A National Review of State Standards Relevant to SBAE Teacher Performance and Program Quality

Abstract

Because of discrepancies among U.S. states regarding how they assess school-based agricultural education (SBAE) teacher performance and program quality, little knowledge has existed regarding how these differences might influence critical decisions regarding hiring, pay, promotion, and dismissal. In response, the purpose of our study was to examine commonalities and differences in state-level program quality standards of teacher and program performance expectations for SBAE in the U.S. To accomplish this, we analyzed documents containing teacher and program standards used by state SBAE leaders. Using cognitive sensemaking as our lens, we found states that measured SBAE teacher and program standards using a variety of formats and methods, emphasizing teacher engagement in professional development, organization of course syllabi and lesson plans, program safety, and health protocol adherence. We also found little mention of instructional practice as a prominent metric for success and no delineation regarding standards for teachers' years of experience. We discuss the merits of these documents and encourage practitioners to critically examine their intent and use them moving forward.

Keywords: effective teachers; state standards; teacher expectations; cognitive sensemaking

Introduction and Review of Literature

Education in the U.S. has evolved considerably in recent decades (Sánchez-Cabrero et al., 2021). For example, secondary school students have been tasked with navigating numerous expectations to fulfill requirements for graduation and admittance into higher education (Stronge, 2018). To complicate this issue further, high-stakes testing requirements have become stricter, which has led to many secondary school students having little flexibility to enroll in elective courses, such as career and technical education (CTE) (Gordon & Schultz, 2020). These trends have been further compounded by individual states using students' composite performance on standardized tests as an indicator of school quality. Therefore, emphasis on teacher, student, and program performance has increased dramatically in the 21st Century (Mintz & Kelly, 2021).

Previous research (Lu et al., 2021; Yazici et al., 2017) has demonstrated a complex interaction of factors that influences students' learning. However, teacher effectiveness has remained the most significant predictor of student success over the past three decades (Marzano, 2017). Many states have responded by recruiting and retaining quality teachers to improve student performance (Wronowski, 2018). Consequently, teachers, including those in CTE, have been burdened with increasingly high expectations to contribute to students' learning in a way that can improve their scores on standardized examinations (Mintz & Kelly, 2021).

Researchers in school-based agricultural education (SBAE), a pathway within CTE, have examined the expectations of SBAE teachers, intending to guide their preparation, professional development, and evaluation (Eck et al., 2019; Roberts & Dyer, 2004). The researchers concluded that the roles and responsibilities of SBAE teachers expand beyond traditional classroom instruction (Croom, 2008; Talbert et al., 2014). For example, teachers must deliver instructional experiences for students across a SBAE's comprehensive, three-component model that includes (1) classroom and laboratory instruction, (2) supervised agricultural experiences (SAEs), and (3) youth leadership through the National FFA Organization (Croom, 2008).

Researchers (i.e., Eck et al., 2019; Roberts & Dyer, 2004) have sought to distill the characteristics of effective SBAE teachers. For example, Roberts and Dyer (2004) identified seven teacher characteristics that gained 100% consensus among a panel of experts, (1) caring for students, (2) planning for instruction, (3) evaluating student success, (4) promoting morals and honesty, (5) advising the program's FFA chapter, (6) communicating with stakeholders, and (7) using and maintaining laboratory spaces. More recently, Eck et al. (2019) conducted an update of the characteristics of effective instruction and reported that six reached 100% consensus: (1) is engaging, (2) demonstrates classroom management, (3) cares about all students, (4) is genuine, (5) prepares students to be leaders, and (6) is helpful. Although identifying these characteristics has been helpful, agricultural teacher preparation programs have struggled to equip their graduates with the knowledge and skills they need to succeed as secondary SBAE teachers (Roberts et al., 2020).

