Evaluating the benefits and challenges of SAE in the Virginia High School Agriculture Curriculum

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Abstract

This study explores the benefits and challenges of supervised agricultural experiences (SAE) within secondary agricultural education programs. The purpose of this evaluation is to gain insight from secondary agriculture teachers regarding their practices of incorporating SAE into their curriculum. A qualitative research design was used to collect data in the form of telephone interviews. Eleven agriculture teachers completed a telephone interview regarding the SAE practices in their program. There were participants from each of the six regions in the state. The results indicate that SAE has made a comeback in the recent years and is becoming an integral part of more and more programs. Teachers are implementing SAE as part of the three-circle model of an agriculture program into their curriculum. Students gained hands on experience through their SAE projects while learning life and career skillsets throughout their project. A few of the biggest barriers secondary agriculture teachers face with implementation of SAE are lack of description on the separate categories of projects, and a lack of resources to help educators be successful with teaching SAE. In summary, SAE is a critical component of the three--circle model of agriculture program curriculum and is the most difficult portion to implement.

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Beth Foster, thank you for always pushing me to be my best self, academically and personally. Thank you for starting my passion of the agriculture industry. Thank you for being an Ag teacher and FFA advisor who helped me excel and become the most well- rounded version of myself. It is because of your guidance and support through my time at the middle school that I am now able to be an agriculture educator.

Dedication

"Every seed grows into something amazing."

This work is dedicated to, my current students and future students. It is never too soon to begin growing into the person you want to be. Plant your seeds to achieve the goals you set and want to overcome. May you tackle obstacles that will arise on your path through life and remember to always plant more seeds of opportunity; every seed eventually grows into something amazing.

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Introduction

Background and Setting

The supervised agricultural experiences (SAE) portion of secondary agriculture programs is critical for learners to be able to make real world connections with classroom material. This portion of a program allows students to be part of the planning and implementation process for their own learning. SAE projects allow students to take on a form of responsibility through a variety of project styles such as; job placement, entrepreneurship, research, exploratory experiences, school based learning, or service learning projects. The Scholar School of Policy and Government is a program of George Mason University, which helps students to become leaders who can develop and formulate solutions to public issues (George Mason University, 2018). According to Scholar School of Policy and Government (2018), successfully engaging students in work-based projects has been difficult; so in March 2018 they hosted a Symposium *on strengthening the pipeline from school to work*; which was for businesses and schools. The findings from this research project offer insight into SAE implementation for school to work experiences that could be helpful in an agriculture program and shared with other agriculture educators across the state of Virginia.

Teachers have focused their intentions and behaviors regarding implementing SAE projects in many ways (Retallick, 2010). The primary reason many teachers are using SAE projects is for the development of student life skills. Retallick, states that teachers use SAE to teach 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. Another reason for teaching SAE is the FFA leadership award system. Teachers want their students to be successful in obtaining awards and degrees within the FFA

portion of the program. Through the development of SAE projects, students can build their award and degree applications and portfolios. Teachers also focus their intentions on incorporating SAE into their agricultural programs because it is part of the tripartite (SAE, FFA, & Classroom instruction) mission of a comprehensive agricultural education program (Retallick, 2010). According to Croom (2008), supervised agricultural experience is defined as the individual and independent application of knowledge acquired in the agricultural classroom by a student under the supervision of the agriculture teacher and is in direct correlation to success in the classroom and within FFA. The FFA Proficiency Award program is a good example of this interrelationship in a secondary agriculture program. According to Croom (2008), while in the classroom students learn the advanced methods of production, and through the supervised occupational experience program, the students put the principles and practices learned in the instructional program to practical use. Many teachers believe in the agricultural education model and claim that the SAE component is what makes agricultural education unique and valuable at the secondary level. SAE can bring a new outlook on learning and understanding of material in a way that allows students to see learning in a practical or usable manner (Retallick, 2010).

As a brand new educator or even one with years of experience; there are many situations and many educational practices that you cannot fully be prepared for until you have taken the task on first hand. For the lead researcher, being an agricultural educator in a region of the state where many of the students did not grow up with a background within agriculture can make teaching an especially difficult task. The lack of job opportunities in this specific location is another critical challenge, because the students seemed to not have many goals beyond High School. The SAE component of the three-circle model brings the school and the community

together, and allows the students who may not have ever been involved with agriculture the chance to experience the industry in a hands--on learning environment. Knowing how exactly to implement this portion of the program can take a lot of dedication and understanding of SAE's.

