

Resources Needed and Barriers Anticipated when Implementing SAE for All

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Abstract

SAE for All was adopted by the National Council for Ag Education in 2015 and North Carolina launched the model through statewide professional development in 2019. As part of a larger study on implementation, this 2022 qualitative study sought to understand the barriers teachers were facing in implementing the SAE for All model and sought to understand the resources that were needed for teachers to be able to fully implement SAE for All in their classes. Thirteen middle and high school teachers were interviewed representing varied levels of teaching experience offering geographic and program diversity. Data revealed there were some barriers related to the teachers and some to the students. We also generated a broad list of needed resources including professional development as well as modifications to the SAE for All model documents, guides, and resources. Recommendations are given for various stakeholders as they work to support wider integration of SAE for All.

Introduction

Supervised Agricultural Experience (SAE) is recognized as an integral part of the three-component model of School-Based Agricultural Education (SBAE) along with classroom instruction and leadership development (FFA) (Croom, 2008). SAE is the work-based and experiential learning component and has been a part of SBAE since its inception (Talbert et al., 2014). The Smith-Hughes Act, adopted in 1917, included a mandatory farm project requirement (Boone et al., 1987; Talbert et al., 2014). The foundation of the farm project is credited to Rufus Stimson's (1919) home project which extended classroom learning to projects completed on the students' family farms and included three categories: productive, improvement, and supplementary.

The focus of the work-based and experiential learning component of SBAE remained fairly consistent over time, despite changing terminology used for the project (Boone et al., 1987). The Vocational Education Act of 1963 brought a significant change to work-based learning in SBAE by broadening the scope of agriculture (Boone et al., 1987; Talbert et al., 2014). The updated requirements for SBAE left room for interpretation regarding an agriculturally-related work-based learning project, causing some states to allow students to complete non-farming projects while others did away with the project altogether (Boone et al., 1987; Talbert et al., 2014). Following this shift in SBAE requirements, name changes for the project continued and new categories were added (Boone et al., 1987; Prelesnik, 1998). Moore and Flowers (1993) proposed a new model for SAE which included analytical, entrepreneurship, experimental, exploratory, improvement, placement, and supplementary categories. In 2011, The National Council for Agricultural Education (n.d.-a) established a committee to update SAE to better serve the needs of SBAE students, resulting in the SAE for All model.

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For years, SBAE teachers have indicated they believe SAE is a valuable experience for their students, but implementation in programs has not aligned with those stated beliefs (Dyer & Osborne, 1995; Retallick, 2010; Wilson & Moore, 2007). When considering the amount of time spent on SAE, teachers have shared they believe they are not spending enough time in this area (Shoulders & Toland, 2017; Wilson, 2022). Teachers have indicated many barriers to implementing SAE in their programs, but few ways to improve their implementation of SAE.

Finding the time to fully implement SAE is known to be a challenge for SBAE teachers (The National Council for Agricultural Education, n.d.-b). With varied teacher contracts, increased student enrollment, teaching responsibilities, FFA advising, and other after school responsibilities, SBAE teachers have limited time to closely supervise SAEs (Moore et al., 1997; Steele, 1997; Wilson, 2022). Connecting with each student on an individual basis about their SAE is necessary for student success (Bryant et al., 2022) but demands time that many teachers believe they do not have.

The diversification in student enrollment and lack of prior experiences in agriculture have created additional barriers for SAE (Eck & Davis, 2024; Retallick, 2010; The National Council for Agricultural Education, n.d.-b). Not only do teachers have to ensure that students, guardians, and administrators understand the purpose of SAE (The National Council for Agricultural Education, n.d.-b), but they also have to make connections and resources available to their students for implementation (Retallick, 2010; Wilson, 2022). The image of SAE varies significantly between programs and lack of understanding of SAE and connections within a community can be an additional challenge for the teacher (Retallick, 2010; Wilson, 2022).