To further expand the discourse on SBAE teacher expectations, other researchers explored SBAE teacher perceptions and conceptualizations of effectiveness and how they interacted with those reified metrics (i.e., Traini et al., 2019, 2020, 2021). In their studies, Traini et al. (2019, 2020, 2021) reported teachers defined success as winning awards through participation in FFA events, high levels of student participation in FFA activities, and overall growth and involvement in the local SBAE program. Teachers viewed these metrics as unsustainable and difficult to navigate because they consistently took a toll on their physical health, mental well-being, and family life (Traini et al., 2019). These researchers concluded the expectations of SBAE teachers, which were often unspoken norms in the profession, resulted in feelings of fear, judgment, and pressure from various individuals (e.g., community members, state associations, and school administrators) and the struggle or inability to achieve work-life balance (Traini et al., 2019, 2020, 2021).

Meanwhile, the ongoing conversation about supplying the workforce with qualified SBAE teachers has proven to be a daunting endeavor for SBAE (Foster et al., 2018). For example, Foster et al. (2018) reported that 45% (n = 462) of school administrators hired non-licensed individuals who were required to be alternatively certified because of a nationwide shortage of SBAE teachers. This was of concern to Bowling and Ball (2018) who found that alternatively certified teachers in Missouri were unprepared, experienced greater levels of stress, and left the profession more quickly. Additionally, two studies in SBAE (Rice & Kitchel, 2016; Roberts et al., 2020) have suggested beginning and early career teachers lack the agricultural content knowledge to be effective. This issue expands beyond agricultural teacher preparation programs. For example, in an assessment of more than 4,000 freshmen in Oklahoma State University's College of Agricultural Sciences and Natural Resources, Dale et al. (2017) found that agricultural literacy remained "…a work in progress" (p. 345). As our world's population grapples with increasingly complex problems, including disease, famine, poverty, and war, the agricultural industry must continue to progress. However, with limited content knowledge among individuals seeking baccalaureate degrees in agriculture, the industry could struggle to meet global demands (Dale et al., 2017).

Given the research exploring teacher effectiveness (i.e., Eck et al., 2019; Roberts & Dyer, 2004; Traini et al., 2019, 2020, 2021), the struggle of agricultural teacher preparation programs to equip preservice teachers with the knowledge and skills to become effective SBAE teachers (Roberts et al., 2020), and ongoing concern of the causes and consequences of the SBAE teacher shortage (Foster et al., 2018; Rice & Kitchel, 2016), decision-makers in education have increasingly used *quality standards* to improve school and student performance outcomes (Donaldson & Woulfin, 2018). Perhaps the most common method of teacher evaluation has been through teacher performance and program quality measures adopted by state SBAE leaders (Graham & Edwards, 2018). However, because many states struggled to determine the criteria by which to evaluate secondary agricultural education teachers and programs, the National Council for Agricultural

Education (2015) created the National Quality Program Standards (NQPS) for Agriculture, Food, and Natural Resources education. The standards are intended to assist state leaders with creating measurable attributes by which to assess program quality in SBAE (National Council for Agricultural Education, 2015). Despite this resource, however, anecdotal evidence has suggested many states have not used the NQPS. As a result, considerable variability has persisted regarding how SBAE teachers and programs have been evaluated historically (LeJeune & Roberts, 2020). For example, Sands et al. (2019) reported that Iowa created unique state standards for SBAE. However, through a statewide assessment of program quality, considerable improvements were needed concerning communication, administrative relationship-building, and program planning (Sands et al., 2019).

Because of discrepancies among U.S. states concerning how they assess teacher performance and program quality, few explanations exist about how these differences might influence critical decisions regarding hiring, pay, recognition, promotion, and dismissal. Further, if evaluation systems give greater priority to specific performance indicators, then quality standards used for assessment likely influence resulting behaviors and practices, including teacher satisfaction and burnout (Stair et al., 2016). Therefore, understanding the criteria by which SBAE teachers and programs have been evaluated across the U.S. warranted investigation.

Theoretical Framework

Cognitive sensemaking served as our lens to interpret the study's findings (Coburn, 2006). When creating policies, such as quality standards, decision-makers often draw on their beliefs, experiences, social interactions, and worldviews to organize their ideas into a cognitive framework that guides their logic (Coburn, 2001). This process is particularly amplified when decision-makers draw on the aforementioned factors to construct quality standards to evaluate performance (Coburn, 2006). Therefore, cognitive sensemaking provides insight into how individuals construct meaning from their experiences to operationalize policy-based decisions (Coburn, 2001).

