

**The Development of a State-Specific Web-Based Platform for the Curriculum for
Agricultural Science Education (CASE)**

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Introduction and Need for Innovation

The Curriculum for Agricultural Science Education (CASE) (2019) is a national agriculture curriculum that focuses on science integration and the use of inquiry-based instruction for school-based agricultural education (SBAE). To deliver this curriculum, teachers must complete an intensive professional development training that culminates in certification for one of ten agriculture courses (CASE, 2019). This curriculum is rigorous in nature, aligning with national standards for agriculture, English, science, and mathematics (CASE, 2019). Currently there are 1,828 teachers from 45 states utilizing the CASE curriculum, with many holding certifications for multiple CASE courses (CASE, 2019).

Over the last decade, CASE has continued to permeate the United States, and has most recently gained momentum in the Southwestern region. With the dramatic increase in teacher adoption in Arizona over the last three years, frequent questions regarding CASE certification and implementation have emerged. Historically the southwestern land grant institution has played a leading role in curriculum adoption and facilitation in Arizona, necessitating a centralized method of communication and dissemination of resources between the university and SBAE teachers. A recent master's thesis focused on the implementation of CASE in Arizona, yielded the recommendation of a centralized web-based platform that would enhance individual teacher's instruction and collaboration with other CASE certified teachers across the state (Bird, 2019).

To address this need, a state specific web-based platform has been developed. At the national level, CASE has an online website, case4learning.org, that contains a variety of resources for teachers including purchasing manuals, information on open institutes to achieve certification, state leader and CASE staff information, and outlines for the various CASE courses offered, among other resources (CASE, 2019). Despite frequent use of the national web-based platform, Arizona teachers desired an additional platform catered specifically to their unique needs, with resources tailored to Arizona that compliments national CASE resources.

How it Works

A web-based platform is currently housed within the University of Arizona Department of Agricultural Education, Technology and Innovation website. This centralized location allows for teachers to easily access resources, communicate with state leaders and other CASE certified teachers in their districts, and includes external links to national CASE resources. This platform serves various audiences including veteran CASE teachers, newly certified CASE teachers, teachers considering certification, and school administrators and career and technical education directors. Set to go live on September 1, 2019, this platform will be treated as a living document that will be continually updated as new ideas and content from CASE emerges. A few of the resources that are already developed or in the process of development for the web-based platform include:

- Crosswalks for CASE lessons aligned with state technical agriculture standards, professional standards, and science standards
- Contact lists for Arizona CASE certified teachers and CASE state leaders
- Template letters to administrators for teachers seeking CASE certification
- Video tutorials filmed from student and teacher perspectives for a variety of lab equipment
- Grant and scholarship opportunities, both local and national
- Open and upcoming CASE institute offerings, including those within Arizona

- Course outlines for integration of lessons in compliance with CASE regulations and copyright laws

Because many useful resources already exist through the national CASE website, CASE staff has endorsed the use of their resources with links and clear credit given to the original platform (Chaplin, M. Personal Communication, June 26, 2019).

Results and Implications

Despite an increase in SBAE teacher adoption of the CASE curriculum, barriers to certification and implementation are still present. Two specific challenges identified by Arizona teachers were altering the lessons to fit their individual programs and curriculum and purchasing the necessary equipment to implement CASE (Bird, 2019). To address these concerns, we are currently developing a tips and tricks sheet from veteran CASE teachers for a variety of CASE lessons, have aligned three CASE courses with state standards, and are seeking additional monetary support for purchasing CASE equipment and supplies.

With a web-based platform accessible by any teacher in the state, CASE state leaders can more easily communicate with the teachers they serve. While we recognize that national CASE staff are highly responsive to inquiries from teachers nationwide, a connection with state leaders allows for more specific questions to be answered within the teacher's current context. This platform also enhances the role of the CASE state leader model, giving them a centralized mode of communication and a more effective way to support teachers utilizing the curriculum, all while strengthening the bridge between national CASE and state utilization of CASE. With a targeted audience that is not limited to already certified teachers, a collaborative environment is fostered between those already certified and those looking to become certified (Bird, 2019).

Future Plans

There has been an overwhelming amount of support expressed by Arizona agriculture teachers for this web-based platform. Many have contributed ideas to include that will help them in their individual classrooms and programs. One teacher commented on her excitement for the possibilities that this resource would bring to her teaching toolbox (Scibienski, A. Personal Communication, June 6, 2019). Given that teacher input that has already occurred non-formally, a formal needs assessment should be developed to determine additional resources and needs expressed by teachers. As the web-based platform continues to evolve, efforts should be made to determine if levels of access to materials, based on completed teacher certifications, should become a feature. This would allow for more specific conversations about individual lessons and assignments within CASE, while still adhering to copyright laws of CASE curriculum. This effort has the potential to be replicated in other states that have a similar need and is supported by national CASE staff.

Cost and Resources

The cost for this platform is minimal as it is currently in conjunction with the southwestern land grant university departmental website. Resources include personnel to manage and update information and respond to teacher inquires. Presently, CASE state leaders are taking the most active role in development and dissemination of content. However, should the platform develop to be larger scope, the responsibilities may shift to additional personnel and could result in additional costs.

References

Bird, T. D. (2019). *The influence of the CASE curriculum on agriculture teachers' use of inquiry-based methods through science integration* (Unpublished master's thesis). University of Arizona, Tucson, AZ.

Curriculum for Agricultural Science Education (2019). Retrieved from <http://www.case4learning.org>.