point in the near future. After participant agreement the researcher set up times and places with participants.

As I began the conversation, I wanted to make sure that I make the interviewee comfortable when starting the conversation. This is one reason that I interviewed teachers that I have met before, that may know who I am and where I teach. In this way, I started the conversation in a casual way as to set the stage for the interview. According to Flick

(2000), In the first few minutes, the interviewer has to create a situation that is so relaxed and open that the people in it can lay bare, without fear, a great variety of aspects of their personality and their life-world. I also wanted to be sympathetic to the interviewee, so they feel comfortable with the interview, but also make sure that I am not giving off any cues one way or the other on how I reacted in my setting. I wanted an unbiased interview process so I can gain the most honest interview I can get.

The structured interviews lasted approximately one hour. See Table 1 for a complete list of interview questions, each session was led by the primary researcher (myself) and recorded (mechanical recorder) and transcribed for data analysis. According to Creswell (2003), Qualitative procedures depend on text, have distinctive steps in collecting and analyzing data, and draw on varied tactics of questioning (2003). Additionally, field notes were taken during data collection. Line by line coding was used to identify categories and themes of the experience. The focus group interviews, and field notes served as a primary source of data. Secondary data was not used as to not obscure the primary data.

Finally, I categorized the outcome of the information received from the interviews by creating themes. I identified common concepts and organized them to further determine subcategories related to themes. The basic idea behind inductive category formation is that the procedures of summarizing content analysis are used to develop categories gradually from some material (Flick, 2000). If I categorize the information, it should be easier to draw conclusions. I believe I will be able to make inferences on how teachers are teaching their curriculum and whether they deem it important to do in the classroom, out of the classroom, both during direct instruction and through experiential

learning. The common themes that were apparent within the interviewee's statements would include Real World Experience, Building Relationships/Personal Connections, Student Talents, Skills Learned/Student Talents, Experiential Learning, Career Exploration/ Career Ready.

Findings

Data analysis yielded five distinct themes related to experiential learning in agriculture education using the three-circle model.

Our in class and out of class relationships with our students helps us to understand students' ability to grow from what they have experienced in their lives. This has helped them to build and grow what they previously have retained and building upon that foundation a scaffolding in which they can connect all aspects of that topic or idea into a well diverse cognitive understanding. Jenny stated that "Using the experiential model, learn, do, teach allows students to value what they know and then to practice it into concrete learning in a way that allows them to teach it to others. Jack stated "experiential learning is essential to agricultural education programs and all learning experiences.

Theme 1: Real-World Experience

The first open-ended question in each interview was how has applying supervised agricultural experiences supported student engagement in the program. Many named supervised agricultural experiences as an external practice that can be transitioned back to the classroom to understand further or vise versus.

Jon, with close to twenty years of experience in a multi-person department in a rural setting, stated, "SAE experiences have been able to show students the benefits of classroom material and real-world experiences." Jenny added by stating: "SAE, helps students see the value of learning outside the classroom." Jenny brought up a good point that we need to acknowledge learning outside of the classroom and an SAE project is a good way to showcase their understanding. And Jack, a veteran teacher stated: "It has allowed students to practice what they have learned." they can tie the information from the class into what they are learning outside of class." Its always a good idea to practice skills over and over to get be more proficient at them.

Theme 2: Building Relationships/Personal Connections

Participants were asked how their supervised agricultural experience program helped to enhance the curriculum that they implement. Many agriculture teachers discussed that implementing supervised agricultural experiences has enabled them to build relationships with their students by being more involved in what their students are doing outside of the classroom.

Laura, an active agriculture teacher with more than ten years of teaching experience, stated:

> "It has really helped us because of the relationship it helps us build with our students." "My students loved when I visited them at work or on their farm." They want to show me what they have done." Jack stated that "student have created successful teams through excitement for our program".

Theme 3: Student Talents

In agriculture education, teachers are always trying to find the talents of students. When we see these talents, we show that students can be successful in exploiting these talents. Usually, these are areas that students can excel at as well as find confidence in. These talents can be found in Career Development Events, Supervised Agricultural Experiences as well as Classroom Instruction. Jon stated: "Through the hands-on learning that we have done, we focus on different talents/skills that students have that they would not be able to do in a traditional classroom."

