Updating the Essentials: SAE for All Through a Dichotomous Key

Eric D. Rubenstein[1], James D. Scott[2], and Andrew Thoron[3]

[1]Agricultural Leadership, Education and Communication, University of Georgia

[2]Agricultural Leadership, Education and Communication, University of Georgia

[3]Agricultural Education and Communication, Abraham Baldwin Agricultural College

Author Note

Eric D. Rubenstein, Associate Professor, erubenstein@uga.edu

James D. Scott, Graduate Research Assistant, jamesd.scott@uga.edu

Andrew Thoron, Associate Professor and Department Head, andrew.thoron@abac.edu

Correspondence regarding this abstract should be addressed to Eric D. Rubenstein, University of Georgia, 405 College Station Rd., Athens, GA 30602-4355, Telephone: (706) 542-3191.

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Introduction

Within agricultural education, supervised agricultural experience (SAE) programs provide students with an opportunity to apply concepts learned in the classroom (Camp et al., 2000; Phipps et al., 2008; Stimson, 1915). This project was originally designed for all students enrolled in an agricultural education program to participate in and a way to prepare them for employment or working on the farm (Phipps et al., 2008). This project, originally known as the home project, was designed for students to utilize what was learned in the classroom and apply it to their agricultural enterprises (Stimson, 1919). Over the past 100 years, SAE has changed to meet the needs of students through new SAE types and encourage more academic pursuits. However, in recent years participation by teachers and students in SAE programs has decreased (Dyer & Osborne, 1995; Phipps et al., 2008; Robinson & Haynes, 2011; Rubenstein et al., 2014; Talbert et al., 2014). Agriculture teachers often struggle in implementing SAE programs into the classroom and have reported that utilizing these programs is one of the most challenging aspects of teaching agricultural education (Dyer & Osborne, 1995; Robinson & Haynes, 2011; Rubenstein & Thoron, 2013; Rubenstein et al., 2014; Talbert et al., 2014). While SAE is viewed as a meaningful experience for all learners, it often demands great time commitments from teachers as they assist their students (Dyer & Osborne, 1996; Talbert et al., 2014). To assist agricultural educators in developing and implementing SAE programs for their students, Rubenstein and Thoron (2013) developed a dichotomous key for school-based agricultural students to complete as they choose and plan their projects. However, in 2018, the SAE for All initiative began as a way to involve all students in SAE programs. To assist agricultural educators as they venture in developing and implementing SAE projects with their students, researchers modified the existing SAE Dichotomous Key to meet the needs of SAE for All.

How it Works

The updated SAE Dichotomous Key now includes objectives derived from the SAE for All initiative and provides the instructor with the tool to assist all students in identifying an SAE. When used in combination with the SAE for All Program Examples, the SAE for All Dichotomous Key alleviates time required to plan and assist with students as they develop and implement their SAE program.

The SAE for All Dichotomous Key is an updated instrument developed to assist students in identifying SAE programs that best fit their interests based on what resources are available, as they explore moving from foundational to immersion. Rubenstein & Thoron (2013) initially developed the instrument to facilitate students in identifying a program topic. With the implementation of SAE for All, the researchers determined that the Dichotomous Key should be updated, with the inclusion of five areas of interest for each career pathway as opposed to four. The prior list of SAE program examples was then updated as well with examples for SAE for All in each career pathway (Animal Systems; Plant Systems; Environmental Services/Natural Resource Systems; Food Products and Processing Systems; Power, Structural and Technical Systems; and Social Systems) and type (entrepreneurship, placement, research, school-based enterprise, service learning).

Prior to using the updated Dichotomous Key, teachers should complete an introductory lesson on the meaning and purpose of SAE programs, as well as an introductory lesson on the fundamentals of SAE for All. This lesson will ensure that students have an understanding of an

SAE program and the opportunities SAE for All provides. Instructors should allow students time in class to complete the SAE for All Dichotomous Key with the understanding that more than one SAE category and type could be identified.

Similar to the SAE Dichotomous Key, there are four steps in using the SAE for All Dichotomous Key. First, students are asked to identify if they have a pre-existing program that can be utilized as their SAE program. If the self-identified program is agriculturally-related, the student is then instructed to describe the project on a separate sheet of paper. At the end of the class period, the agricultural educator can collect all responses of students who have identified a pre-existing program. If the student does not have a pre-existing program or if the program is not agriculturally-related, they will continue to the second step.