In the current study, we used this lens to examine how decision-makers framed teacher performance and program quality to evaluate success through teacher and program quality standards. When viewing sensemaking through Coburn's (2006) lens, state SBAE leaders' policy-based decisions have likely been influenced by their personal and professional experiences, collaborations, and interactions (Allen & Penuel, 2015; Stosich, 2016). As an illustration, Allen and Penuel (2015) explained how school leaders, advocacy groups, and policymakers engaged in cognitive sensemaking to create Next Generation Science Standards (NGSS) by engaging in strategic planning and discussions over several years. As a result of this sensemaking process, NGSS has been widely adopted on a national level (Allen & Penuel, 2015). Meanwhile, more recent empirical evidence (Allbright et al., 2019; Cohen et al., 2020) suggested that through collective sensemaking efforts, educational reforms can positively influence how new policies can be understood and implemented. It is important to note that cognitive sensemaking can also have negative implications for policy (Coburn, 2006). For example, if decision-makers in education hold unrealistic expectations or out-of-touch views of teacher expectations based on closed social interactions, then their policy initiatives often fail (Coburn, 2001). As such, this lens provided a critical insight to describe how SBAE leaders have been influenced by their socio-political environments to create and implement state standards relevant to teacher and program performance.

Purpose and Objectives

The purpose of our study was to examine commonalities and differences in state-level program quality standards and teacher performance expectations for SBAE programs in the U.S. The objectives of our study were to:

1. Identify the program and teacher standards embedded in state standards documents; and
2. Describe the scope and diversity of SBAE program and teacher standards in the U.S.

Methods

This study used a descriptive, cross-sectional survey research design to collect documents and qualitative methods to examine state-level program quality standards and teacher performance expectations (Creswell & Creswell, 2018). This process helped us facilitate a systematic process to review and interpret the data to assign meaning (Frey, 2018).

Positionality

As former high school SBAE teachers in five U.S. states, we experienced firsthand a myriad of program and teacher expectations and required performance documentation at local and state levels. While successful in our roles as male and female SBAE teachers, often as the only agriculture teacher at the school, the workload was highly demanding. In our later roles as university faculty, we have prepared and supported SBAE teachers in many schools. These faculty experiences broadened our perspectives and deepened our understanding of the extensive, and oftentimes inconsistent, performance expectations placed upon SBAE teachers. Thus, we approached this study with a confident grasp of the life and work of SBAE teachers as a whole. This investigation is the initial step in our quest to suggest a more reasonable and streamlined set of standards to guide teacher effort and SBAE program development. We recognize that our broad experiences shaped both the design and conduct of our study. However, we believe these experiences and the absence of direct interaction with teachers and state agricultural education leaders, beyond simply acquiring copies of existing standards, allowed a credible analysis of the documents (standards) received.

Population

We defined the population for the study as the lead agricultural education supervisor or coordinator in each of the 50 states and two U.S. territories. We obtained the names and email addresses of each state leader from the National Association of Agricultural Educators and secured contact information for each identified leader.

Data Collection

Data collection procedures incorporated key elements of the tailored design method for survey research (Dillman, et al., 2014). We sent a personalized email in October 2020 to each identified SBAE leader. To emphasize the national scope of the project, all members of the research team co-signed the initial emails. We asked each participant to share a copy of all actively used documents that outline the SBAE program and/or teacher quality indicators for their state. Our email indicated that the long-term goal of the project was to develop preliminary benchmarks for SBAE teacher success across multiple career stages. Respondents clicked on an Airtable link to upload a copy of their SBAE program and teacher standards. State agricultural education supervisors provided nearly all responses, although a teacher educator in the state or the state FFA executive secretary supplied a document in some cases. If no SBAE-specific standards were available in their state, respondents replied with a note to that effect. We sent three weekly follow-up email reminders to each nonrespondent. In a few instances when no response had been received,

we reached out to a teacher education colleague in that respective state to inquire about the presence of a standards document in that state. Of the 52 states and U.S. territories (Puerto Rico and the Virgin Islands) that were invited to share their standards, 48 responded. Therefore, our total response rate was 92.3%. It should be noted, however, that 20 states provided SBAE-specific standards, 17 reported no standards, six used the NQPS, five submitted general CTE standards, and four did not reply to our request.

