Curriculum Development for Elementary Agricultural Education

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Introduction

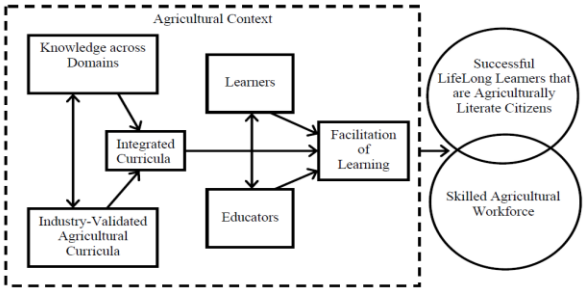
The primary focus of most elementary education school curricula in the United States tends to focus on basic academic learning and socialization skills. Very few public schools in the United States focus on agriculture and/or food resulting in a society with limited understanding and misconceptions about agriculture and food systems (Hess & Trexler, 2011; Mabie & Baker, 1996). Agricultural Education at the high school level began long before the Smith-Hughes National Vocational Education Act of 1917 (Moore, 1987). In much the same way middle school agricultural education was spreading across the US long before 1988 when the National FFA Organization made a change to their constitution to allow middle school students FFA membership. A similar trend can be seen in elementary agricultural education in public schools with initiatives like Ag in the Classroom and school gardens. However, the state of Georgia is taking steps to formalize agriculture as a subject area in elementary curriculum.

In the 2017-2018 Regular Session of the Georgia Assembly, Senate Bill 330 passed and was signed in to law by Governor Deal on April 27, 2018. Among other things this bill established a pilot program for Elementary Agricultural Education in the state of Georgia; so as to provide that the agricultural education program is based on a three-component model; to provide for a pilot program to develop and implement agricultural education in elementary schools; to provide for selection of pilot sites... (Official Code of Georgia Annotated, 2018). Twenty-six elementary schools have agreed to serve as pilot programs, which will begin in the fall of 2019.

Conceptual Framework

Content and Context by Robert and Ball (2009) laid the conceptual framework for this study (*Figure 1)*. The researchers recognize that this model illustrates the theoretical bases for viewing agriculture as both a content and a context for teaching agriculture at the secondary level. This means that agriculture is not only appropriate as a topic in and of itself, but can also be a context to teach other skills for a literate citizenry. However, the application of this framework at the elementary level, at this time, appears to be an appropriate application.

Figure 1. A conceptual model for teaching agriculture as a content and context (Roberts & Ball, 2009).



Methodology

A true Delphi method was used with stakeholders to write the first set of Elementary Agricultural Education standards for the state of Georgia. In the summer of 2018, 17 high school agriculture teachers, middle school agriculture teachers, elementary teachers, elementary principals, middle school principals, Ag in the Classrooms representatives, Agricultural Education Faculty, Elementary Education Faculty, Georgia Agricultural Education State Staff,

and the state Curriculum Director met in Athens, Georgia for one day to participate in this study. The group discourse took approximately seven hours to complete and assumes that group judgments are more valid than individual judgements.

Data was collected in a series of two rounds with the first round being an open format for all participants to share ideas for standards resulting in 140 standards. Next, these 140 standards were loaded in Qualtrics, voted on by participants, and the participants were given the mean and standard deviation for each standard with 123 standards receiving a mean of 3.5 or higher. Next participants were given the opportunity to condense, create, or remove any standards presented during round one. For any of these actions to occur a majority vote by the participants was needed. At the end of round two the remaining participants had agreed on 80 standards and these were voted on by participants. Standards receiving an *a priori* mean level of 3.5 or higher were deemed to be essential and were accepted by the group resulting in a total of 52 standards.

Results & Conclusions

Participants identified the following ten standards with a 4.5 mean score or higher. These standards were: (1) Define agriculture with a focus on local agriculture; (2) Describe agricultural industry outside of production agriculture; (3) Identify Georgia agricultural products; (4) Describe careers in agriculture; (5) Describe resource management; (6) Define the use of soil and what lives in it; (7) Leadership development and good citizenship; (8) Describe natural resources; (9) Exposure to animal care and welfare; and (10) Exposure to livestock and food animal production.

This Delphi study resulted in 52 standards that were agreed upon by the participants. For the sake of space the results have been summarized; 10 items received a 4.50 – 5.00, 16 items received a 4.25 – 4.49, 13 items received a 4.00 – 4.24, 11 items received a 3.75 – 3.99, 2 items received a 3.50 – 3.7.

While these 52 standards serve as a valuable starting point for elementary agricultural education development additional research is needed as pilot programs utilize this curriculum and are able to better determine which standards are appropriate to retain and which standards should be removed.

Implications

The results of this study have been used to create the first set of elementary agricultural education standards for Georgia that will be utilized in the fall of 2019 by the 26 pilot elementary agricultural education programs. Creating standards with a team of stakeholders maintains local importance of agricultural topics throughout the state. In addition to the research agenda that is currently being conducted teacher preparation faculty are working with the Georgia Professional Standards Commission Education Specialist, to serve on the Elementary Agricultural Education Teacher Certification Task Force. This task force met in September of 2018 and created a proposal for how Elementary Agricultural Education Teachers will be certified to teach in the state of Georgia. In conjunction with this new certification route the Agricultural Education Teacher Preparation Faculty are designing a post-secondary curriculum that will provide students with the tools needed to succeed in the teaching elementary agricultural science.

Additional research is underway to investigate how to best integrate the leadership component (FFA) and individualized learning component (SAE) at the elementary level. Further research will focus on elementary principal perceptions, Georgia agriculture teacher mobility towards elementary education programs, barriers to success of elementary agricultural education programs, and best practices for elementary agricultural education programs.

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