Idaho Teacher Perceptions of Content Area Needs for New Agricultural Education Graduates

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Introduction

Agricultural education is a profession requiring a wide breadth of content knowledge reflecting the "dynamic and ever-changing industry of agriculture" (Phipps, Osborne, Dyer & Ball, p. 7, 2008). With all the demands on novice teachers, the question arises, what do they need in a B.S. degree program in Agricultural Education to be prepared for their initial foray into the profession? Gathering the teacher preparation and pre-service needs in agricultural education has long been a topic examined by researchers in the field (Burris, Robinson, & Terry, 2005; Duncan, Ricketts, Peake, & Uesseler, 2006; Roberts & Dyer, 2004; Sorensen, Tarpley, & Warnick, 2010; Touchstone, 2015). Determining which technical agriculture content teachers should be competent in is also difficult. An examination of content level requirements in other states revealed that only one state had a list of content competencies required for endorsement in agricultural education. Idaho like many other states, requires only content verification through credit hours and completion of the Praxis agriculture exam.

Current teachers are often best positioned to provide feedback to teacher educators, as they can gauge their own preparation with the demands of the profession (Touchstone, 2015). By gathering feedback from current teachers, we may be able to capture emerging needs and prevent deficits in knowledge for preservice teachers upon entering the classroom (Franklin & Molina, 2012). The purpose of this study was to gather input from current agricultural educators regarding the content areas they felt were important for new agricultural educators to possess upon graduation from a B.S. program in Agricultural Education.

Theoretical Framework

The foundation of this study was a portion of Mishra and Koelher's (2006) concept of Pedagogical Content Knowledge (PCK). The concepts surrounding PCK are involved in the manner with which teachers learn content in a way which will combine their knowledge of instructing students with their knowledge of the content to be taught. In this study, we utilized the content knowledge of existing teachers and asked them to identify those portions of content which were most important for them upon entering the classroom.

Methods

This study was conducted using an online descriptive survey. The study population was a census of all agricultural educators in Idaho *(N* = 149). The survey instrument included one demographic section, seven sections related to the importance of technical agricultural content items, and a section on importance of topics related to FFA and Supervised Agricultural Experiences (SAE). The demographic section allowed teachers to report age, gender, number of years teaching, and content areas they taught in their current appointment. Content areas were divided based on the pathways listed by the Idaho Division of Career and Technical Education. A total of $n = 67$ content topics in technical agriculture areas and $n = 7$ additional topics related to FFA and SAE knowledge were examined. Respondents rated each content item on a scale from 1 (not at all important) to 4 (extremely important). Each content section also included an open-ended response question for teachers to indicate any additional topics they felt were important.

At the end of the survey window, n = 88 respondents had completed the instrument for a 59.0% response rate. We sought to control for non-response error by contacting agricultural educators. We identified ten non-responders and asked their reasons for failing to respond (Rogelburg & Stanton, 2007). All non-responders contacted indicated a passive nonresponse intention. Rogelburg and Stanton note that "bias is not created by passive nonrespondents" (p. 200). Caution should still be taken when generalizing these results outside of survey respondents.

Findings

The mean importance scores for the highest rated item in each content area for all respondents, and for those who instructed in the content area are reported in Table 1.

Table 1.
Highest rated importance items by content area

	All Respondents				Content Instructors Only			
Content Area and Items	Min	Max	*M*	*sd*	Min	Max	*M*	*sd*
Agricultural Business								
Business Management	1	4	3.32	0.73	3	4	3.67	0.48
Agricultural Systems & Technology								
Safety principles & practices	3	4	3.85	0.36	3	4	3.86	0.35
Animal Science								
Livestock health & management	2	4	3.49	0.58	3	4	3.52*	0.50
ENR								
Sustainable agriculture practices	2	4	3.30	0.65	2	4	3.32	0.65
Leadership & Communications								
Public speaking	2	4	3.51	0.61	2	4	3.32	0.65
Plant Science								
Plant growth and development	2	4	3.45	0.61	2	4	3.48	0.58
Horticulture								
Greenhouse scheduling plans	1	4	3.44	0.73	2	4	3.52	0.68

Note. 1 = not at all important, 2 = slightly important, 3 = moderately important, and 4 = very important. * denotes topics with different order between all respondents and content instructors only

Discussion/Conclusions/Implications

Teacher education programs must be in a process of continual evolution to effectively meet the needs of modern agricultural education. What are the essential knowledge and skills for agriculture teachers and what is the best way to meet them? "New instructional programs must have qualified teachers. On the other hand, we must know the new programs and the knowledge and competencies needed to teach before developing teacher education programs" (Hill, 1962, pp. 4). Attending to this challenge will require continual reflection and reinvigoration of our programs, gathering information from inservice teachers is the beginning of that appraisal.

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