

# Professional Development Needs of Beginning Agricultural Education Teachers in Idaho

Allison J. L. Touchstone<sup>1</sup>

## Abstract

*The continuing shortage of agricultural education instructors has been documented across the state and nation. Secondary instructor retention may help reduce the shortage and position changes each year. Identifying the challenges facing beginning teachers as perceived by beginning teachers, veteran teachers, and building administrators can help identify the professional development and mentoring needs to assist in teacher retention. Establishing consensus among the target groups through this Delphi study will allow Idaho Team Ag Ed to be specific and purposeful in long term professional development planning. Through this study, 21 professional development areas were agreed upon in three areas: Teacher Skills and Knowledge (8); Personal Skills and Professional Development (6); and Program Area Concerns (7). Volume of work was the area of highest concern (n = 92, 90.11%) followed by classroom management skills and teaching experience (n = 81, 89.01%) and 79 of the 91 respondents (86.81%) agreed that finding alternative funding sources was an area of concern followed closely by overall program funding (n = 79 of 90 responses, 87.78%). The consensus supported previous research across the country and will provide a guide for targeted professional development, mentorship, and long-term retention for beginning teachers (0-5 years' experience) in Idaho.*

KEYWORDS: Professional Development, Beginning Teachers, Agricultural Education

A continuing shortage of agricultural education instructors has been evident across the nation, and specifically within the state of Idaho. In the past 2 years, there has been a 36% change in secondary agricultural education instructor positions within the state ("2014 Initiative for Secondary Agricultural Education Improvement," 2014). Some of these positions have opened due to individuals changing teaching positions within the state, other positions have been filled by new hires of university trained teachers from both Idaho and surrounding states, while still others have been filled by alternatively (industry) certified personnel.

Professional development was defined as learning activities and experiences in which educators participate in order to increase classroom performance (Rhodes, Stokes, & Hampton, 2004). Beginning teachers were in need of professional development to prepare for and retain their teaching positions (Ruhland & Bremer, 2002). Specifically, induction teachers needed training in classroom management (Garton & Chung, 1996; Miller & Scheid, 1984; Mundt, 1991; Mundt & Connors, 1999; Myers, Dyer, & Washburn, 2005), curriculum development (Joerger, 2002; Miller & Scheid, 1984; Myers et al., 2005; Rayfield, McKim, Lawrence, & Stair, 2014), time management (Connors, 2013; Myers et al., 2005; Rayfield et al., 2014), SAE program support (Garton & Chung, 1996; Miller & Scheid, 1984), FFA Chapter advising (Garton & Chung, 1996; Mundt, 1991; Myers et al., 2005), resource management (Joerger & Boettcher, 2000; Miller & Scheid, 1984; Myers et al., 2005; Walker, Garton, & Kitchel, 2004), and student recruitment (Myers et al., 2005). Additionally, professional development was needed to address classroom transition, induction, and mentorship (Joerger, 2002; L. L. Moore & Swan, 2008; Nesbitt & Mundt, 1993).

---

<sup>1</sup> Allison J. L. Touchstone is a science and agriculture teacher at Kuna High School, 637 E. Deer Flat Rd., Kuna, Idaho, 83634.

Although first year teachers were generally satisfied with their positions (Walker et al., 2004), Joerger (2002) found that managing student behavior, determining curriculum content, and motivating students to learn were the three highest priorities identified by beginning agricultural education instructors. Additionally, beginning teachers only felt somewhat competent in program and classroom management areas (Joerger, 2002). Similarly, induction teachers felt overwhelmed with a variety of situations and problems they did not expect (Rayfield et al., 2014). Classroom management, curriculum development, and working with special populations were identified as the highest in-service priorities across all career and technical education program areas (Ruhland & Bremer, 2002).

In the past, school administrators perceived the greatest professional development need of CTE teachers was motivating students to learn, followed by teaching students to think critically and creatively, and integration of reading and writing standards into the CTE curriculum (Cannon, Kitchel, Tenuto, & Joki, 2012). Due to their supervisory responsibilities, school administrators should be included in decisions regarding the enhancement of professional practice and development (Danielson, 2007). Similarly, the level of support and understanding provided by the administration and school organization was also a key factor in job satisfaction and stress levels of beginning teachers in Minnesota (Joerger & Boettcher, 2000), and dissatisfaction with administrative support was one of the reasons secondary agricultural education instructors left the profession (Walker et al., 2004).