Mark, a veteran teacher in a multi-person department, stated: "By having the opportunity to apply what they have learned, students have reinforced classroom concepts and strengthened their abilities."

Erin, a novice agriculture educator that has close ties to students as well as multiple regional leadership responsibilities, stated: "through CDE's, students are usually able to find something that they are passionate about."

Theme 4: Skills Learned/ Student Understanding

Skills are learned and understood on a daily basis, us as agriculture educators its our practice to quantify what is learned and understood in and out of our classes through Career Development Events, Supervised Agricultural Experiences as well as Classroom Instruction. These three practices are the main ideals of an agriculture teacher and it show through our teaching practices as we use them all for a complete program.

Erin expressed "from teaching natural resources, I have found some students to be very passionate about fish and wildlife and those students have turned into the best ones that I have had to the contest." In this comment students are deepening their

understanding of fish and wildlife through their interests in fish and wildlife and their desire to be a part of a career development event.

An example where students learn and understand a skill through SAE and Classroom instruction are best explained here from Jenny, "The skills that you learn through work have a value and a place and can be brought back into the classroom through teaching others and are valuable tools for demonstration."

Mark stated for his students: "They learned a particular skill or knowledge base and then have the chance to apply that knowledge and skill in an applicable environment."

Specific skill that were discussed in the interviews were record keeping, managing money, managing time, showing respect for others, communication, and career understanding through career development events.

Theme 5: Career Exploration/Career Ready

The goal for any teacher should be to expose students to different career fields in which they are interested in, whether they pursue that career or not does not matter as much as exposing them to a deeper understanding of it. I find that through CDE's, SAE's and Classroom instruction, we do this without directly thinking that we are. Matt stated, "CDE's allow students to get a hands-on look at the knowledge needed for a career, and implementing them into class allows students to gain an understanding of possible career choices."

Career choices and what students find interest in during their schooling has a high impact on what they would be interested in. Jack stated “students have gained more agricultural knowledge they can use in their careers and the real world someday.”

In the classroom, we can expose students to a wide variety of different careers that students may be interested in; however, SAE’s give a platform for students to showcase what they are learning outside of the classroom and what their interest is in that environment. Mark referred to SAE’s as: “provides students an opportunity to explore a variety of agricultural career opportunities that they are interested in.”

Conclusions & Recommendations

I was interested in experiential learning as a result of teaching and learning through this method my whole life. Even as a youth, I seemed to always understand and retain information much faster and longer if it was showcased with an activity or project. It seemed only natural that if this was something that made sense to me it would also make sense that I would teach in this model. While I understood that this model made sense to me it was not until I started this research paper that I found that this was an actual thing that many before me had been also researching as a way of teaching information to students.

As a result of the research I ran into individuals that helped explain this model better with research to back it up. As Knobloch (2003) stated, experiential learning has been a valued landmark in education; learning experientially is a "foundational model of teaching". I found that there was much more to experiential learning than just the learning and understanding of content knowledge. Although this is the primary reason that I would like to focus on because that is what we as teachers are quantified to be is someone who presents information to students and the students in turn retain that knowledge for future understanding and growth. On the other hand, students get so much more from experiential learning than first perceived.

First, teacher student relationships are important parts of student trust and understanding. If a student has a relationship with a student that is beyond the classroom experience, students tend to put more time and effort into their understanding of that topic. It also goes to show that students are interested in that topic if they are putting in extra time. Additionally, this is a place where students can showcase their talents and

skills toward the topic. The student can take pride in what they have learned and show those efforts to the teacher creating that relationship of trust and understanding.

Real world experiences and career readiness are another key understanding to experiential learning. Students need that real-world experience to understand the key components of that career or hobby for future understanding. Many students have been able to understand if a certain career is something they are interested in or if its more of a hobby that they would like to participate in. In some certain instances, students might realize they are not interested in that experience at all. In all instance's students are still learning and growing in their understanding of the content in which they are experiencing.

