

Assessing the Perceived Barriers and Needed Resources of New SBAE Programs

Joe Ramstad

University of Wisconsin—River Falls
135 Agriculture Science Building
611 South 3rd Street
River Falls, WI 54022
651-280-0214
joseph.ramstad@uwrf.edu

Scott Smalley

Iowa State University
206 Curtiss Hall
513 Farm House Lane
Ames, IA 50011
515-294-0047
smalle16@iastate.edu

Lavyne Rada

Lakes Country Service Cooperative
1001 E Mount Faith Avenue
Fergus Falls, MN 56537
605-695-1861
lrada@lcsc.org

Literature Review and Need for Study

The growth of over 1,000 school-based agricultural education (SBAE) programs over the last decade can be attributed to a variety of factors (Smith et al., 2016; Smith et al., 2026), including more enrollment in teacher preparation programs, reform in alternative licensure (Bowling & Ball, 2018; Claflin et al., 2020), and increased school and community interest (Bezold et al., 2012). Sustaining this growth may prove difficult, especially if educators do not feel supported (Claflin et al., 2022), illuminating the need for this work to inform practice.

The literature suggests teachers face challenges with curriculum (Traini et al., 2021a), community engagement (Traini et al., 2021b), and facility and resource management (Ramstad & Smalley, 2025). However, there is limited literature focusing on how to best support teachers starting a SBAE program. Those establishing new SBAE programs can face the same barriers as all other teachers, in addition to the grand challenge of conceptualizing, developing, and securing community support for a new program. With the persistent challenges in teacher recruitment and retention (Smith & Smalley, 2018; Smith et al., 2026), we must find ways to support teachers who are taking on the challenge of starting a SBAE program to ensure program stability and reduce turnover. The purpose of this study was to fill this important and timely need by assessing perspectives related to establishing a new SBAE program. This purpose was guided by AAAE's research value of advancing public knowledge of AFNR systems, and objectives included identifying: (1) the perceived barriers and (2) perceived resources of new SBAE programs.

Conceptual Framework

The model for agricultural subject matter as a content and context for teaching serves as the framework for this study (Roberts & Ball, 2009). A SBAE program is influenced by both content (i.e., what is taught) and context (i.e., the influence of the local community and stakeholders). A SBAE program will likely address key content areas which are relevant to the program validated by stakeholder needs, while building upon knowledge students gain in other content areas (Roberts & Ball, 2009). Each year, new programs are developed to satisfy the desires of schools that recognize the value this applied instruction can offer their students and communities while addressing workforce demands (Roberts & Ball, 2009). As such, this framework helps us better understand the best practices and barriers faced encountered in establishing a new program.

Methods

An IRB-approved quantitative descriptive design guided this study (Creswell & Creswell, 2018), using a survey instrument aligned with the framework. New programs were defined on the basis of being created in the last five years and identified by state staff; invited teachers were those who were listed as the first teacher at that program (i.e., the teacher who created or initiated the program). Of the 188 SBAE teachers invited to participate in the study, 56 teachers from 13 states completed the instrument, yielding a healthy response rate of 29.78% (Wu et al., 2022). The instrument consisted of 10 demographic and 37 content-specific items using Likert-type and multiple-choice items. An expert panel of four teacher educators with experience in SBAE program planning and quantitative research reviewed the instrument for face validity (Thyer, 2010). After incorporating the experts' feedback, the instrument was piloted with 10 educators. The instrument was found reliable, achieving an overall Cronbach's alpha of 0.85, greater than the recommended 0.7 benchmark prescribed by Nunnally (1978). Dillman et al.'s (2014) tailored design method was followed to maximize response rates; up to three points of contact were established with respondents. Data were analyzed using Qualtrics and SPSS through conducting descriptive statistics, *t*-tests, and one-way ANOVAs.

Results

Objective 1 identified the perceived barriers of new SBAE programs. Teachers identified funding ($\bar{x} = 3.80$; $SD = 1.16$) and facilities ($\bar{x} = 3.78$; $SD = 1.11$) among the top barriers (see Table 1).

Table 1

Perceived Barriers Among Teachers of New SBAE Programs

Item	SD	D	N	A	SA	$\bar{x}$	SD
Lack of funding	2	8	6	21	17	3.80	1.16
Lack of facilities	1	9	7	21	16	3.78	1.11
Student understanding	2	9	9	25	9	3.56	1.08
Establishing an advisory committee	4	12	10	19	9	3.31	1.21
Student interest	4	15	13	14	8	3.13	1.20
My perceived lack of experience	8	16	13	10	7	2.85	1.27
Working with administration	8	16	16	8	6	2.78	1.21
Community interest	8	18	11	13	4	2.76	1.20
Establishing curriculum	7	19	14	13	1	2.67	1.05
Chartering an FFA chapter	12	24	11	7	0	2.24	0.95

Note. SD = strongly disagree (1); D = disagree; N = neutral; A = agree; SA = strongly agree (5)

Objective 2 identified resources that would have helped teachers more effectively establish their programs. Teachers indicated more funding ($\bar{x} = 4.46$; $SD = 0.79$), improved facilities ($\bar{x} = 4.43$; $SD = 0.86$), and time ($\bar{x} = 4.20$; $SD = 0.88$) would have been most helpful to them (see Table 2).