According to the Scholar School of Policy and Government at George Mason University (2018), due to the response of our changing economy, many of the states (including Virginia), now expect their public schools to offer students real world experience before they enter the workforce. "As a result, schools must now partner with their business community to create work-based learning opportunities" (pg.1). When business and school leaders come together to discuss strategies for establishing and growing these partnerships, this can be successful. Knowing how the SAE portion of an agriculture program could be connected to the community will help agricultural educators support youth for successful futures. It is suggested by Clamp, Clarke, and Fallon (2000), that SAE projects remain a vital portion of agriculture education due to the school-to-work outlook that these projects bring to the table; however, as the agriculture industry changes and more non-traditional students enroll in agriculture classes, SAE's must adapt to meet the needs of a new clientele. They believe that more research is needed regarding the specific scope and structure of SAE in today's agricultural education. The declining numbers in SAE programs suggest that a new focus and direction must be given to the SAE program nationwide in order to ensure its survival (Camp, Clarke, & Fallon,2000).

Two theories used to focus the project are discovery learning theory and sense of community learning theory. Thorsett (2002) describes discovery learning as an educational method that encourages students to ask questions and formulate their own tentative answers to the questions formed. The learning that happens within the theory of discovery learning is not

learning that is given, but instead provides opportunities that are presented to the learner to discover independently or within a group. Discovery learning requires that when a student participates in a program or project, they must play a major role in making decisions about what, how, and when something is to be learned. Thorsett (2010) shares that, instead of being told the content by the teacher, it is expected that students will have to explore in order to discover concepts, which are to be learned. Discovery learning theory is critical within SAE projects. These projects should be developed to allow the students to gain skillsets and to develop their abilities. Without the student being able to put forth the effort to discover and explore, they will be less likely to be successful.

McMillan and Chavis, (1989), describe sense of community learning theory in two manners; first would be the territorial and geographical notion of community such as a neighborhood, town, or city. Second McMillan and Chavis (1989), state that community is relational, in regard to human relationship, without reference to location. McMillan and Chavis (1989), suggest that influence can be defined as a sense of mattering, of making a difference to a group and of the group mattering to its members. The influence that community (local farms, business and project site) bring to the youth is critical for SAE projects. If the students are feeling welcomed by their community, they will likely want to come back and work within the community after secondary or post-secondary education. If the community is invested in the school through SAE projects, then students will be able to gain hands on experience and make networking connections with adults in agriculture; allowing to better invest in the future for the industry.

Borrowing information from both the discovery learning theory and the sense of community theory will allow for a better understanding of community. Including what it means

to be a part of the community and how to make an impact. It is also an opportunity to bring past experiences into the process of learning for the future. Supervised agricultural experiences allow the students to draw from conclusions, and to explore and be in a sense in charge of their own learning and impact they make in their community.

There are many outside factors that can affect the use and growth in an agriculture program's SAE portion of the three-circle model. Many times the way the school system is set up can have an effect on the way the program can be implemented and maintained (Croom, Johnson, Flowers, Wilson, 2012). Other factors such as budgets for the career and technical education department, along with the teacher's viewpoints of the three-circle model, can influence if and how SAE projects are implemented (Croom, Johnson, Flowers, Wilson, 2012). The community and parents can be a big help with these projects, but if they are not in support, this can make it more difficult on the teacher to implement or find placement locations for student projects (Croom, Johnson, Flowers, Wilson, (2012).

Many teachers find that the SAE portion of their program might be dying out for various reasons, while other programs might see that SAE projects have also had an influence on agricultural education enrollment and the economy. Research examining the relationship between enrollment, FFA membership, and SAE participation has suggested positive relationships between FFA membership and SAE participation (Retallick, 2010). Retallick (2010)~~,~~ suggest that because of these findings and the related issues, many researchers have concluded that there is a perceived need to expand the concept and scope of SAE to meet the requirements of a more diverse clientele. There are many views of SAE projects within programs based on the student populations that are in the program and those that the program seeks to serve. Knowing how to reach out to the students in the school is an important factor. Retallick

(2010) shares that there is an issue with the image of SAE, he states "SAE is the interworking, the engine that makes Ag Ed work, but not as glamorous as FFA or classes."