SAE's connection to the other two components of the three-component model impacts the implementation as well. It has been seen that SAE is often driven by the award structure in FFA (Retallick, 2010). Current SAE-based award applications are primarily based on student records with a heavy focus on placement and entrepreneurship projects (National FFA Organization, n.d.). Record keeping for award applications in North Carolina is expected to be done in the Agricultural Experience Tracker (the AET) (Josh Bledsoe, personal communication, October 2022). Due to the perceived complexities of the program, teachers have indicated they need professional development on using the AET and on keeping SAE records (Aviles, 2017; Sorenson et al., 2014).

Implementation of SAE among programs varies significantly. The value placed on SAE in a program and its impacts on students depends strongly on the teacher (Lewis et al., 2012; Marzolino & McKim, 2022; Retallick, 2010; Shoulders & Toland, 2017). Bryant et al. (2022) as well as Marzolino and McKim (2022) found that teachers that require SAE as a grade believe that the experience leads to increased student growth. This is a stark contrast to the significant percentage of programs that are not requiring SAEs (Lewis et al., 2012).

The current SAE model, SAE for All (see Figure 1), was adopted by the National Council for Agricultural Education (The Council) in 2015 (The National Council for Agricultural Education, 2015). The purpose of SAE for All is to be "a student-led, instructor supervised, work-based learning experience that results in measurable outcomes within a predefined, agreed upon set of Agriculture, Food and Natural Resources (AFNR) Technical Standards and Career Ready Practices aligned to a career plan of study" (The National Council for Agricultural Education, 2017, p. 2). SAE for All was established with the many barriers SBAE teachers have indicated in mind and to ensure that SAE could be accessible for all students (The National Council for Agricultural Education, n.d.-a).

Figure 1

Overview of the SAE for All Model.



Note. Adapted from the *SAE for All Teacher Guide* (The National Council for Agricultural Education, 2017).

In North Carolina, curriculum was updated in 2018 with SAE for All terminology and the program was officially introduced to all teachers at the CTE Summer Conference the following year (Josh Bledsoe, personal communication, October 2022). With the completion of multiple school years since the expected implementation of SAE for All in North Carolina, there is a need to understand what barriers are keeping SBAE teachers from fully implementing SAE for All in their programs and what resources they believe are needed for success.

Purpose/Research Questions

This study is part of a larger study that worked to understand implementation of SAE for All and this particular section of our work sought to understand the barriers that were keeping teachers in North

Carolina from fully implementing SAE for All and to better understand the resources they need. The research questions guiding this study were:

1. What are North Carolina SBAE teachers' perceived barriers to implementing SAE for All?
2. What resources do North Carolina SBAE teachers need to be able to implement SAE for All?

Methods/Procedures

Qualitative research is utilized when there is very little known about the subject being studied (Creswell & Creswell, 2018). Specifically, a phenomenological study, “describes the lived experiences of individuals about a phenomenon as described by participants” (Creswell & Creswell, 2018, p. 13). Phenomenological data was collected through interviews as we sought to understand the meaning participants were making of SAE for All in their programs as well as how they were experiencing and applying any subjectivity in the new SAE model. Phenomenology design uses both their experiences and how they have reflected and processed those experiences (Van Manen, 1990). These findings address one portion of a broader study into SAE for All implementation. This piece of the study aims to specifically gain a better understanding of what barriers are preventing the implementation of SAE for All and what resources would better support the teachers' efforts. SAE for All had been introduced in the state in 2019 and at the point we conducted these interviews, many teachers had taught with it, some for multiple semesters.

Data Collection

Participants were selected through purposive sampling to gather a representative sample of the state teacher population (Merriam, 2009). The state teacher population at the time of the study was approximately 570 teachers. Criteria considered when working with state Agricultural Education staff in identifying potential participants included representation of all regions in North Carolina, teacher education pathways, years of experience, program size, and program community. Participants were contacted via work email between April-June 2022 and study inclusion criteria consisted of: (1) Current North Carolina School Based Agricultural Education (SBAE) teacher, (2) At least one full year of experience as a SBAE teacher, and (3) Include Supervised Agricultural Experience (SAE) as a component of your SBAE program. Participants indicated through a Qualtrics consent form their willingness to participate in the study and scheduled an interview time through email. Individual interviews were conducted with thirteen participants (see Table 1) between April-June 2022 yielding more than five and half hours of interview data which were transcribed from recordings by the researchers. The semi-structured interview protocol consisted of eight questions that related back to the two research questions.