Experiential learning is a vital key component of teaching and learning, additionally is a very important aspect of agriculture education. This reinforces the fact that students learn clear and deeper understanding of concepts when learning through their experiences. The responses that I received brought to the surface many themes that I found conclusive and justified as to why experiential learning is such a valued and common practice in agriculture education programs.

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Appendix A IRB

SDSU Human Subjects Research Application

Project Title: A qualitative evaluation of experiential learning observed through supervised agriculture experience, career development events, and classroom instruction.

Principal Investigator: **Jon Schreurs**

Section 1: Project Description

1. What is the purpose of your study? **To understand how area agriculture advisors are using and implementing SAE, CDE's and Classroom instruction through experiential learning to enhance student engagement and content comprehension.**

2. Is this study externally funded?

   ☒ No

   ☐ Yes. Identify source:

3. Will you **only** use data already collected for other purposes and have **no contact** with the subjects?

   ☒ No

   ☐ Yes. [Skip to Section 8.]

4. Describe any tasks participants will be asked to perform and any tests, procedures, and/or interventions they will undergo. **Participants will be asked questions through and in person interview, phone interview or email interview.**

   Are there potential risks to the research subjects in any of the following areas? If not, check here: ☐

   ☐ **Physical** (i.e. discomfort, pain, injury, illness, or disease; may result from administration of stimuli, controlled substances, or devices. Engaging a subject in a social situation which could involve violence may also create a physical risk.)

☐ **Psychological** (includes the production of anxiety, depression, guilt, shock, and loss of self-esteem. Sensory deprivation, sleep deprivation, use of hypnosis, deception or mental stresses are examples of psychological risks.)

☐ **Economic** (such as direct costs; loss of wages or income for participating; or breach of confidentiality that may result in loss of employment or damage to a subject's employability)

☐ **Social** (i.e. embarrassment, loss of respect, negative labeling, or harming relationships within a subject's business or social group; breach of confidentiality regarding drug and alcohol use, mental illness, and sexual behavior)

☐ **Legal** (requiring activities for which the subject may be criminally or civilly liable; or disclosing illegal activity or information that would be reportable to authorities or might render the subject prosecutable under the law, such as child abuse, alcohol abuse, alcohol abuse by a pregnant woman, danger to self or others)

5. If any of the above categories are checked, describe the risk and how you will minimize it.

6. Will the research involve incomplete disclosure to subjects (deception)?

   ☒ No

   ☐ Yes. Justify, and describe debriefing plan:

Section 2: Participant Information

1. Describe the study population. **Licensed Agriculture Teachers**

2. Check any of the following special populations to be enrolled in this study (i.e. target population). If none, check here: ☒

   ☐ Your students ☐ Prisoners

   ☐ Your employees ☐ Residents of European Economic Area countries

   ☐ Individuals with diminished decision-making capacity ☐ Minors (under 18)

   ☐ Pregnant women ☐ Non-English Speaking. Identify language:

   ☐ Economically disadvantaged ☐ Educationally disadvantaged

3. For any of the special populations checked, justify their use and provide a description of special considerations and/or steps that will be taken to ensure their protection from undue influence or coercion. **NA**
   If any of your subjects do not speak English, explain how the person obtaining consent will communicate with them. **NA**

4. State any inclusionary and exclusionary criteria and how participants will be screened. **Participants will contain members from southwestern Minnesota**

5. How do you have access to the study population? **Email/ Phone/ In-person**

6. What is the maximum number of participants you will enroll? **10**

7. Will participants receive any compensation (gift card, money, prize, etc.)?
   ☒ No

   ☐ Yes. Describe:

   Will <u>all</u> subjects receive the same compensation?

   ☐ No. Explain:

   ☐ Yes

8. Are there any costs to subjects as a result of participating?
   ☒ No

   ☐ Yes. Describe:

   Will subjects be reimbursed for expenses?

   ☐ No

   ☐ Yes

Section 3: Recruitment and Informed Consent

1. How will you recruit participants?
   ☐ Print material (flyer, brochure, letter, newspaper ad, etc.)

☐ Online/Social media (website, post, Facebook, Twitter, etc.)