Teachers have moved towards trying to address the factors that affect the implementation of SAE's through not only building very good relationships with the parents, but also building rapport and relationships with the students (Colclasure et al, 2016). When agriculture educators create relationships with the students, it allows students to see that teachers strive to help them to succeed, and that they are knowledgeable of the information they teach. This relationship will encourage students to be more open to success and opportunities within the program. Colclasure et al (2016), suggest that the school-community partnership is another very important component of a program that needs to be strong in order to provide diverse opportunities for the students. To keep a strong SAE portion of a program, teachers need to have good relationships with the community businesses and members with the school. Colclasure et. al. (2016), suggest when collecting data and resources for the program, at teacher should include the community members because of the value they can bring to the program. When students see the community coming together to better or strengthen the program, they will more likely want to be a part of the activities (Colclasure et al, 2016).

The role of student, teacher, parent, community, and school personal factor into student intention, development, implementation, and continual use of SAE programs (Phipps et al, 2008). In a larger debate, one outside factor that may affect how we need to implement SAE projects is the local agriculture industry companies and businesses searching for and hiring employees with certain skillsets they expect will be learned before employees come into their work places. Around the world, there is a skills gap that must be dealt with; attention is focused on reading, writing, math abilities, tech knowledge, and other specialized skills needed for

specific industries and jobs that students will pursue (Kent, (2016). Today students are raised in an environment where possibilities are endless and jobs are created on a daily basis (Kent, 2016). Yet, many of the youth of today's agriculture industry do not understand the importance of the skills they are learning in the classroom and FFA portions of the three circle model, or how those skills correlate with their future career (Kent, 2016).

Statement of the Problem

There are secondary agriculture teachers who are not using SAE within their curriculum when it is supposed to be incorporated into the three-circle agriculture program model. This is happening because SAE is one of the more difficult portions of the model. SAE takes up time and uses many resources. Many teachers who are graduating from undergraduate and graduate school do not feel prepared to facilitate SAE experiences or help students determine projects that are well suited for them.

Purpose of the Project

The purpose of this project is to collect data on the SAE portion of agriculture education programs in the state of Virginia. Using phone interviews, secondary agriculture education teachers were asked to talk about their perceptions of implementing SAE projects with their students. There are many resources available for agriculture teachers to use when they want to know more about SAE implementation, yet many secondary teachers are not making use of SAE in their programs. The results from this project will be shared with all secondary agriculture educators for their use when determining how to incorporate SAE into their own program.

Project Objectives

1) Identify SAE awareness in Virginia High School Agriculture Teachers.
2) Identify the challenges and barriers that Virginia High School agriculture teachers are facing with SAE implementation.
3) Describe agricultural education teachers' perceptions of SAE.
4) Gain insights on factors to improve the SAE component of secondary agriculture programs.
5) Gain insights on items that are going well with the SAE component of secondary agriculture programs.

6) Identify trends that are occurring within the SAE component of secondary agriculture programs.

Limitations of the Project

This study is limited to Virginia high school agriculture teachers who responded back to the email sent to all 227 agriculture teachers who meet the criteria of teaching agriculture courses in a CTE setting. This study was also limited to data collection from no more than two teachers within each of the Virginia Association of Agricultural Educators regions within the state.

Significance of the Problem

Virginia's secondary agricultural education programs are intended to be taught through a three-circle model of curriculum including~~:~~ classroom/ laboratory instruction, FFA leadership development, and SAE. Each component interconnects with one another in order to provide the students with an educational setting where they can learn material in the classroom, then put that material to use through FFA leadership experiences, and gain hands-on career skillsets from the industry through SAE. Some secondary agriculture teachers are not using the SAE component of their program because of the time commitment, or a lack of understanding themselves. SAE is time consuming, but could be made simpler through the use of local community resources.

Definition of Terms

Supervised Agriculture Experience (SAE): is required before obtaining a Chapter FFA Degree for the United States National FFA Organization. An SAE is one of the three components of Agricultural Education, the other two being FFA and classroom instruction.

Career and Technical Education (CTE): is a term applied to schools, institutions, and educational programs that specialize in the skilled trades, applied sciences, modern technologies, and career preparation. It was formerly (and is still commonly) called vocational education.

Three circle model: Through agricultural education, students are provided opportunities for leadership development, personal growth and career success. Agricultural education instruction is delivered through three major components:

•Classroom/Laboratory instruction (contextual learning)

•Supervised Agricultural Experience programs (work-based learning)

•Student leadership organizations (National FFA Organization, National Young Farmer Educational Association and National Post-secondary Agricultural Student Organization).