Data Analysis

Consistent with our study's purpose, we focused our analysis primarily on the documents received from the 20 state leaders who shared one or more agricultural education-specific standard documents. However, we first had to sort all the documents we received from state leaders. To accomplish this, we assigned ourselves to each review documents from 10 to 15 states. Using a spreadsheet, we captured general descriptions of each document including but not limited to document length, document organization and format (e.g., checklist, rubric, etc.), intended evaluator (e.g., agriculture teacher, CTE coordinator, etc.), number of individual metrics for evaluation, and whether or not the document contained standards specifically for SBAE teachers. Each of us reviewed the work of another researcher to ensure accuracy of this initial document exploration.

The second phase of data analysis included iterative cycles of open and axial coding of the agricultural education state-specific documents. Two randomly assigned members of the research team each used an open coding process to analyze the documents received from 10 of the 20 states who provided SBAE-specific standards. The open coding process involved sifting through the data and organizing it by similar phrases, concepts, and ideas. Data were "segregated, grouped, regrouped and relinked in order to consolidate meaning and explanation" (Lincoln & Guba, 1985, p.21). This process was cyclical and involved each researcher sorting through the contents of each document and then combining data to coalesce into themes or patterns (Flick, 2009). According to O'Connor and Joffe (2020), acceptable strategies for establishing intercoder consistency include at least two independent coders, the random selection of 10-25% of the data units (i.e., state standards documents), random assignment of data units to coders, independent coding of the data with or without pre-specified codes, and group discussion of similarities and divergences. To establish intercoder consistency, after the initial coding was complete, the two team members who completed the initial coding then each coded the document(s) submitted by a randomly selected state initially assigned for coding to the other coder. The full research team then compared the cross coding and concluded that the two independent coding results were similar. The open coding process resulted in 60 open codes.

This process led to the final stage of coding, axial coding. During this process, we sifted through the open codes and combined data into cogent categories. At this time, we engaged in significant memoing and the constant comparative method, which informed the development of our axial codes (Strauss, 1998). As reported below, our analysis resulted in six axial codes, which we henceforth call categories (see Table1).

Limitations

Potential concerns in survey research include coverage error, sampling error, measurement error, and nonresponse error (Dillman et al., 2014). Because this was a census study, coverage and sampling error were not a concern. Measurement error was also of little consequence since state SBAE leaders were simply asked to share an electronic copy or link to the current SBAE standards document in their state, if available. Multiple contacts with the identified state agricultural

education leaders over a four-week period resulted in minimal nonresponse from the target population.

Our five-member research team collaborated throughout the data collection and analysis process. Using extensive collaborative coding and analytical conversations, we strove to achieve intercoder consistency when analyzing the data. Still, we encountered challenges when coding certain documents due to formatting and organizational inconsistencies. For example, the California document contained 65 standards dispersed across the 11 categories and 214 unique recommended implementation strategies to accompany these criteria and subsequent metrics. We chose to code the 65 standards for this state because they were the overarching metrics for evaluation, excluding the 214 specific recommended implementation strategies. Decisions like these influenced the results we report below. However, because we made consistent decisions like this for all documents, we were confident in the accuracy of our findings.

Results

Document Description

For all the documents we received, including those for CTE programs broadly and SBAE teachers and programs specifically, document length ranged from one page (Tennessee) to 124 pages (Arizona). There was great variety in the number of primary quality standards and secondary quality standards, ranging from 15 total standards (primary and secondary) for Tennessee CTE to 98 total standards for Missouri. A majority of the documents were organized into a rubric or rating system with varying scales and degrees of detail. Thirteen documents were designed to be used on an annual basis by the individual CTE or SBAE teacher with the assistance or guidance from an administrator (e.g., CTE director, principal, etc.), advisory committee, or state staff. Only Illinois delineated quality standards by the experience level (i.e. licensure, years of teaching) of the teacher. For the remaining states, documents implied all SBAE teachers, regardless of experience or preparation to teach SBAE, must meet the same qualifications, starting during their first year of teaching. Eleven states required documentation in addition to the completion of the evaluation form. Documentation included letters, event registration lists, record books, SAE visitation logs, curricula, FFA programs of activities, budgets, and meeting minutes. The purpose of these documents was to provide evidence that the teachers and programs were meeting the listed requirements.