☒ Email

If targeting SDSU students, describe how you will obtain email addresses [See Footnote 1]:

☒ Personal contact

☐ From a database of individuals who have given prior permission to be contacted for research (SONA).

☐ Referrals. From whom?

☐ Other:

2. Describe what will be communicated to participants to introduce the research. **I will communicate that I am doing the research for my graduate requirements. I will communicate that all responses will be confidential.**

3. Indicate how you will obtain consent.
   ☒ Implied consent (no signature, appropriate for minimal risk adult survey/interview/focus groups)
   ☐ Child assent and parental permission forms (required for research with minors)
   ☐ Signed consent form
   ☐ Email ☐ USPS ☐ Handout (face-to-face)
   ☐ Short form with oral explanation and witness
   ☐ Other:
   ☐ I am requesting a consent waiver (complete question 9 in Section 8)

Section 4: Venue

1. Describe the setting in which the research will take place. **Email/ in-person/ Phone**

2. Is the venue a classroom or commonly accepted educational setting?
   ☒ No. [Skip to question 3.]
   ☐ Yes. Answer questions below.

a. Is the research likely to adversely affect students' opportunity to learn required educational content or the assessment of educators who provide instruction?

☐ No

☐ Yes. Explain:

b. Will participation in the study be a required part of the curriculum?

☐ No. Describe what non-participants will do during the research:

☐ Yes. How will students opt to disallow inclusion of their data?

c. Will participants receive extra credit?

☐ No

☐ Yes. Describe an alternative activity involving comparable time for non-participants to obtain the same credit.

3. Will subjects be recruited, or data collected, at a site external to SDSU?

☐ No. [Skip to Section 5.]

☒ Yes. Identify each site Online, Phone or setting of their choosing

If conducting research in or collecting data from European Union countries, check here: ☐

4. Does this site have an IRB? If yes, please provide the IRB contact information.

☒ No

☐ Yes, they have an IRB and I have applied, or I am in the process of applying, for approval

☐ Yes, they have an IRB but are willing to accept SDSU's IRB approval

5. Have you notified all personnel and facilities that need to be prepared to assist you in your research, to take questions about the study, or provide services to participants?

☒ N/A

☐ Yes. Please list and explain:

6. If this is a multi-site study, are you the lead investigator?

☒ No

☐ Yes. Explain how you will coordinate and manage unanticipated problems involving risks to participants or others and protocol modifications.

Section 5: Privacy, Confidentiality and Data Protection

1. Identify all data sources you will use: **Responses from participants**

2. Will you access private records (i.e. through your job, volunteer work, internship, etc.)? The data could be considered private records unless they are publicly available to anyone. [SDSU student email addresses are private.]
   ☐ Yes. Describe how you have permissible access.
   ☒ No

3. Will any identifiers be collected?
   ☐ No. [For biomedical studies, proceed to Section 6. For all others, skip to Section 9.]
   ☒ Yes. Check all that apply:
   - ☒ Name or initials
   - ☒ Telephone number
   - ☒ Email address
   - ☐ IP address
   - ☐ Any identifying number (student ID, SSN, medical record, serial, account, license, etc.)
   - ☐ Genetic information
   - ☐ Biometrics (handwriting, fingerprints, dental x-rays, retinal scans, etc.)
   - ☐ Elements of dates related to the individual, i.e. birthdate, admission date, discharge date.
   - ☐ Geographic subdivision smaller than a state (including street, city, county, precinct, and zip code)
   - ☐ Vehicle identifiers and serial numbers, including license plate numbers
   - ☐ Full face photographic
   - ☐ Audio/video recording
   - ☐ Other:

4. Will identifiers be maintained?
   ☒ No. All identifiers will be removed and destroyed before data are stored.

   ☐ Yes. Will a coding system be used? [A random unique ID assigned to each subject's data]

☐ No. Explain how the confidentiality of the study records will be maintained.

☐ Yes. Will there be a key to the code? [A separate document linking the subject to the ID number.]

☐ No. Explain how the confidentiality of the study records will be maintained.

☐ Yes. Who will have access to the key?