The second step for students requires them to identify agricultural career clusters in which they are interested in. The clusters are presented as "I enjoy…" statements to the students.

After students have identified an area or areas of interest, students should select statements that best describe the resources available to complete an SAE program in that agricultural career cluster. Statements are phrased "I have the ability…" or "I do not have the ability…" to complete a given task. Depending on the statements selected, students are presented with an agricultural career pathway and SAE for All type. Students have the opportunity to identify multiple projects and career pathways, however the student will continue to identify individual components of the SAE program.

Finally, students are provided with a list of example SAE for All programs that have been recommended or completed by previous school-based agricultural education students. The examples that are compiled, are to be utilized by students to organize a program based on their individual interests. After students have identified examples and modified the ideas to meet their needs, they are asked to describe the SAE program on a separate sheet of paper. Throughout these steps, the SAE for All Dichotomous Key reduces an agricultural educator's time commitment to assisting each student in identifying and developing an SAE program.

Results to Date/Implications

Current evidence indicates that the previous SAE Dichotomous Key has been successful in providing assistance to students in developing an SAE. Feedback provided on the previous version has been positive, with preservice and inservice teachers describing how the SAE Dichotomous Key works. Updating the SAE Dichotomous Key assists in fully implementing SAE for All in a smoother manner for inservice agricultural educators.

Future Plans/Advice to Others

With the use of the SAE for All Dichotomous Key, agricultural educators have the opportunity to provide all students with more options when planning their SAE project. The former SAE Dichotomous Key developed by Rubenstein and Thoron (2013) laid the groundwork for the current model, which will continue to assist inservice agricultural educators with their time commitment. Researchers plan to conduct a study this fall with agriculture educators in the state of Georgia to measure the effectiveness of the updated dichotomous key.

Cost/Resources Needed

Utilizing the SAE for All Dichotomous Key will require minimal expense for distribution and implementation. The SAE for All Dichotomous Key is a two-sided, color copy that requires 10 x 14 paper.

References

Camp, W. G., Clarke, A., & Fallon, M. (2000). Revisiting supervised agricultural experiences. *Journal of Agricultural Education, 41*(3), 13-22. https://doi.org/10.5032/jae.2000.03013

Dyer, J. E., & Osborne, E. W. (1995). Participation in supervised agricultural experience programs: A synthesis of research. *Journal of Agricultural Education, 36*(1), 6-14. https://doi.org10.5032/jae.1995.01006

Dyer, J. E., & Osborne, E. W. (1996). Developing a model for supervised agricultural experience program quality: A synthesis of research. *Journal of Agricultural Education, 37*(2), 24–33. https://doi.org/10.5032/jae.1996.02024

National FFA Foundation, & The National Council for Agricultural Education. (2017). *SAE for All: Educator resources*. SAE For All. Retrieved 2021, from https://saeforall.org/educator-resources/.

Phipps, L. J, Osborne, E. W., Dyer, J. E., & Ball, A. (2008). *Handbook on agricultural education in public schools* (6th ed.). Thomson Delmar.

Robinson, J. S., & Haynes, J. C. (2011). Value and expectations of Supervised Agriculture Experiences as expressed by agriculture instructors in Oklahoma who were alternatively certified. *Journal of Agricultural Education, 52*(2), 47-57. https://doi.org/10.5032/jae.2011.02047

Rubenstein, E. D., & Thoron, A. C. (2013, May). A dichotomous key: Helping students find their path in SAE. *Proceedings of the 2013 National Agricultural Education AAAE Research Conference, Columbus, OH,* 7-10. Retrieved from http://aaaeonline.org/uploads/allconferences/5-16-2013_464_2013AAAE_PosterProceedings.pdf

Rubenstein, E. D., Thoron, A. C., & Estepp, C. M. (2014). Perceived self-efficacy of preservice agriculture teachers toward specific SAE competencies. *Journal of Agricultural Education*, *55*(4), 72-84. https://doi.org/10.5032/jae.2014.04072

Stimson, R. W. (1915). The Massachusetts home project plan for vocational agricultural education. *The School Review, 23*(7), 474-478. Retrieved from http://www.jstor.org/stable/1076877

Stimson, R. W. (1919). Vocational agricultural education by home projects. The Macmillan Company.

Talbert, B. A., Vaughn, R., Croom, B., & Lee, J. S. (2014). *Foundations of agricultural education* (3rd ed.). Pearson Education, Inc.