Methodology

Measurement

Qualitative research is considered interpretative research, where the inquirer or researcher is usually involved in the experience with the participants (Creswell,2014). As compared to some other research designs, qualitative methods provide commentary between the researcher and participants regarding roles, strategies being used, and the use of the data collected(Creswell, (2014). Qualitative research will allow for a better understanding of what SAE projects are and the benefits they bring not only to the students but also to the community. Creswell (2014) suggest that a qualitative research approach should use open-ended questions that allow the audience to make transformative knowledge claims along with bringing their personal values to the study.

Design

Interviews

Interviews were used to gather data from teachers who use SAE in their agriculture programs. The interview gave insight into the strategies used for implementation of SAEs in the participants' programs. Phone interviews offered flexibility to the participant who otherwise could have had time or location constraints that might have limited participation. The researcher contacted participants through Gmail using the state agriculture education list serve. An email was sent requesting participation from secondary agriculture teachers inviting them to be a part of a master's project study on the implementation of SAE projects within secondary agriculture programs. Participants who responded were sent a follow up email from the researcher regarding a time that would work for the telephone interview, along with the consent form for their review.

Participants were asked to suggest a good time for their interview based on the time spots offered and look over the consent form prior to the interview call. Participants gave verbal agreement for the telephone interview at the very beginning of the call, before beginning the interview itself.

The interviewer asked for specific examples of resources the school has or might lack in order to offer SAE opportunities, where the program is located and who serves on the advisory committee for the program. The interview explored the demographics of the student population of the school as well information about the FFA chapter and classes taught. Finally, the interview explored the environment or community around the school

Participants

The participants in this project were high school agriculture teachers in Virginia. Two teachers currently using SAE in their programs were selected from each region of the state from those who volunteered. Since there is no list of those teachers who facilitate SAE projects in their respective program, an introductory email was sent to the state list-serve in order to identify potential participants for the interviews.

Data Collection and Management

Interview Data Management and Storage

Phone interviews were recorded for reference by the interviewer. The interviewer reviewed the recorded data after each interview was completed to ensure all materials were correctly transcribed and uploaded to the computer. A copy of the transcribed interview was emailed to the interview participant to review for member checking. All materials were saved on the interviewer's personal computer and a backup flash drive that was kept in a secure cabinet. Interview responses were coded for themes with assistance from a committee member.

Data Analysis

Interview Analysis

All interviews were analyzed using ATLAS.ti. According to Creswell (2014), data collection and data analysis must be a simultaneous process in qualitative research. Typically throughout the data analysis process data is coded using categories in order to help the researcher identify and describe patterns and themes from the participants Researchers then attempt to understand and explain the patterns. Responses are grouped together based on similarity to ensure representation from each area in the state. Summarizing the information will allow for data collection to run more smoothly along with better prepare the information to be used in educational material that will be published in the Future.

Project Results, Discussion, and Recommendations

Theme: Identifying awareness of SAE with Virginia High School agriculture teachers

Each secondary agriculture educator participant was aware of supervised agricultural experiences and knew that SAE's are a portion of the three--circle model of agriculture education. Overall, teachers believe that SAE's are making a positive impact on their programs. According to teachers, SAE projects are making the material taught in class/ laboratory more valid. Each teacher shared how these projects are teaching student's skillsets that they cannot gain from other classes with the school system. Teachers believe that SAE's are preparing students for success within careers in not only agriculture, but also any field they choose to go into. SAE projects are helping to develop students who are well-rounded individuals who will be prepared to go beyond learning, and be able to take on problem solving and implementation of issues in life and the workplace.

Every teacher believed that SAE's are setting their students ahead of other students in their school for career readiness. Most responded with that no other class within their school provides an opportunity for the students to work hands-on while exploring careers and making connections from class material to the real world like SAE provides. SAE's are providing the students the opportunity to try out a career and be able to develop specific skillsets for that career before they finish high school. Teachers also said that employers feel that students with SAE experience are surpassing over other students with career readiness.

Understanding perceptions of secondary agriculture teachers on implementing SAE's

Secondary agriculture educators are implementing SAE into their courses because not only is it a portion of the three-circle model that is supposed to be within the curriculum, but agriculture teachers believe that not including the SAE component would diminish the quality of everything they do in the classroom and with their FFA chapters. Secondary agriculture teachers see and understand that CTE courses involve more in the curriculum then just teaching material. CTE courses should encompass learning in a way that allows the student to put their knowledge and understanding to use in order to solve career and life related issues. SAE is helping to prepare the students for their lives after high school. Some secondary agriculture teachers are implementing SAE as a very critical portion of their programs because many of their students are not college bound due to their location and the availability of jobs in their local communities.