5. Will data identifying the subjects be made available to anyone other than the PI?
   ☐ No

   ☒ Yes. Explain: **My thesis advisor**

6. Describe how you will protect the subject's personal privacy. [This is about the person, not the data.] **Destroy all the identification markers before storing data**

7. Where will the data and documentation be stored, for how long, and who will have access to them? **The SDSU faculty will maintain for 7 years on a password protected computer**
   Note: the SDBOR requires that research data be retained for 7 years after the end of a study and materials (lab books, samples, slides, recordings, notes, etc.) for 3 years.

8. How will the data be disposed of to ensure confidentiality? **Files will be deleted from a password protected computer.**

For biomedical studies, proceed to section 6. For all others, skip to section 9.

Section 6: Biomedical Research

1. For drug studies, provide a brief explanation of methods used to determine dosing, expected maximum dosage, and duration of exposure to the drug.

2. If medical services are needed due to the research, describe how the participant will be referred to those services.

3. Describe your plan for voluntary and involuntary withdrawal of participants in the study.

4. Are you proposing a clinical trial? [*Clinical trial means a research study in which one or more human subjects are prospectively assigned to one or more interventions (which may include placebo or other control) to evaluate the effects of the interventions on biomedical or behavioral health-related outcomes*.]
   ☐ No.
   ☐ Yes. You may need to register your study on ClinicalTrials.gov.

5. Does your study pose greater than minimal risk?
   ☐ No
   ☐ Yes. Attach a Data and Safety Monitoring Plan

5. Will biological (tissue, specimen, blood, urine) samples be collected?
   ☐ No
   ☐ Yes. List biological samples to be collected.
   a. Check below all that apply:
      ☐ The research involves genetic testing. [Family members might be implicated.]
      ☐ Samples will be kept for future, unspecified use.
      ☐ Samples will be made anonymous to maintain confidentiality.
      ☐ Samples will be destroyed after a specified one-time use.
      ☐ The donor will be informed of any and all results obtained from his/her DNA.
      ☐ Samples will be sold in the future.
      ☐ The donor will be paid for his/her sample now or in the future.
   b. How will biological specimens be stored, for what duration, and by whom?

Section 7: Investigational Drugs or Devices

This section must be completed for FDA-related projects. Unless a waiver of an Investigational New Drug (IND) or Investigational Device Exemption (IDE) is granted by the FDA, an IND/IDE number is required.

1. Check all that apply and complete appropriately.
   ☐ Drug Name
   ☐ IND #:
   ☐ Does not require IND. Explain why
   ☐ Device Name

☐ IDE #:

☐ Does not require IDE because it involves a non-significant (NSR) Device.

2. Describe your inventory controls for storage, monitoring, and dispensing of study drugs or devices.
    a. How will you store the drug or device?
    b. How will you control the drug or device?
    c. How will you dispense the drug or device (include any other staff that has this responsibility)?

3. If the investigator holds the IND or IDE, what is your plan for holding the IND or IDE?

4. What are the alternatives to the research interventions or treatments?

Section 8: Existing Data

*Complete if you will **only** use data already collected for purposes other than this study and will have **no contact** with the subjects.*

1. Identify any inclusionary and exclusionary criteria and how you will apply them when gathering data for analysis.

2. Describe where you will obtain the data (such as medical records, educational records, or an online database).

3. Will you obtain the data from private records (i.e. through your job, volunteer work, internship, etc.)? The data could be considered private records unless they are publicly available to anyone.

    ☐ Yes. Describe how you have permissible access.

    ☐ No

4. How many records are you planning to use?

5. Will the records you receive be stripped of all identifiers that would make it impossible for you to identify a participant?

    ☐ Yes

    ☐ No

6. Will you be temporarily collecting an identifier?
   ☐Yes. Explain why (i.e. linking pre/post data or preventing duplication) and when/how you will destroy the identifier.

   ☐ No

7. List each variable you will collect.

8. If there are risks to subjects associated with the research, describe the risk and how you've attempted to minimize it.