Several documents specific to SBAE were used to determine the amount of funding to be awarded to the program. These documents were much more detailed in their description of standards and how they were evaluated and often required administrative verification and documentation. Teachers in these states were required to keep copious and detailed records. In some cases, standards were presented with punitive language included if they were not met, including a formal program evaluation. In other cases, standards were presented as incentives for incremental program improvement tied to increasing funding allocations up to a maximum value. A few state standards documents only pertained to summer employment, such as in North Carolina.

SBAE Teacher and Program Documents

Twenty states provided documents that were specific to SBAE teachers and/or programs. The 20 states were Alabama, California, Colorado, Georgia, Idaho, Illinois, Indiana, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Mexico, North Carolina, Ohio, Oklahoma, and West Virginia. Our analysis of the documents provided by these states resulted in 60 researcher-developed standards organized into six broad categories. Table 1

offers a snapshot of the six categories with example standards for each. This is followed by a description of each category and key findings from our analysis. In our descriptions, we used the terms *item* to refer to the originally worded metrics or expectations found in the state documents, *standard* to refer to researcher-developed standards created during analysis to accommodate multiple similarly worded/themed items in the documents, and *category* to refer to the overall theme for a collection of researcher-developed standards.

Table 1

Summary of SBAE Teacher and Program Standards

Category	*f*	Example Researcher-Developed Standards
Teacher Qualifications	5	● Teacher has at least 3,000 hours of occupational experience. ● Teacher is qualified to teach the subjects assigned. ● Teacher is an education program completer.
Teacher Engagement Expectations	11	● Teacher hosts students for early field experience. ● Teacher acts as role models for students and exhibits leadership, teamwork, and ethical and professional practices. ● Teacher has no conflicting after-school athletic or administrative duties.
Instruction	13	● Current technology is available, maintained, and updated to offer high-quality instruction and support experiential learning and student leadership development. ● Higher order thinking skills are included in each course. ● Teacher uses differentiated instruction.
Program Design	11	● Program has at least one course that receives core academic or postsecondary dual credit. ● Program has articulation in place for students to receive postsecondary credit for agriculture classes. ● Program has courses that are sequenced to support at least one career pathway.
Program Management	13	● Proper and safe inventory is maintained for all tools, equipment, supplies, and training protocols are in place. ● Teachers are provided with adequate time and compensation, typically a supervision period, to plan and regularly supervise SAE projects. ● All students are encouraged to become FFA members and participate in local chapter activities and events.
Stakeholder Outreach and	7	● The program offers at least one community public

Category	*f*	Example Researcher-Developed Standards
Engagement		relations activity each month. ● The program actively seeks ways to recognize stakeholders for their work and involvement in the program. ● Relationships are built with local, state, and national decision makers, including elected officials, through education and outreach.

Teacher Qualifications

Ten items were coded into five standards within the Teacher Qualifications category. This category included standards that describe the certifications, experience and education SBAE teachers must possess to be qualified for their job (see Table 1). California had the most coded standards (3), and eleven states had zero standards coded in this category. Interestingly, the standard *Licensed agriculture teacher* was specified in the standards for only five states: Colorado, Idaho, Michigan, Mississippi, and New Mexico.

Teacher Engagement Expectations

Forty-four items were coded into 11 standards in the Teacher Engagement Expectations category. This category included duties and expectations for engagement once SBAE teachers were hired. Examples of engagement expectations included mentoring other teachers, serving as a cooperating teacher for student teachers, participating in community organizations, maintaining a detailed monthly report of activities, and serving as a role model for students and the communities in which they work. Items in this category often conveyed clear expectations for teacher engagement in professional organizations and teacher events, their professional development, and contributions to the development of other teachers.