Overall, teachers felt that there is more of a focus on SAE currently than compared to the last five to ten years and they feel that SAE is slowly but surely getting better. Teachers across the state are noticing that students are straying away from the past traditional livestock projects, and they are moving towards other aspects of the agriculture industry. They believe this is due to having a larger variety of students enrolled in agriculture courses today. Agriculture teachers are seeing that their students are taking interest in areas such as companion animals, horticulture, and more school based SAE's. Throughout the state teachers are seeing some students becoming creative with their projects and other students want to take on simple projects that do not take much effort in developing.

Insights on items that are going well with the SAE component of secondary agriculture programs

Agriculture teachers from across the state believe that one major aspect or benefit that theiry students are gaining from SAE's would be workplace readiness skills. Through SAE projects, students are able to learn skills such as record keeping, time management, creativity, resourcefulness, finances, budgeting, and more. Responsibility was a word used by every teacher. They feel their students have gained responsibility with SAE's through the hands-on experience through taking on a project where they have to make connections to learn material and they are showing success in solving issues within their work experiences.

On average, about 50% of students move on to post-secondary education and about 50% of students are going right into the workforce after the completion of high school. This is dependent on the location of the schools, as well as the opportunities for careers located within the community. Teachers also stated that this decision is based on the individual student's background, their family, their ancestors, and more. SAE is impacting the choices that students are making, because SAE's provide an opportunity for students to find their passion and interest even if it is not related to agriculture. Their projects help them to decide on the type of career they want to pursue after high school. Teachers said that students are able to find jobs locally within the community. However, it was split when talking about students finding jobs that are agriculture related. Some shared that very few of their students were going into careers related to agriculture and others shared that around 50% of their students were going into agriculture careers. Teachers believed that this was heavily dependent on the community where the school is located, the opportunities within the community, and student interest.

Community was a positive impact on agriculture programs and specifically the SAE component. Community members such as local farmers, extension agents, industry professional and more are involved with SAE projects within public schools across the state. They have been providing resources for the students, and providing placement SAE sites for students to work. Parents and grandparents within the communities are also being supportive of SAE's within agriculture programs. They are providing support to keep their students engaged and working on their projects, and providing funding and resources for their children to have these experiences.

Identifying challenges and barriers that secondary agriculture teachers are facing when implementing SAE projects

Teachers across the state are not given a specific budget for SAE projects. Students have to provide their own funds or reach out to the community members for assistance for their SAE's. A few of the teachers stated that they had luck with National FFA grants for student SAE project when looking for funding. Overall, the teachers stated that they wish they had more school based opportunities for their students such as greenhouses, land labs, school farms, etc. They believed that this would help with finding opportunities, especially if their school was located in a poor community.

After speaking to agriculture teachers from each of the regions of the state, most teachers faced a few barriers. Work ethic of the students was one of them. Teachers are having a difficult time keeping students motivated and engaged with their projects. Teachers had tried to help students to choose projects that they were interested in and would be able to carry over from year to year to help increase engagement. Secondly, teachers had difficulty with the amount of time they have to spend with each individual student. Teachers believed that if they had more time to

speak to and visit with each student, they would be able to do more to strengthen their SAE projects. Finally, teachers said that as a new teacher coming into an agriculture program, it can be a lot to understand SAE, know how to teach it, and where to start. This is a barrier that needs to be addressed. Teachers recommended that to begin addressing these barriers there could be the creation of more resources to share with teachers, and professional development opportunities for teachers.

Insight on how to improve the SAE component of secondary agriculture programs

There was a wide variety of response regarding the use of program advisory committees to support SAE projects. The suggestions ranged from meeting with the group on a regular basis, don't meet at all, don't have an advisory committee, didn't know I had one until recently, and having a county wide advisory committee. A few of the schools host a CTE showcase event where advisory committee members come to see what the students are doing for their projects and what they are gaining from the experience. Currently, teachers around the state are using their advisory committees to help them with physical resources, recognition of the students, students working with alumni members, and to speak to the students about the importance of SAE. For the future, teachers would like to have their advisory committees be more involved with funding, creating opportunities for students, talking to more employers in the community, and with getting the students more involved and engaged with their projects.

Some teachers who use SAE's as a grade and others who do not use SAE's as a grade. Every teacher did say that they give students class time (on average 20 minutes/week) to record hours and what duties they completed. Requirements of outside of class time spent on SAE

project varied from 10, 12, 25 hours a nine week period to not requiring a certain amount of hours to be worked. Overall, teachers believed that the more hours their school required, the more focused students would be on their project.

