

**Comparing the Classroom Needs of School-Based Agricultural Education Teachers in
Minnesota by Years of Teaching Experience**

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Introduction and Need for Research

A desire to retain competent School-Based Agricultural Education (SBAE) teachers is vital to agricultural success and growth. Psychological needs of Minnesota SBAE instructors' turnover intention is impacted by autonomy, competence, and relatedness (independently and collectively) (Rada, 2023), especially competence perception (Palmer, 2020; Rada, 2023). The relationship between SBAE teacher perceived competence and professional commitment highlights the necessity to study classroom teacher competence as an effort to address teacher retention.

Theoretical Framework

Self-determination theory (Deci & Ryan, 1985, 2000) examines how motivation and personality approach competence, autonomy, and relatedness and how perceptions of psychological needs satisfaction motivate people (Deci & Ryan, 2000). Specifically, competence is mastery and the belief that one can succeed and grow (Ryan & Deci, 2020). Perceived competence affects teachers' psychological needs at work (Palmer, 2020). Teachers' perceived competence satisfaction and years of service are statistically related (Collie et al., 2016; Hobson & Maxwell, 2017; Palmer, 2020) and validated with Minnesota SBAE teachers (Rada, 2023).

Needs assessments have identified SBAE teachers' abilities and deficiencies, considering the competencies desired to manage discipline-specific expectations (Clemons et al., 2018; Coleman et al., 2020; Smalley et al., 2019; Smalley & Smith, 2017; Sorensen & McKim, 2014), but these perceptions had not been assessed in Minnesota considering teachers' years of experience. SBAE research includes discipline-specific teacher expectations (McKim et al., 2017; Roberts & Dyer, 2004). SBAE teachers with stronger discipline-specific teacher competency indicated higher teaching commitment (McKim et al., 2017; Rada, 2023). A needs assessment of the Minnesota's SBAE teachers' perceived competence was needed.

Methodology

The purpose of this study was to evaluate the perception of Minnesota SBAE teachers in the areas of program design and management, teaching, and classroom management. The following research objectives served as a guide for this needs assessment study:

1. Determine the perceptions of competence of Minnesota SBAE teachers with fewer than five years of teaching experience compared to those with five or more years of experience related to program design and management, teaching, and classroom management.
2. Assess Minnesota SBAE teachers' professional development needs with fewer than five years of teaching experience compared to those with five or more years of experience related to program design and management, teaching, and classroom management.

Researchers evaluated active SBAE teachers' professional development needs in Minnesota using a modified Borich requirements Assessment Model. The model quantifies the gap between "behaviors, skills, and competencies" and what should be to determine training goals (Borich, 1980, p. 39). An instrument created and validated by Smalley et al. (2019) examined Minnesota SBAE teachers' perceptions. Each needs assessment item had two Likert scales. One measure examined teachers' perceived importance associated with topics (1 = No Importance, 2 = Below Average, 3 = Average, 4 = Above Average, 5 = Essential). The other scale evaluated their perceived ability to perform the skill within their classroom (1 = No Ability, 2 = Below Average, 3 = Average, 4 = Above Average, 5 = Exceptional).

Results and Findings

According to McKim et al. (2017) and Rada (2023), SBAE teachers who perceive higher competence within the discipline-specific teacher competence areas also reported a higher perceived commitment to teaching. When professional development needs related to program design and management, teaching, and classroom management were compared for those SBAE teachers with fewer than five years to those with five years or more of teaching experience, the need for professional development was typically higher for teachers with fewer years of experience. Overall when combining all the competencies, the top five identified needs for professional development for teachers with fewer years of experience were: (a) managing student behaviors ($MWDS = 4.82$); (b) organizing a local alumni/agricultural booster program ($MWDS = 4.70$); (c) repairing and maintaining laboratory equipment ($MWDS = 4.55$); (d) proper implementation of IEPs for students with disabilities ($MWDS = 4.35$); and (e) utilizing an advisory committee to promote the local agricultural education program ($MWDS = 4.07$). The top five identified needs for professional development for teachers with five or more years of experience were: (a) managing student behaviors ($MWDS = 4.53$); (b) motivating students to learn ($MWDS = 3.50$); (c) repairing and maintaining laboratory equipment ($MWDS = 3.18$); (d) proper implementation of IEPs for students with disabilities ($MWDS = 3.18$); and (e) organizing a local alumni/agricultural booster program ($MWDS = 3.52$). Many of the same professional development needs were identified regardless of years of teaching experience.

Conclusions and Recommendations

Teachers perceived ability related to program design and management, teaching, and classroom management were related to perceived competence within the SDT (Deci & Ryan, 2000). Teachers emphasized controlling student behavior, engaging students in the classroom, teaching problem-solving and decision-making skills, and implementing IEPs for students with disabilities. Overall, the need for professional development was higher for each topic for teachers with fewer years of experience. However, there was little variation in professional development topics needed when comparing the identified needs of each group by experience.

As professional development is offered within the state, coordinators within the state department of education, state FFA association, and agricultural teachers' association need to make sure they take into consideration the needs of the teachers. Being able to differentiate professional development sessions for early career and experienced teachers will allow teachers to select the type of workshop which may fit their needs. The specific subcomponents of each topic were not explored in this needs assessment. Professional development is a continuous process and by being able to learn the knowledge and skills over time, it will allow SBAE teachers to be successful in their roles and responsibilities. By being able to provide all teachers with the necessary professional development to assist in reducing challenges for teachers and assist in retaining high quality educators. Future research needs to focus on breaking down the needs of teachers even further by their teacher life cycle stage and pathway to licensure. In addition, future research needs to occur on the implementation and impact of professional development topics within the teacher's program.

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