By far, the most frequently coded standard was *Agricultural education instructor is an active member in local, state, and national agricultural education professional education associations and participates in Ag teacher meetings and professional development events,* with 30 items coded across 16 of the 20 states that provided SBAE-specific documents. The second most frequently coded standard was *Participate in state Ag teachers' mentoring program, or if not available, by proactively mentoring other teachers*, which was coded only three times by three states: Illinois, Ohio, and Oklahoma. The remaining nine standards were only coded once. The state with the most items coded in this category was Illinois, with eight items coded into seven standards. Perhaps the most interesting finding from this category was the standard, *After year four, the teacher engages in a leadership role in the teachers' association or FFA each year,* which was coded once by Illinois. This was the only standard from our entire data set that delineated expectations by years of experience of the SBAE teacher.

Instruction

Forty-six individual items from the state documents were coded into 13 researcher-developed standards comprising the Instruction category. These standards addressed the importance of incorporating technology in the classroom, the appropriate use of classroom management techniques to maximize time-on-task, the need for activities that are "hands-on" and

performance-based, and the importance of differentiated instruction and student accessibility. Idaho had the most frequent number of items coded for each standard in this category (12) followed by Ohio (5) and California (4). The most frequently coded standard by far was *Courses organized with syllabi and lesson plans* (26) followed by *student accessibility provided in all program areas* (5) and *citizenship, leadership, and interpersonal skills are taught throughout* (3). The remaining standards were coded fewer than three times.

Program Design

In the Program Design category, 51 items from the SBAE-specific documents were coded into 11 standards. The category emphasized holistic program planning and design, in other words, what the program should entail and how it should be structured. This category included items regarding the amount of emphasis on career readiness, how SBAE courses were sequenced, and the incorporation of leadership development, record keeping, and SAEs in courses. Curriculum design to qualify for academic or postsecondary credits and approval of a program budget were also included.

The states with the highest number of coded items were Idaho (17), Illinois (7), and Ohio (7). Six states (Alabama, Kentucky, Louisiana, Mississippi, North Carolina, and West Virginia) had no items in their documents that were coded in this category. Standards coded most frequently were *Career readiness is emphasized through individual student career plans and student participation in career, work-based learning, leadership development experiences, and other skill-building activities* (9), followed by *Courses sequenced to support at least one career pathway* (7) and *Approved annual budget is shared with stakeholders* (6). Interestingly, the standard least often checked, which appeared only in the Missouri document, was *SAEs counted as a part of the course grade*.

Program Management

In the Program Management category, 127 items from state documents were coded into 13 researcher-developed standards, making this the most frequently coded category. This category included standards that emphasized the daily or yearly operation and function of the SBAE program, how teachers were situated within the program and the expectations of student and program engagement in FFA and SAEs. This category also included standards regarding technology, facilities, and equipment within the program, as well as SBAE teacher summer involvement.

The majority of standards about FFA presented high, specific expectations for FFA engagement, CDE participation, applying to FFA awards applications, and FFA event participation, all of which require significant teacher time investment beyond the normal school day. Nearly all state documents addressed student participation in FFA and SAEs. State expectations about SAEs were wide-ranging concerning student participation, documentation, and teacher supervision and support, yet SAE expectations were listed in nearly all documents. Effective engagement with administrators and stakeholders; program planning, assessment, and reporting regularly; and budgeting and recordkeeping were also key aspects of standards related to program management.

Specifically, Idaho had the most items coded in this section with 18 items coded into 12 of the 13 standards. The most frequently coded standard was *Safety and health protocols are met, maintained, and in compliance for all materials, equipment, supplies, and facilities* (25), followed by *Supplies, technology, equipment, and facilities exist to meet the needs of the program* (20). The least often coded standards were regarding SAEs, including *Student SAEs exhibited at a regional*

fair (1) and *Agricultural education instructors demonstrating effectiveness involving experiential learning (SAE) activities that promote student growth* (2). Interestingly, two standards about SAE record keeping - *All students with SAEs keep records, plans, and agreements in AET or record books,* and SAE visits from teachers - *Teachers create and maintain written documentation of SAE visits*, were coded 10 and nine times, respectively.