In consensus, time is an issue when it comes to making visits for SAE projects, especially in single teacher programs. The student to teacher ratio in schools across the state can make it hard to allow time for frequent visits of every student's project. Extended contracts however, do help with this because it allows time for teachers to make visits over the summers. When visits are being made, teachers are requiring that a parent or a supervisor of the student must be there at the time. Teachers are pre planning the visits to ensure that students will be working with their project at the time of the visit. Visits consist of questions for student about things that are going well along with things that could be improved. Most teachers are asking the parents or employers questions about how the student is doing. On average, teacher are trying to keep visits around 45 minutes to an hour. For the future, more teachers would like to start incorporating their administration into visits.

Conclusions and Implications:

The purpose of this qualitative study was to investigate the benefits and challenges of supervised agricultural experiences among high school agriculture programs in the state of Virginia. The evaluator wanted to gain insights from teachers about how SAE are implemented across the state, what challenges secondary agriculture teachers are facing, and what aspects of SAE implementation are going well. Interviews lasted approximately thirty minutes, and teacher's answered questions on demographics and questions regarding the objectives. The

information gathered during interviews was recorded on a password safe computer and the information was used to identify common themes and trends within implementation of SAE in secondary agriculture education programs across the state of Virginia.

In summary, the telephone interviews concluded that SAE is an adamant and critical portion of secondary agriculture programs. Teachers believed that SAE projects bring a wealth of knowledge and skills to the students, as well as provide them an opportunity to gain hands on experience, and explorer career options before the completion of high school. SAE projects are allowing the communities to become more involved with the school system as well as allowing the students to learn more about their community, the opportunities the community has to offer them along with what the community will expect of them as an adult in the workforce. SAE's are believed to prepare the students to be successful in making the decision to go to post-secondary education or into a career, as well as be successful at helping the students to find local opportunities. Teachers are being faced with barriers within the implementation of SAE such as; funding, work ethic of students, new teachers not feeling prepared, amount of time they are able to spend with each student as an individual, and time management of SAE, FFA, and classroom/ laboratory.

Recommendations:

Supervised agricultural experiences are a critical part of the curriculum for secondary agriculture programs in the state of Virginia. It is recommended SAE remain part of agriculture programs for the best interest of the students, the community, and the local businesses. In order

to ensure a positive and worthwhile future for SAE's, resources such as graphic organizers, and videos need to be created to be shared with new teachers in order to help them better understand SAE and have examples from real programs in our state on how to get SAE stated in a direction for a strong future. Undergraduate and graduate programs need to encompass more material and future classes on SAE's in order to ensure that future generations of agriculture teachers are coming out of college prepared and confident in SAE's. Due to technology changing so often (for example using AET as a resource to help with record keeping for SAE projects), there needs to be frequent professional development opportunities for current and future agriculture teachers to attend that teach them about the use of the technology, how it relates and how it will be beneficial to have the students use. Trainings on the use of future technology such as the AET system, will prevent there from being so much confusion and frustration.

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Appendices

Appendix I. Consent Email

Dear Secondary Agriculture Educators

Your participation is requested in my Masters' project study about the implementation of SAE in secondary agriculture programs.

This study seeks agriculture educators who are currently using SAE as part of their program and those who have experience with success. Participants will be asked to participate in a 30 minute telephone interviews to answer questions regarding their program, the use of SAE and best practices.

Participants along with other secondary agriculture educators will be provided with the key findings from this study about the trends that secondary agriculture educators are seeing regarding SAE. Emergent themes on best practices will be shared directly through publication at the end of the study.

Please respond to this e-mail with your willingness to contribute to this study. Participation will occur on a first-come first-served basis. I am looking for two participants from each of the six regions of the state to answer telephone interview questions. Once you acknowledge that you would like to participate in this research study by responding to this e-mail, I will work with you to schedule a time for the interview to be conducted via telephone. You will find the informed consent document attached. If you would like to participate in this study, please review the informed consent form and return a signed copy via e-mail to, kenzie94@vt.edu

If you have further questions about consent or participation in the research study please feel free to contact the researchers at (540) 836.6680

Regards,

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Appendix II

Email for Participation Volunteers

Dear Secondary Agriculture Educators,

You are receiving this email because you responded to participating in my master's research project. Thank you for being a volunteer.