Table 2

Perceived Helpfulness of Resources to Establish a New SBAE Program

Item	U	SU	N	SH	VH	$\bar{x}$	SD
More funding	0	1	7	12	34	4.46	0.79
Improved facilities	1	1	4	16	32	4.43	0.86
More planning time	0	3	7	20	24	4.20	0.88
More student interest in the program	1	5	13	21	14	3.78	1.00
Stronger administrative support	1	9	16	12	16	3.61	1.14
More community interest in the program	1	9	19	14	11	3.46	1.06
More training or professional development	3	10	17	13	11	3.35	1.17

Note. U=unhelpful (1); SU=somewhat unhelp.; N=neutral; SH=somewhat help.; VH= helpful (5)

Conclusions

Funding and facilities were perceived as the most significant barriers to establishing a new SBAE program. Adequate classroom and laboratory facilities, equipment, and instructional resources are critical for the hands-on learning experiences in SBAE (Ramstad & Smalley, 2025; Roberts & Ball, 2009). Respondents also identified student understanding, student interest, and establishing an advisory committee as additional barriers. These barriers directly aligned with the desire for resources related to funding, facilities, and resources to build program interest.

Recommendations

School administrators and community members should begin building the foundation for the program prior to implementation by securing sufficient funding, providing appropriate facilities, and developing stakeholder relationships. Consistent communication with students, parents, and community stakeholders, supported by state agricultural education staff, can build understanding and interest in SBAE (Bezold et al., 2012). A strong foundation of resources, facilities, and community support is critical for successful and sustainable implementation.

References

- Bezold, R., Kagay, R., & Tummons, J. (May 2012). *Community perceptions of a new secondary agriculture program* [Research poster presentation]. 2012 AAAE Conference, Asheville, North Carolina. <https://submission.aaaeonline.org/Proceedings.asp?EventID=17>
- Bowling, A. M., & Ball, A. L. (2018). Alternative certification: A solution or an alternative problem? *Journal of Agricultural Education*, 59(2), 109–122. <https://doi.org/10.5032/jae.2018.02109>
- Claflin, K., Lambert, M. D., & Stewart, J. (2020). An investigation of the routes to certification and turnover intentions of Wisconsin agriculture teachers. *Journal of Agricultural Education*, 61(1), 128–139. <https://doi.org/10.5032/jae.2020.01128>
- Claflin, K., Stewart, J., & Traini, H. Q. (2022). The best of both worlds: Exploring the experiences of alternatively certified agriculture teachers. *Journal of Agricultural Education*, 63(2), 219–237. <https://doi.org/10.5032/jae.2022.02219>
- Creswell, J. D., & Creswell, J. W. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. SAGE Publications.
- Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). *Internet, phone, mail, and mixed mode surveys: The tailored design method* (4th ed.). John Wiley & Sons, Inc.
- Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). McGraw-Hill.
- Ramstad, J., & Smalley, S. (2025). Building the house: Agricultural educators' perceptions of planning and managing agricultural education facilities. *Journal of Agricultural Education*, 66(2), Article 7. <https://doi.org/10.5032/jae.v66i2.3010>
- Roberts, T. G., & Ball, A. L. (2009). Secondary agricultural science as content and context for teaching. *Journal of Agricultural Education*, 50(1), 81–91. <https://doi.org/10.5032/jae.2009.01081>
- Smith, A. R., & Smalley, S. (2018). Job stress, burnout, and professional development needs of Mid-career agricultural education teachers. *Journal of Agricultural Education*, 59(2), 305–320. <https://doi.org/10.5032/jae.2018.02305>
- Smith, A. R., Lawver, R. G., & Foster, D. D. (2016). *National agricultural education supply and demand study, 2015 executive summary*. <https://nsd.aaaeonline.org>
- Smith, A. R., Spiess, M., Foster, D. D., Rogers, A.R., & Lawver, R. G. (2026). *National agricultural education supply and demand study, 2025 executive summary*. <https://nsd.aaaeonline.org>
- Traini, H. Q., Haddad, B., Stewart, J., & Velez, J. J. (2021a). Adjusting, appeasing, and rearranging: How agriculture teachers reconcile demands of the profession. *Journal of Agricultural Education*, 62(2), 167–184. <https://doi.org/10.5032/jae.2021.02167>
- Traini, H. Q., Stewart, J., & Velez, J. J. (2021b). Navigating the social landscape of school-based agricultural education: A hermeneutic phenomenology. *Journal of Agricultural Education*, 62(1), 61–76. <http://doi.org/10.5032/jae.2021.01061>
- Wu, M., Zhao, K., & Fils-Aime, F. (2022). Response rates of online surveys in published research: A meta-analysis. *Computers in Human Behavior Reports*, 7, Article 100206. <https://doi.org/10.1016/j.chbr.2022.100206>