Table 1

Participants

Pseudonym	School level	Teachers/ Program	Community	Years Teaching
Tammy	Middle	1	Urban	2
Patsy	High	1	Suburban	3
Reba	High	1	Rural	4
Naomi	High	2	Rural	5
Loretta	Middle	1	Suburban	5
Kenny	High	2	Rural	5
Dolly	High	3	Rural	8
Rosanne	High	1	Rural/Suburban	10
Randy	High	2	Rural	11
Emmylou	High	3	Urban	14
Willie	High	4	Rural	18
Keith	High	3	Rural	24
George	High	2	Rural/Suburban	25

Data Analysis

Several methods of data analysis were used to provide an accurate representation of how SAE for All is being implemented in North Carolina. During interviews, researchers made memos to record their reactions, thoughts, and reflexive comments. Data from the transcribed interviews were coded independently by both researchers to identify major themes. Researchers then compared their themes to confirm findings and identify quotes to best depict and relay the richness of the themes. Trustworthiness was established through rich, thick descriptions. Direct quotes throughout the findings are used to provide the clearest overview of the phenomenon of implementing SAE for All in SBAE classrooms in North Carolina. Reliability was established through continuous review of coding and clear communication between both coders working with the collected data. The limitations of this study are (1) the study only includes teachers from North Carolina and (2) findings may not be generalizable beyond the sample.

Reflexivity

Researchers worked to control their bias throughout the process by bracketing their experiences, writing memos during the study, and talking about findings during each stage of the study. Both researchers are involved in the agricultural education profession. Both taught SBAE in North Carolina and required their students to have SAE projects. One researcher utilized SAE for All in her program as a high school teacher. Both researchers worked together to teach the experiential learning course for agricultural education students at North Carolina State University where students were learning about SAE and SAE for All. These experiences have positively shaped both researchers' opinions of SAE and SAE for All and will allow them to be aware of possible successes and challenges in implementing SAE for All, but also may impact their interpretation of themes and findings. We understand that our closeness to the subject matter and positive view of the innovation will be important to recognize. Every attempt has been made to relay the information obtained from participants using their voice.

We acknowledge the many limitations of the study. These teachers cannot possibly be representative of every experience with SAE for All and the unique components of the state where these teachers work also limit applicability to other populations. However, professional development on a state level can be guided with these findings and, with any new innovation, research must begin somewhere.

Results/Findings

The data led to the construction of themes around student-related barriers, teacher-related barriers and the perceived resources needed to fully implement SAE for All.

Theme 1: Student-related barriers.

The first student-related barrier identified by teachers was *student motivation*. Whether a fair assessment or not, it was the teachers' perception that many students were not on board with SAE for All. George stated, "we don't quite have the buy-in with kids yet that we probably need to really make it work." He added "I think they kind of feel like a lot of the foundational stuff is just another assignment." Rosanne indicated that conducting SAE for all through COVID was especially challenging. She stated,

I felt like more of a 'you do have to do this whole entire guide' and it was just a lot for the kids. It was a lot for them to navigate through COVID. How can I say this tactfully? Um, it [COVID] made it to where kids didn't want to work as much. I'll just say that - they became lazy. They don't want to put in the time and effort to research stuff and so, it's not a hard guide, but when they looked at it and they saw what they needed to do... it was overwhelming. And then they had to answer questions and that just made it, I don't know, they just didn't want to do it.

Kenny had a similar experience. He also chose to talk about the career exploration activity where students complete career interest inventories. He added “it takes them three or four class periods, hour and a half each, to get through one of those” adding that there was “a wide spectrum of kids, those that get it done in one day and then the majority of kids take that long, longest time.”