This study seeks agriculture educators who are currently using SAE as part of their program and those who have experience with success. Participants will be asked to participate in a 30 minute telephone interviews to answer questions regarding their program, the use of SAE and best practices.

Please select a time and email me with your request. If these times do not work for you, we will come up with an alternative time that better fits your schedule.

Date: 4/16/2017

3pm 4pm 5pm 6pm 7pm

Date: 4/17/2017

3pm 4pm 5pm 6pm 7pm

Date: 4/20/2017

3pm 4pm 5pm 6pm 7pm

Before beginning the interview, we will discuss the consent form and allow for you to give verbal consent. As the interview begins, you may opt out at any time if you feel the need to by hanging up. Calls will be audio recorded for transcribing needs.

Please let me know if you have any questions or concerns.

Regards,

MacKenzie Anne-Belle Moore

(540) 836.6680

kenzie94@vt.edu

Appendix III: Consent form

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
Informed Consent for Participants
In Research Projects Involving Human Subjects

Title of Project: Benefits of SAE Implementation in Secondary Agricultural Programs

Investigator(s): Principal investigator; Dr. Donna Westfall-Rudd mooredm@vt.edu
Sub- investigator**:** Mackenzie Moore kenzie94@vt.edu 540-836-6680

You have been asked to participate in this research study because of your role as a secondary agriculture educator in the state of Virginia. Please read this form carefully and do not hesitate to contact the investigators with any questions you may have prior to your participation to your scheduled telephone interview and verbal consent.

I. Purpose of this Research Project

The primary purpose of the study is to describe secondary agriculture educator's perceptions on the implementation practices of SAE in agriculture education programs. Educators can share successes, challenges, and any other information that may help other agriculture educators to address challenges they might face. This research is being conducted as part of the requirements for the completion of a master's project. It is the intention of the research team that the results will be published and presented when appropriate.

II. Procedures

If you agree to participate in this study, you will be asked to participate in one interview. The interview will last around 30 minutes and take place over the telephone. No travel will be required.

The interviews will be digitally recorded and transcribed. Field notes will be taken by the researcher, and used by the researcher as an observation tool. Ultimately the recordings and field notes will also be destroyed once the study has concluded.

III. Risks

The researchers will maintain confidentiality of the data by storing all documents on a password protected computer. No data will be shared with original characteristics attached to the documents. The participants will have a chance to review their own transcript, and will be able to see the results of the study where all data will be blinded, meaning that all identifying

characteristics will be removed. The study would like for secondary agriculture educators to participate from the same state, however, either party can choose to leave the study at any time. If you choose to leave any information given will be destroyed.

IV. Benefits

Study participants will benefit from participating because study will ask the participants to do strategic reflection on their work with implementing SAE in their secondary agriculture programs. Key findings from this study about the trends that secondary agriculture educators are seeing through the implementation of SAE will be shared through publication. Although no monetary or other direct compensation will be provided to the studies participants, the results from this study may benefit current secondary agriculture educators who are currently using SAE, those who are unsure of how to be successful with SAE, and future teachers. No promise or guarantee of benefits has been made to encourage you to participate.

V. Extent of Anonymity and Confidentiality

Your identity and the individuals that you mention will be kept confidential. Outside of the interview your identity and the individuals that you mention will be kept confidential at all times and will only be known by the principal investigators (MacKenzie Moore & Westfall-Rudd) only. At no time will the researchers release identifiable results of the study to anyone other than Moore or Westfall-Rudd without your written consent. The interviews will be recorded through audio recording on a password protected computer and will be transcribed by the principal researcher (Moore). False names will be given to all participants, and other individuals mentioned during the transcription process for your protection. Any details in the audio recording that can potentially identify you or any other individual mentioned will be altered in the transcription process. After transcription is complete the audio recording will be stored in a secure location by the principal researcher on the password safe computer. After the audio is transcribed and proofed for accuracy, all audio files will be destroyed once publication of materials has occurred. The Virginia Tech Institutional Review Board (IRB) may view the study's data for auditing purposes. The IRB is responsible for the oversight of the protection of human subject involved in research. The Virginia Tech (VT) Institutional Review Board (IRB) may view the study's data for auditing purposes. The IRB is responsible for the oversight of the protection of human subjects involved in research. The research does, however, reserve the right to break confidentiality if an instance of abuse of threat to a participant's self or others is revealed in the interview. Under no other circumstance will confidentiality be broken.

VI. Compensation

There will be no compensation for your participation in this study.

