

Where are we going? Paving the road for growth in California agricultural education

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Introduction

From time to time, it becomes necessary to examine organizational needs. In education, the changing tides in initiatives and cultural shifts require schools spend time focusing on determining values and information for programming through a needs assessment (Stufflebeam, McCormick, Brinkerhoff, & Nelson, 2012). Consistent with the National Research Agenda this work illuminates the ongoing procedural need to focus on efficient and effective agricultural education programs (Thoron, Myers, & Barrick, 2016). In California, this has become a regular visioning-type process, which drives the operational work of local agriculture educators and initiatives statewide. Established in 2012, the Vision 2030 committee focuses efforts every few years on eliciting feedback about needs and coordinating efforts between all echelons of agricultural education to substantiate rigor and relevance of secondary and post-secondary programs. The purpose of this study was to explore the systematic needs in California agricultural education that are fundamental to evolving professional practice.

Theoretical Framework

We situated our work in Cultural-Historical Activity Theory (CHAT) (Engeström, 1987). CHAT offers a systems-based way to view learning and growth with intentional focus on five principles inherent in transforming systems to meet the needs of primary individuals (i.e. agricultural educators). Engeström (2001) posited activity-based systems are the primary analysis unit, there are multiple viewpoints in an activity system, history is integral to understanding current status and future growth, contention is the central premise of the need for growth, and growth is the modus operandi for all systems. CHAT allows us to situate our perspective in cultural interaction where there are multiple reasons leading to the current state of agricultural education, and many factors involved in making agricultural education a better version of itself.

Methodology

This quantitative study used the Delphi technique to form a consensus (Hsu & Sandford, 2007). In this case, members of the California Agricultural Teachers' Association (CATA) ($N = 963$) were the experts who sought to form agreement on the pressing areas for action in agricultural education in California. Dalkey (1969) said reliability was high with at least 11 respondents in each round. This study used existing data collected during the 99th annual meeting of the CATA during a visioning session. Items were sorted alphabetically and duplicates were removed resulting in 88 items deemed potential action items. All items were entered into Qualtrics alphabetically.

During the first round, participants were asked to rate each item on a scale of one to five (1 = no importance, and 5 = great importance). The Statistical Package for Social Science (SPSS) version 24 calculated mean scores for all items. Response rates were low at 39% ($N = 375$) (Lindner, Murphy, & Briers, 2001). The 50 items that rated moderately important ($M > 3.0$) were redistributed to the members of the CATA in the second round. Participants were asked to rank all items from most important (rank of 1) to least important (rank of 50). The response rate was 31% ($N = 303$) resulting in the 25 action items. In a third round, participants offered commentary regarding the top items. Twenty-four % ($N = 228$) responded and 5% ($N = 49$) provided feedback.

The large targeted population size resulted in response rates lower than deemed necessary for a Delphi study (Green, 1982; Hsu & Sandford, 2007; Ulschak, 1983). However, there was stability in response rates from round to round indicating an acceptable level of response (Scheibe, Skutsch, & Schofer, 1975). To account for non-response error in rounds, independent *t*-tests between early and late respondents were conducted (Lindner et al., 2001). Three of the items differed with statistical significance ($p < .05$) in round one. None differed in round two.

Results and Findings

While a complete list of all 25 items will be included with the poster, we aggregated them here into general themes. Most feedback reiterated the importance of specific items or offered suggestion on how to carry out the item. Below are the top five action items, in order of importance, for California agricultural education:

Action Item 1: Alignment of curriculum with industry standards

Action Item 2: Comprehensive curriculum database

Action Item 3: Alignment with community colleges and high schools

Action Item 4: Better support to new teachers to incorporate the 3-component model

Action Item 5: Connect industry with career development events

Conclusions

This visioning process allowed for a comprehensive needs analysis. As CHAT contextualizes the actions of agricultural educators who have illuminated their contentions with the current status of the profession, we can now make progress towards resolving their needs and evolving their systems to serve the current needs of their students. Implicit in the data are themes of access and implementation of curriculum across all three components of agricultural education, preparation and support of new agriculture teachers, and a necessity to address time management to aid teachers both professionally and personally. These themes are indicative of the changing demographics of agriculture teachers; as the large cohort of veteran agriculture teachers begin to leave the profession, younger teachers are filling the ranks, apparently eager to find connections supporting their career. The data compiled here, from multiple voices across the profession, is testament of the historical progression of the CATA's visioning process and provides impetus for future "possibility of expansive transformations" (Engeström, 2001, p. 137).

Implications/Recommendations

Data and analysis from this study will be utilized as the new foundation for organizational growth imbued in Engestrom's (2001) activity theory. As these items continue to be discussed and action plans developed from them, the researchers should continue to collect information in California on a regular basis and examine the outcomes of each item. Additionally, given the rigorous nature of agricultural programs in California, similar research in surrounding states would beneficially inform the status of agricultural education nationally and inform professional/organizational growth objectives for associations such as National Association of Agricultural Educators (NAAE). Further, from a systems-based perspective this study lends credence to themes that are ripe for solution planning and implementation including curriculum resources, the production of qualified teachers, and resolutions for work life balance among agricultural education professionals.

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