Some teachers indicated students were more bought in before COVID. Referring to the percentage of her students that have an SAE, Naomi indicated, “it's kind of half and half right now with the whole COVID deal” but went on to explain that “Before [COVID] I would probably have four or five that did not, but they were the ones that would not do a lot of the classwork stuff.”

Reba had spent time thinking about how the new model might solve challenges for students. She thought that SAE for All was a tool for overcoming some of the issues with student motivation. She stated,

It's a little bit challenging and, even now, as we see different generations of students. They don't work on the farm anymore. They don't want to start a project. They don't want to try something new. So, it's a little bit challenging, generationally, to get students to really invest into an SAE project, so I think the SAE for All kind of gives you more options to help students implement that into their life.

Another student-related barrier was *transportation*. It is important to note that annually the largest portion of recorded/reported SAE projects in our state are placement-based. Within our study, we definitely had those who talked about students who have not yet reached the age where they could drive to a paid or unpaid job. In thinking specifically about the immersion projects, Dolly indicated “younger students that can't drive, it's been a little bit more of a challenge”, but added that might be related to the rural nature of her school district and the fact that she is in one of the largest geographic counties in the state. We expected to hear this as it relates to transportation and while not new, it can present a challenge. What we were not expecting is the number of students who are old enough to drive, but do not drive. Kenny indicated that this is common among his students who “may turn 16, but they probably don't have their license yet, because the driver's ed issues or their family can't afford it.” Kenny teaches in a rural mountain setting, but we heard the same thing from Patsy who lives in a suburban area. Patsy stated,

Our students just don't drive. Maybe that's just where I live, but I mean, I can't tell you how many seniors don't have their license so they don't have the transportation to get anywhere. Or they have to rely on a parent who also has a job or something. So students just can't get to these places so then that proposes a question like ‘how do they do SAE? How do they get agricultural experience when they can't move?’

The next student related barrier was *communication*. As teachers talked about implementing the SAE for All model, multiple teachers brought up a students' reluctance to talk. This was discussed in regards to reaching out to community members, making a phone call, or even asking a teacher for help. Patsy was the first to outline this challenge. She talked about it in two settings. First, she indicated that “we're in such a technological age, students do not want to get up and go talk to a stranger.” While as a teenager herself, Patsy said would think “awesome” and enjoy the flexibility this opportunity provides, she has observed her students having a different reaction, stating that for her students, the response is “‘Oh gosh, that means I have to go figure out who I need to talk to set this up? And I need to set this up myself.’”

Patsy added that while not true of all students, for many they also do not want to ask for help in class. Patsy said “they're not really ready to go up and say ‘hey, how do you do this? I need help figuring this out.’ They just won't do it, and they will take that zero or whatever because they don't understand it.” Naomi was not seeing this as much and talked about how pushing students to have these conversations and helping students make connections in the community was going to benefit them later. Naomi said she

empowers students to set up their projects and is there “if they need a little extra guidance”, adding “for the most part, I let them do all the talking that way they get that little experience there because again when they go to get a real job they're going to have to be able to talk to people.”

Theme 2: Teacher-related barriers

The first teacher related barrier was *SAE Philosophy*. Rosanne indicated that she was at a place, career wise, where she was frustrated with SAE. She indicated “the way that SAE was kind of designed, I just was really frustrated and needed something fresh to be done. My kids were frustrated with it” and that is when she was introduced to SAE for All. She also indicated that it required a philosophical adjustment stating, “it's been a whole different kind of paradigm shift that I was willing and excited for.”

The most common hang-up for change has been the belief that SAE for All is not “ag enough” for some. Willie indicated it “100% bothers” him that SAE for All allows for non-agricultural SAE projects while Dolly, speaking for herself and her teaching partners stated, “we 100% believe in SAEs and while we do like SAE for All, I will say we lean more toward the immersion side because, I mean, we are agriculture educators.” George expanded on this belief further “philosophically it's a little bit of a struggle for me because the way I was taught SAE a long time ago. SAE for All we focus on the whole foundational piece and foundational can be just about anything.” This idea of a foundational SAE as a ‘hurdle’ to get students past was not unique to George and others stated the same idea in different ways.