VII. Freedom to Withdraw

Participation in this study is voluntary and you may refuse to participate with no penalty. You are free to withdraw from this study at any time simply by hanging up from the phone call. You

have the option to choose not to answer questions, resulting in no penalty. Should you choose to withdraw from this study, any information and data that has been collected will be destroyed.

VIII. Questions or Concerns

Should you have any questions about this study, you may contact one of the research investigators whose contact information is included at the beginning of this document.

Should you have any questions or concerns about the study's conduct or your rights as a research subject, or need to report a research-related injury or event, you may contact the Virginia Tech Institutional Review Board at irb@vt.edu or (540) 231-3732.

IX. Subject's Consent

I have read the Consent Form and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent:

Do you verbally give consent to discuss the topic of SAE in regards to the program you teach within?

Appendix IV: Interview Protocol

Interview Protocol

My name is MacKenzie Moore, and I am a Masters candidate at Virginia Tech. I would like to begin by thanking you for participating in this telephone interview today. The purpose of this interview is to collect information about how secondary agriculture educators are implementing SAE into their program, recognizing the successes that teachers have had along with the challenges of SAE. Today, I will to ask you questions regarding your experience in the role of a secondary agriculture educator.

We will start by talking about your role as a participant in this study and obtaining informed consent. Then, I will ask questions from my discussion guide. My role as interviewer is to ask questions related to specific topic areas of interests, request additional details on specific responses, and keep track of time. This interview will last approximately 30 minutes.

First, will you please read and review the consent form. If you have any related questions, please feel free to ask them throughout. **(Allow time to read)**

What questions do you have?

Do you give verbal consent to participate in this interview regarding your schools secondary agriculture program and the implementation of SAE?

Keep in mind during this interview that there are no right or wrong answers. If at any time you feel uncomfortable or unsafe in the interview, please let me know and we can discontinue the interview the recordings will not be utilized and will be destroyed immediately.

For the purpose of this study, we will need to record this discussion. Is it alright with you, if we use a password locked computer to complete the interview recording?

I will begin recording now. (Allow the interviewee to read their assigned participant name to 'record' voice recognition)

Interview (30 minutes)

Research questions 1.

What outcomes are SAE making on your agriculture education programs?

Follow-Up. Why do you choose to implement the SAE portion of the model to your courses?

Follow-Up. What changes do you believe need to be made to make further advances with SAE?

Follow-Up. What trends in SAE program activities have you experienced in your career as a secondary agriculture educator?

Follow-Up. How do you involve your advisory committee in the SAE component of your program?

Follow-Up. How many hours in a school year do your students work on an SAE projects? How does time spent affect outcomes the students have with success during their projects?

Follow-Up: How do you perceive your community influences the outcomes?

Research Question 2. What benefits are the students gaining from their SAE experience?

Follow-Up. Do you feel that the implementation of SAE sets your students ahead of other students for career readiness?

Follow-Up. How many times during a project do you visit students, and how do you conduct the visit?

Follow-Up: How many Agriculture CTE program completers and graduates are finding jobs/ going to post- secondary education? How do you think SAE affected this?

Follow-Up. Are students finding jobs locally after graduation? If so, are these jobs related to the agriculture industry? Are they jobs that are requiring them to use the skill sets learned from SAE projects?

Research Questions 3. What barriers do you face with implementing SAE?

Follow-up: What outside factors/barriers do you feel influence how you assign and implement this portion of your class to your students?

Follow- up: How do you address these factors/barriers?

Follow-Up: How does funding affect how you implement SAE? Is this ever a barrier?

Follow-Up: How many of the students that attend your school are in agriculture classes? How does this affect your program, especially the SAE portion?

Demographic Questions

How long have you been a secondary agriculture educator?

How long have you worked at the school you are currently working in?

What region of the state is the school you are working for located in?

How many students attend the school you are working for?

Wrap-Up (Remaining Time): We have reached the end of our preplanned questions. Is there anything else you would like to share with me about your work with the SAE component of your program?

Again, thank you for your participation in this interview. I will transcribe this session verbatim. We will then interpret the findings to learn more about secondary agriculture educator perspectives of the implementation of SAE. We may need to contact you during the data analysis process. I will send a complete transcript of what you said for you to make sure that I have captured your words verbatim, and that you are comfortable with the characterization of your statements. If at any time after this process you have any questions or additional comments, please feel free to contact me.

Thank you,

MacKenzie Moore
Kenzie94@vt.edu
540.836.6680