Stakeholder Outreach and Engagement

Sixteen items from the state documents were coded into seven standards within the Stakeholder Outreach and Engagement category. Standards in this category emphasized the expectations for SBAE teachers to build relationships with individuals beyond their program (e.g., elected officials, administrators, community members), as well as outreach, marketing, and recruitment efforts to increase agricultural awareness and the number of students entering the program. Idaho had the highest frequency of items coded in this category (6), followed by Missouri (2) and Illinois (2). The most frequently coded standard was *Active recruitment and the promotion plan is shared with administrators* (6).

Implications, Conclusions, and Recommendations

Our goal for this study was to explore the commonalities and differences in state-level program quality metrics and teacher performance expectations for SBAE programs across the U.S. Although research exploring the expectations of SBAE teachers and programs has not been uncommon (Eck et al., 2019; Roberts & Dyer, 2004; Traini et al., 2019), this study took a different approach by examining the documents states have used to evaluate SBAE teacher and program effectiveness using a cognitive sensemaking lens (Coburn, 2001, 2006). Our data analysis revealed several important conclusions, discussed below.

SBAE-specific state documents emphasized a blend of classroom, lab, FFA, and SAE program components. Despite the variety of organization and format of documents, states generally evaluated teachers and programs on six key categories including (1) instruction, (2) teacher qualifications, (3) teacher engagement expectations, (4) program design, (5) program management, and (6) stakeholder outreach and engagement. While states included items in each of these categories, specific researcher-developed standards emerged more often than others. Across all states, areas of emphasis were SBAE teacher engagement in professional associations, the importance of having organized courses with syllabi and lesson plans, and safety and health protocol compliance. We conclude that standards about well-developed and sequenced courses, career readiness, academic and advanced credit, well-equipped laboratories, and effective teaching are common base-level expectations for SBAE programs in the U.S.

Surprisingly, limited emphasis was given to instructional practice in the documents. Individual items and researcher-developed standards regarding instructional practice largely focused on curriculum and facilities and gave little attention to what constitutes effective teaching in SBAE classrooms and laboratories (Newcomb et al., 1993). We wonder if individuals who developed these documents at the state level may have intentionally deferred metrics about teaching practice to local schools – an implication that aligns with Coburn's (2006) cognitive sensemaking. This may be due to socio-political factors (Coburn, 2001) that constitute effective teaching and the variation in expectations from school to school, based on administrative directives. It may also suggest that individuals who created these documents assumed that SBAE teachers could effectively execute the teaching process itself. Still, if effective instruction is an expectation of SBAE teachers and programs (Croom, 2008; Phipps et al., 2008), it may be important to offer clearer pedagogical expectations within these evaluative documents. Further, if the trend of hiring

alternatively certified teachers continues to intensify (Foster et al., 2018), more emphasis should be placed on creating state metrics that better assess quality teaching.

In this study, only one item from the data set delineated SBAE teacher expectations by years of experience. Given this evidence, we conclude state SBAE evaluation documents expect all SBAE teachers, regardless of years of experience, to be evaluated against the same list of standards. In other words, first-year SBAE teachers are expected to perform the same duties and at the same level as teachers with 10, 20, or 30+ years of experience. We maintain that such evaluative criteria are unfair to new and emerging teachers. Therefore, we recommend state leaders explore creating evaluative tools that better emphasize SBAE teachers' growth and development. Perhaps this change could stoke important changes to practice that could better support teachers based on their level of teaching experience.

We also noticed an absence of certain SBAE teacher expectations. For example, there was no mention of fundraising in the data. Yet, fundraising has been a significant activity for many SBAE teachers (Talbert et al., 2014). There was also no mention of supporting diverse students, such as students who are culturally and linguistically diverse. Are metrics like these unimportant or not to be evaluated? If they are important, how can we make this clear without adding to the already overwhelming list of expectations?