The next teacher-related barrier was *change is hard*. Keith put that response out right away. He stated “I think the biggest barrier is more of us. I guess us adopting that mindset, not that we've been against SAE for All, but just you know change, transitioning to make this a bigger part of our program intentionally”. When reflecting on why his program had not attempted to transition to the SAE for All model, Willie was quick to share, “Honestly, nothing is stopping us. It's just literally the word ‘change’... It's just going through change, but other than that, nothing. I'm completely receptive to it, just haven't had to.” Reba stated “Ag Ed is a very rooted in tradition and how things have always been” adding that change will happen. Reba stated, “I think it's just going to take time to educate ... the new guard of teachers and, more importantly, educate the old guard of teachers, who have done it a certain way for 20 years.” Rosanne said “I think doing a better job of getting people to realize like SAE doesn't have to be what it used to be, you know? It can, but it doesn't have to be.”

The third teacher-related barrier was *alignment to FFA degrees and proficiency awards*. Several participants referenced proficiency awards as the major outcome for SAEs in their classes. Naomi shared that she struggled to get her students to buy-in to her record keeping expectations that align with award applications, saying, “it's just a matter of trying to get them to go on AET and keep up with their hours.” When discussing changes to bring proficiencies into alignment with SAE, Dolly was resistant. She and her teaching partners utilize the proficiency award application as a baseline for all of their students, sharing “I think that proficiency [awards are] really great how they are and they really set a standard” adding “I wouldn't change it to fit everybody's needs at all.”

Emmylou expressed her dislike of the unclear rules for FFA degrees above the chapter level. She shared that her students earn foundational hours during the school day and her program accepts those for chapter degrees, but when sending applications beyond the local school those activities may not count as hours towards degree completion adding “our kids get frustrated with because it's like, ‘But this counted in class and this counted at [my school] and it might have counted as a state degree. Why can't I get my American degree?’”

The fourth teacher-related barrier was *knowledge of the SAE for All model*. When discussing what was holding him back from shifting to the SAE for All model, Randy quickly identified “my understanding is what's the main barrier.” He went on to explain “when I'm looking at the guides it's hard for me to track,

so when it's hard it's hard for me to track, it's hard for [students] to track it.” Others were less clear with the terminology and how it impacted their students. In Dolly’s program, she referred to a student having a job at a local grocery store as a foundational project, sharing that the student would still “have to at least do 25% in the immersion project...so they can't do all 20 hours in their SAE at [grocery store].” This is a misunderstanding of the model and terminology.

Another barrier teachers highlighted was *time*. Randy talked about needing time for SAE for All to be implemented. He said, “leave something in place long enough for us to learn it and get it done”. Randy pointed out that within the course blueprints in North Carolina, two weeks of course time are given to SAE. However, he went on to say that “I can't cover SAE in a two-week period” and compared the adjustments he makes in his curriculum to “robbing Peter to pay Paul”. He indicated SAE “is probably the most important thing that we do within ag ed,” but that there wasn't enough time to do it well. Loretta, however, talked about time, overall as it relates to the job. She “didn't have enough time in the day” to do the job of an ag teacher and she doesn't “have enough time to help every individual kid all the time with their projects.”

Reba summed up what many of us have known about SAE for years in terms of the three-circle model. She talked about how the classroom instruction is what education degrees prepare teachers for and what districts hire teachers to do. She added that “most teachers go into teaching [agriculture] because they've discovered it through FFA and they love FFA” so that component of the three-component model is also strong. Reba then added “SAE is kinda like the redheaded stepchild of that little three circle model many teachers don't understand and ... I think SAE is always the area, no matter what we do, it's always going to be the area that needs the most help.” Reba added that we are on the right track and there is more clarity and options within in the SAE for All model. “I think SAE for All gives [teachers] a better chance to implement that in a way that works for their program which I think is great.”