9. Will you obtain informed consent from the subjects?
   ☐ Yes. Describe how:
   ☐ No. Federal regulations provide for waiver of the process of informed consent under specific circumstances. Provide a brief description of how **each** of the following statements applies to your study:
   ☐ **A consent waiver is requested because**:

   1. The research involves no more than minimal risk to the participants; (State reasons.)
   2. The research could not practicably be carried out without the waiver; (State reasons.)
   3. If the research involves using identifiable private information, the research could not be practicably carried out without using such information in an identifiable format; (State reasons.) and
   4. The waiver will not adversely affect the rights and welfare of the participants; (State reasons.)

Section 9: Attachments

Check all attachments included:

☐ Completion certificate or link for the appropriate CITI human subjects protection course for each investigator

☐ Recruitment material
☐ Informed consent form
☐ Survey or interview script
☐ Permission letter or email from each external site (schools, hospitals, or businesses where you will collect data)

☐ Data and safety monitoring plan (for studies that pose greater than minimal risk)

☐ Other:

Upload and submit the completed application via InfoReady Review (https://sdstate.infoready4.com/).

FOOTNOTES

1. The University will not send a mass email to all students for a research project. Groups of students may be contacted on an investigator's behalf through the following channels:
    a. The Student Association can post links to surveys in the Jackrabbit Report or on MyState.
    b. Faculty members can email students in their classes.
    c. Coaches can email student athletes.
    d. Department heads can email students in their departments.
    e. Deans can email students in their college.

    Researchers in the departments of Psychology and Sociology and the School of Communications and Journalism also have access to the pool of student subjects known as SONA.

Appendix C Interview Questions

Interview questions:

How has applying supervised agricultural experiences supported student engagement in your program?

How has your supervised agricultural experience program helped to enhance the curriculum that you implement?

How has career development event practices and contests strengthened your agricultural program?

How do career development events in your program engage students to learn and acquire agricultural-based knowledge?

How has implementing hands-on curriculum reinforcement enhanced student engagement?

Can you explain how using hands-on curriculum has reinforced students understanding of agriculture education?

Appendix D IRB Confirmation
South Dakota State University
Consent to Participate in Research

Study Title: A qualitative evaluation of experiential learning observed through supervised agricultural experience, career development events and classroom instruction.

Principal Investigator: Jon Schreurs

You are invited to participate in a research study. This document contains important information about this study and what to expect if you decide to participate.

Your participation in this research study is voluntary and you do not have to participate. Refusal to participate will involve no penalty or loss of benefits, and you may discontinue participation at any time without penalty or loss of benefits. There are no expected risks to you as a result of participating in this study. You will not benefit directly from participating in this study.

Data will be saved on a password protected computer or encrypted media device stored in a locked box in a locked office. All identifying information will be separated from the study data. Interview and focus group transcriptions will be coded using a thematic reduction technique. Major themes in the data and deidentified direct quotes from participants may be included in final reports. Confidentiality is only as secure as your equipment; no guarantees can be made regarding the interception of data sent via the Internet.

Your responses will be assigned a code number. The list connecting your name to this code will be kept in an encrypted and password protected file. Only the research team

will have access to the file. When the study is completed and the data have been analyzed, the list will be destroyed. With your permission, I would like to record your participation so that I can make an accurate transcript. Once I have made the transcript, I will erase the recordings. Your name will not be in the transcript or my notes.

You will not be identified in any report or publication of this study. Even though we will tell all participants in the study that the comments made during the focus group should be kept confidential, it is possible that participants may repeat comments outside the group.

The information that you give in the study will be anonymous. Your name will not be collected or linked to your answers. Because of the nature of the data, it may be possible to deduce your identity; however, there will be no attempt to do so and your data will be reported in a way that will not identify you. Identifiers may be removed and your information may be used for future research or shared with another researcher for future research studies without additional consent.

The information that you provide in the study will be handled confidentially. However, there may be circumstances where this information must be released or shared as required by law. The SDSU Institutional Review Board may review the research records for monitoring purposes.

For questions, concerns, or complaints about the study you may contact ***Jon Schreurs***.

For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team,

you may contact SDSU's Research Integrity and Compliance Officer at 605-688-5051 or sdsu.irb@sdstate.edu.