Perceived Knowledge and Importance of Agricultural Education Record Keeping

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Introduction

Agricultural education was founded on the concept of learning opportunities that supplement life skills and workplace knowledge through practical applications and experiences (Daily et al., 2001). As agricultural education has expanded to encompass a wider variety of students, so has its effective instructional techniques. The current agricultural education model is comprised of three interconnected instructional components: classroom instruction, FFA, and Supervised Agricultural Experiences (SAEs) (Croom, 2008). Each student involved in a school-based agricultural education (SBAE) program is required to have an SAE wherein he/she works within different categories to reach specific learning opportunities. Even though teachers understand the value of an SAE, the implementation of this conceptual model still varies between schools and programs (Retallick, 2010). While educators may have their own reasoning for encouraging or requiring students to complete records associated with an SAE, there is still a question of how educators and students utilize record keeping programs within the classroom. Understanding what agricultural educators know about effectively utilizing record keeping programs can serve as a means to educationally unify a state and allow educators to feel confident in the record keeping processes within their classrooms to further support students' agricultural experiences.

Theoretical/Conceptual Framework

Rogers' (2003) diffusion of innovations theory is the "process by which an innovation is communicated through certain channels over time among the members of a social system" (Rogers, 1995, p. 5). The diffusion of innovations theory offers insight into the acceptance of an idea or subject through five different stages: knowledge, persuasion, decision, implementation, and confirmation (Rogers, 2003). The diffusion of innovations theory was used in this study to help navigate a specific record keeping program's acceptance and utilization in agricultural education classrooms. Each of the diffusion attributes serve to predict how an individual or group will perceive an innovation and whether or not they will adopt it (Hubbard & Sandmann, 2007). In addition to the aforementioned theoretical framework, the Borich Needs Assessment (1980) was used as a conceptual means for data collection. The needs assessment model allows individuals to self-evaluate their own performances of a given system and to accurately gauge their perceptions of that system (Borich, 1980). This model was employed to determine the perceived level of importance and competence of secondary agricultural educators associated with using a specific record keeping program to keep accurate student SAE records.

Methodology

The purpose of this study was to establish an opportunity for secondary agricultural educators to address their in-service needs related to selected SAE components. The following research objectives guided this study: (1) Describe perceived importance to use selected SAE components to track students' agricultural experiences; (2) Describe perceived competency to use selected SAE components to track students' agricultural experiences; and (3) Determine the discrepancy among perceived importance and competency to use selected SAE components to track students' agricultural experiences. The selected population was all Montana secondary agricultural educators who were still teaching at the time of the study (N = 105). Data collection procedures were based upon the recommendations of Dillman, Smyth and Christian (2009) and

yielded a response rate of 44.7% (n = 47). Non-response error was addressed by comparing respondents' and non-respondents' personal and demographic data to population data (Miller & Smith, 1983) and yielded no significance differences. A researcher designed, Likert-type online survey was used to measure knowledge and importance of 18 pre-selected SAE components. To establish face validity, the instrument was sent to a panel of experts (Dillman et al., 2009). Content validity was measured through observing the discrepancy levels between the surveyed results and the observed information (Gliner, 1994; Leedy & Omrod, 2016), collected directly from the Agricultural Experience Tracker (AET) record keeping program. To assess potential discrepancies, data was analyzed using McKim & Saucier's (2011) Excel-based platform.

Results/ Findings

The first research objective was to describe participants' perceived importance to use selected SAE components to track students' agricultural experiences. Two of the top five AET components participants identified as very important were categorized as project types, entrepreneurship/ownership (n = 30; 63.8%; M = 4.51) and paid placement (n = 29; 61.7%; M = 4.47). The second objective was to describe participants' perceived competence to use selected SAE components. Participants reported having no competency to teach or were only somewhat competent in teaching three components within the project records category: non-SAE labor exchange (n = 24; 51.0%; M = 2.7), non-cash transfer (n = 23; 48.8%; M = 2.72), and transfer to a capital item (n = 23; 48.8%; M = 2.77). The third objective was to determine the discrepancy among participants' perceived importance and competency to use selected SAE components to track students' agricultural experiences. A MWDS was calculated for each of the 18 areas. All housed in the project records category, the four highest AET component MWDS were identified as transfer to a capital item (MWDS = 4.36), non-cash transfer (MWDS = 4.35), SAE labor exchange (MWDS = 4.14), and non-cash transactions (MWDS = 4.08).

Conclusion/Implications/Recommendations

The purpose of this study was to explore agricultural educators' in-service needs related to selected SAE components. Four of the top five AET components participants identified as very important were found within the project type and project record categories. More exploration should delve into whether these project types are perceived as more important because they are the most commonly found within the state or if they are projects educators find most beneficial in supplementing the experiential learning process. Objective two results indicated the highest perceived competencies were also at the individual focus level of engagement. The final objective was to identify discrepancies between perceived levels of importance and competency, which could have come from respondents' viewpoints of the current record keeping program and previously used systems (Hubbard & Sandmann, 2007). Current educators have and will continue to go through a decision-making process to determine the relative advantages and disadvantages of implementing record keeping programs (Rogers, 2003). It is recommended additional research explore correlations between program characteristics and the SAE areas being taught. These correlations could be related to the innovation-decision process of each level of educator. If that is the case, professional development opportunities could be offered to encourage each level of educator to become more confident in the SAE and record keeping program areas of most relevance to supplement the learning conducted through agricultural experiences.

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