Theme Three: Perceived Resources

The first perceived resource was *formatting improvements*. Participants overwhelmingly indicated that they needed the formatting of the foundational student guides to be improved. We heard from several participants that even though the student guides are available from The Council and as Microsoft Word documents, they are not ready for their learning management systems (LMS). Dolly shared how she struggled to use the documents with her students since she is expected to have “everything done through Canvas within my school system. And the kids were having more technical issues.” She explained in more detail about one of the workplace safety student guides, sharing that the school’s blocker kept her students from accessing the websites in the guide. She continued to explain the struggle of “just being able to type on the document. It seemed that there were images that were inserted into the Google docs as students can't type on those images.” Requesting that it be made “more tech friendly”, Rosanne shared similar sentiments stating, “I know they have been kind of transferred over as Google docs [but they] are still not super user friendly.” She continued to describe how

It's frustrating on my end when I've got 30 kids in a classroom and they're all having problems and all I'm doing is running back and forth, to show them how to edit this text box ... I'm having to do like I.T. support in the process of teaching that and that gets really frustrating.

Even for those that are printing the student guides from The Council, there are still formatting issues. Naomi praised the Career Exploration and Planning foundational guide but expanded that she felt “the thought is there, it's just not completely ready to print off and hand to students on some of them.” She continued to explain how the page breaks when printing leaves students with “a question that goes with the other page and...so it confuses [the students].”

The second perceived resource was *better integration between SAE for All and the AET*. North Carolina has provided the AET to all agriculture programs at no cost to the local program since 2012 (Josh Bledsoe, personal communication, October 2022). SAE-based award submissions within the state transitioned to the AET exclusively in 2020, requiring that any students submitting applications need to have their records stored in the website. Several participants felt that the AET does not align with the current SAE for All model which required teachers to be creative in giving instructions to students for record keeping and accountability in class. Dolly was vocal that “I do not feel like [SAE for All] lines up with the AET 100%.” Participants were especially frustrated with the redundancy involved in having students use the AET to enter records then share information with their LMS or jumping between other programs. Emmylou mentioned the multi-step process to enter grades by saying “grading on AET is not very easy or is at least one more program I have to go to grade and so that's where for me that breaks down, is even if I make them record it then it's the follow up.” Rosanne echoed this sentiment indicating that using AET “becomes two totally separate pieces and they don't they're not really merged together and married well” which took away more of her instructional time because “you're having to teach about a foundational SAE and all these different components with it, and then you're having to teach how to use AET and, like those two things are not meshing with one another.” Dolly felt we should integrate tools when possible, adding “instead of doing a Google Doc on workplace safety... there's a workplace or safety quiz on the AET.” She wanted a consistency for where and how students would experience and record SAE-related content without “so much back and forth.” From her perspective “It's like the two programs are fighting with each other to be used.”

The third perceived resource was *middle school specific guides and examples*. Loretta, who teaches in a middle school program, indicated that some of the activities are not a fit for students at that age and thought teachers would benefit from “simplification of materials”. She specifically referenced resumes and the fact that her students do not have much to put on a resume and talked about the fact that she has to help students understand that the students who are profiled in the SAE Video Library [a National FFA resource used in an activity within the foundational SAE for All guides] are not reflective of the kind of projects a middle schooler can do. She offered that “if there were videos on, like it doesn't have to only be videos on the best SAEs in the world. They can make videos on the basic simple ones. And that would probably not scare kids as much.” Tammy echoed this sentiment, stating “the big thing is you know remembering that middle school is exploratory, literally all of our classes start with ‘exploring so and so’. And then I just if we had resources that would kind of coincide with that.”