Existing state SBAE program and teacher metrics varied widely in scope and specificity. Only six states indicated they use the NQPS in their state, confirming anecdotal evidence suggesting that few states utilize this resource. Additionally, as researchers who were former SBAE teachers, we found looking through the documents we collected to be an overwhelming process. Even with the consolidation of nearly 300 items into 60 representative standards within six major categories, the sheer number and diversity of metrics for SBAE teachers and programs may compromise teachers' ability to meet their expectations of effective teaching on a daily basis. Concerning these and other lengthy state-specific documents, we wonder how SBAE teachers interact with these documents. Do they feel a sense of direction and clarity for their roles and programs after reviewing and/or utilizing these documents? Do they feel overwhelmed like us? Do they hold themselves accountable to these standards or take them with a grain of salt? Answering these questions in future research may be a worthy pursuit for states who utilize these documents.

Engaging in this study made us question the reason state metrics documents exist. Are they intended to serve as program and teacher evaluation metrics or as guidelines for program and teacher improvement? Perhaps they are purely ideals that SBAE teachers should desire to meet. Some current documents were the former, with punitive steps outlined when standards were not met. In other documents, financial incentives were associated with expectations attainment, and in other states, the metrics appeared to simply present a roadmap for program excellence. It was similarly unclear for whom these documents were written. Are they intended for individual teachers or entire programs? Are they aimed at currently excelling programs to help them further advance, or are they targeted at underperforming programs as a means of encouraging greater performance? Answering these questions would provide greater utility to these documents.

Often, SBAE teacher(s) and the SBAE program were viewed as one entity. We find this lack of distinction problematic as it implies that *all* program responsibilities fall on the shoulders of SBAE teachers. This negates the expectation and norm that SBAE is a comprehensive school and community program that involves multiple layers of support, such as advisory boards, parent volunteers, local industry supporters, school administration, students, and state and national associations (Phipps, et al., 2008). Most of the documents we reviewed implied that all successes and shortcomings of the program are directly or indirectly attributed to the SBAE teacher. Perhaps

this is one reason why SBAE teachers find themselves chasing reified markers of success (Traini et al., 2019, 2020) and doing so while feeling trapped, judged, and pressured by state leaders, community members, school administrators, and other individuals to whom they feel accountable (Traini et al., 2019, 2020, 2021). Future studies should engage in an in-depth analysis of the content of each document to better understand its philosophical and logical underpinnings (Coburn, 2006).

Finally, our analysis revealed confusion regarding the extent to which these documents have been utilized. Do SBAE teachers know about them or use them? If so, in what capacity? Are they used as a formal evaluation tool tied to funding or as a guide to planning programs? Answering these questions in future research can help scholars and practitioners make useful decisions about the value of state and national metrics documents.

Given the findings of this study, we recommend practitioners and state leaders engage in cognitive sensemaking process (Coburn, 2001, 2006) to critically examine evaluation metrics used in their states. The number of standards and required documentation should be analyzed concerning teacher experience and preparation. Distinctions should be made about *who* (e.g., individual vs. program) is being evaluated and *what* are the rewards or consequences of evaluation. While this study clarified the current landscape of SBAE teacher and program standards, future work should propose a manageable, fewer number of standards or descriptors of SBAE program quality and teacher success that could be adaptable to the diverse programs across the nation, while not overburdening individual SBAE teachers with an impossible list of expectations.

This study explored commonalities and differences in state-level program quality standards and teacher performance expectations for SBAE programs in the U.S. While our research revealed several new insights about the ways in which SBAE teachers and programs are evaluated, we conclude by posing five critical questions for the profession to consider: (1) What are the expectations for agricultural education program quality and teacher performance/productivity in states without specific standards? (2) How are these unwritten expectations conveyed? (3) Can we reasonably assume that, except for states with comprehensive standards, a large list of unwritten standards exists in many states (schools), or are expectations derived from multiple sources (e.g., FFA, school, community, etc.) rather than a single source? (4) Does the presence or absence of a comprehensive and detailed SBAE program and teacher standards create more or less anxiety for teachers (e.g., teachers striving to meet known versus unknown expectations)? and (5) Can SBAE teachers be expected to also meet an array of local school/community program and performance standards that are in addition to formal standards in place at the regional or state level? We maintain that these questions warrant more profound thought, discussion, and research moving forward.

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