The fourth perceived resource is a *modified curriculum and/or performance-based measure (PBM)*. In recent years, the state mandated assessment was updated to include completion of a foundational SAE. Some teachers told us this state assessment called performance-based measure (PBM) is what moved them to begin implementing SAE for All. This was positive in exposing teachers to the SAE for All resources. In other cases, the perception was less positive. Willie said that since the PBM was state-mandated, “whatever is forced on you [is] negative, and so the perception is it's not going to be a positive change, where, in reality, it's actually a necessary change for the inclusivity piece of it.” Many participants indicated they were only using the SAE for All model because of the PBM, but did not feel they had enough time for students to complete the full foundational guide. Kenny shared that his program tried to complete SAE for All foundational activities, but “in all honesty I probably get through like one or two activities out of the five that's recommended and then, we just kind of move on”. Rosanne agreed that she enjoys SAE for All but “something needs to change.” She was unclear whether the state needed to reduce the other curriculum embedded in her courses or whether foundational SAE components needed to be reduced.

Kenny, after learning about SAE for All, entered the various levels of foundational activities into a choice board where students could choose the activity they complete for each aspect of the foundational SAE. He thought that was a solution for differentiation. He gave that idea up when the state curriculum assessment had every student at the intermediate level.

The fifth resource teachers requested was *professional development*. Keith was specific that he needed to hear from ag teachers. He said, “I want to hear people that are doing it or trying to do it and what they're doing.” Willie agreed. He wanted “some firm examples of success stories of SAE for all utilization especially, you know, ag teacher success stories, I think the actual concreteness of it would be very helpful.” Willie thought it would go a long way if the messaging during professional development was “it's the same thing, but better.” He argued that it should not be pitched as a new model “because it's not different. I have done enough of that study myself - it's not different. It's just a different way to look at the same opportunity.”

Patsy thought teachers needed to walk through it, “like almost give it to them as an assignment” with the idea that this would “show them, like ‘Look how easy it is.’ Tammy, a middle school teacher, wanted some professional development in small groups. She indicated that of the teachers in her county, “I think I’m the only one, as of right now, who's doing SAE like at all” acknowledging that many are new teachers and they are also “taking on different loads, like trying to get FFA setup” suggesting that a “workshop series for someone to come and talk to our PLT [professional learning team] might help them” to get SAE up and going.

Conclusions/Recommendations/Implications

This study recognizes the perceived barriers to implementing SAE for All to its fullest potential and perceived resources needed to meet that goal. We recognize that asking teachers to supervise individual SAE projects for every student in their programs is not an easy task.

Student Barriers

Each of the student barriers that were identified including motivation, communication, and transportation are all within the control of the agriculture teacher. The teacher’s attitude about SAE is key. Presenting the components of SAE for All in a positive light, requiring it as a grade, being aware of the most recent SAE model, and communicating regularly about the project can vastly improve students’ motivation to complete the project (Bryant et al., 2022; Doss & Rayfield, 2019; Lewis et al., 2012; Marzolino & McKim, 2022). To address the shift in communication experience for today’s SBAE students, it is recommended that national SAE for All stakeholders create a lesson plan or provide suggested activities that correspond with foundational and immersion SAEs. These could include activities that walk students through how to interact with community members through phone, email, and in-person professional scenarios. It is also recommended that national and state SAE for All stakeholders intentionally provide examples of SAE projects that can be accomplished at school or without transportation. A specific focus on school-based enterprise, service learning, and research projects is recommended.

Teacher Barriers

The SAE for All model can be considered abstract, which is a challenge for many teachers. Providing concrete examples of successful implementation of SAE for All from teachers is a necessity. As state staff, national stakeholders, and teacher educators plan professional development opportunities and coursework related to SAE and SAE for All, consider highlighting current teachers, with varying years of experience, to showcase how they are making the model work for their programs. Professional development opportunities should include empowering the teacher to make plans for their specific programs.

The findings show that teachers are placing high stock in FFA awards, which are currently focused on immersion projects with no reference to foundational projects. Consistent with recommendations from Bryant et al. (2022), it is imperative that FFA recognition for SAE-based awards is aligned with the SAE for All model as quickly and intentionally as possible. Wording in degree applications should be specific about what SAE experiences *count* towards earning the degrees. Proficiency award applications could have a foundational component or a foundational award application could stand alone. National and state

associations should identify creative ways to recognize SAE, possibly through chapter-wide SAE applications like 100 percent SAE participation or school-based enterprise or service learning awards.

Consistent with the literature, time was a limiting factor in implementation of SAE for All (Shoulders & Toland, 2017; Steele, 1997; Wilson, 2022). The teachers that were the most familiar with SAE for All and modified the available resources to fit their programs appeared to be the biggest advocates for it. It is recommended that teachers set aside time to learn and adapt the model to best fit their program. Time could be provided during state professional development conferences or during another time that SBAE teachers are already together. Teacher educators should provide pre-service teachers time to read through the SAE for All guides and ask students to prepare an implementation plan for their future programs.

Resources

As we address resources needed, we found it noteworthy that many of the same challenges noted by Lambreth (1986) and highlighted in Steele (1997) remain issues including inadequate resources, large class sizes, and the demands of other job responsibilities.

Teachers were clear with us that the guides were not ready-to-use for them. From issues with images and pagination to incompatibility with their local LMS, the SAE for All guides required teacher time and energy to use. Lowering the technological barriers and the adaptation required will increase teacher use. Teachers also want the guides to be realistically achievable for their students in a single class period. *Trimming the fat* from the guides can accomplish that goal, but the material edited out could still be included in the resources as supplemental materials.

Middle school teachers were clear that the SAE for All model and the awareness foundational student guides are too advanced for their students. We believe there are two options to address this need. Option one is creating an *exploratory* foundational level below awareness that is designated specifically for students in grades 6-8. Option two is to scale the entire SAE for All model to fit middle school programs. This model could include the *exploratory* foundational projects and transition to immersion projects that are appropriate for this age group, specifically school-based, service learning, and research projects. Along with these recommended edits to the SAE for All model, we recommend the inclusion of realistic middle school examples throughout SAE for All resources.

Teachers were clear that the North Carolina curriculum was too full to allow enough days to address the items in the guides. They talked about either needing to decide what portion of the curriculum to skip so they could spend time on SAE for All or making the decision to do some aspects of SAE and leave the others out. As curriculum is revised, consider providing additional days for SAE related instruction or integrating SAE into what is being done within the curriculum. The first generation PBMs had every student at the intermediate level which goes against the differentiation built into the SAE for All model. Allow teachers flexibility in which foundational activities are required of students.

There was a consistent frustration from participants with the lack of clarity in record keeping practices for foundational SAEs using the AET. In a study by Aviles (2017), she predicted the complexity of the AET would cause some teachers to discontinue its use and we are indeed seeing some teachers who had been implementing the AET for student SAE recordkeeping in their classrooms and have stopped. Teachers are already tasked with using a LMS and find it difficult to record and grade SAEs in multiple places while also navigating a third resource of the SAE for All guides. For the AET to continue to be a useful resource for teachers, a smoother alignment with SAE for All is needed. It is recommended that the AET either consider integrating foundational activities into the website or creating related resources for teachers to use. Resources could be handouts for students that align with specific foundational guides or lessons for teachers to support SAE for All integration into the AET.

The request for additional professional development was addressed by every participant. State and national stakeholders should incorporate SAE for All specific professional development into every opportunity for teachers. Special consideration should be given for middle school specific content. National and State staff can offer more SAE for All train-the-teacher events, and/or bring in presenters that have successfully used the model. Offering pre-recorded or asynchronous resources can help, but teachers need the time to understand and work with the innovation and decide how to integrate it in their program.

In reference to the three-component model of SBAE, Croom (2008) posited that “for the model to be successful to a significant degree, there must be a commitment by all stakeholders to deliver all components collectively to those students who can be served by it” (p. 118). This attitude is applicable to SAE for All implementation. For the model to positively impact all SBAE students, all stakeholders must understand and be committed to providing students with the career and work-based learning opportunities afforded through SAE for All.

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