According to Fessler (1992), the goal of in-service and professional development training for induction teachers should be to provide them with the resources needed to move from the induction to competency building to enthusiastic and growing stages of the teacher career cycle ladder. The length of time in the induction phase can vary from 3 years (Huberman, 1989) to five years (Nesbitt & Mundt, 1993; Touchstone, 2014), though the career cycle stages in which teachers fall can be somewhat fluid (Fessler, 1992). Career frustration may be a recurring cycle stage throughout a teacher's career, as may career stability, depending on the organizational, personal, and hygiene factors which influence the individual instructor (Fessler, 1992; Huberman, 1989). Research has shown that as hygiene factors in a career were addressed, teachers as professionals move from low and mediocre performance to high performance as the teacher can focus on job related motivational factors (Christensen & Fessler, 1992).

This study sought to specifically identify the challenges faced by Idaho beginning agricultural education instructors to provide the professional development and mentoring support needed to retain teachers in the secondary classroom. Assessment of the needs of beginning teachers should be conducted on a regular basis (Joerger, 2002) and information should be used to design professional development (Joerger, 2002; Mundt & Connors, 1999; Myers et al., 2005). The most recent assessment of beginning teacher induction programs within Idaho was conducted in the late 1990s (Mundt & Connors, 1999) and so the need for new information was critical for effective teacher preparation and retention programs, including professional development and mentorship.

Identifying the professional development needs of beginning teachers as perceived by beginning teachers, veteran teachers and building administrators provided direction to professional development activities offered at the district, state, and national levels and aligned directly with both the national Career and Technical Education research agenda (Lambeth, Eliot, & Joerger, 2008) and the AAAE National Research Agenda (Doerfert, 2011) Priority Area 4 – Meaningful, Engaged Learning in All Environments and priority area 5 – Efficient and Effective Agricultural Education Programs.

### **Theoretical Framework**

The theoretical framework for this study was couched in the Herzberg's Motivational-Hygiene Theory (Herzberg, Mausner, & Snyderman, 1959). Herzberg's hygiene factors address the work and organizational environment and include the organization and its policies, supervision, work conditions, interpersonal relationships, salary, status, and job security. The motivators on the job included achievement, recognition, growth and advancement, as well as the individual's interest in their job. First year teachers experienced high levels of stress in the first 7 to 8 weeks of classroom instruction (Joerger & Boettcher, 2000), primarily as they adjusted to hygiene factors in their positions. These high stress levels continue throughout the first five to six years of teaching, when 50% of agricultural education teachers leave the classroom setting (Clark, Kelsey, & Brown, 2014). Beginning teachers should be adequately prepared for teaching, but if they are not well equipped to deal with hygiene or motivational factors, these challenges could facilitate a negative experience in the classroom and thereby encourage attrition from the profession.

### **Purpose and Objective**

The purpose of this study was to establish consensus regarding the challenges faced by beginning agricultural education instructors in Idaho as perceived by beginning teachers, veteran teachers, and building administrators. The three groups were purposefully included to develop a complete picture of beginning teacher challenges in agricultural education. Beginning teachers provided a personal perspective, indicating their current challenges in transitioning into the profession. Veteran teachers were included to provide an experienced, external view of the challenges faced by beginning teachers as well as factoring in the challenges they, themselves faced as induction teachers. Administrators were consistently responsible for classroom and professional evaluations of beginning teachers. Administrators also approve professional development and induction participation for teachers. By including their input in identifying professional development needs, administrators could be more supportive of these professional development activities.

The objective of the study was to identify challenges faced by beginning agricultural education instructors in order to lay groundwork for long term professional development plans within the state.

### **Methods and Procedures**

The Delphi technique was designed as a group communication process which "aims to achieve convergence of opinion on a specific real-world issue" (Hsu & Sandford, 2007) and can be used to seek out information which may "generate a consensus on the part of the respondent group" (Delbecq, Van de Ven, & Gustafson, 1975). The Delphi technique was designed for developing consensus among a panel of experts based on the scope of the problem and available resources (Hasson, Keeney, & McKenna, 2000). Panel sizes from 10 to 1685 have been used (Hussler, Muller, & Ronde, 2011; Reid, 1988) in Delphi studies based on the resources available and no agreement exists on the ideal panel size (Williams & Webb, 1994). However, using a diverse panel addressed bias of respondents (Hussler et al., 2011) regardless of panel size. A modified Delphi process was used in the study as described by Hsu & Sandford (2007) to gain consensus on the challenges facing beginning agricultural education instructors. The three groups involved in the panel were:

1. Beginning agricultural education instructors (0-5 years of experience),
2. Veteran agricultural education instructors (6+ years of experience), and
3. Building administrators.

Each of these panel groups were considered to be experts on the topic of beginning teacher professional development needs (Powell, 2003). Beginning instructors would be able to identify their personal challenges in the profession. Veteran teachers could identify with their challenges as new teachers as well as the challenges they could see beginning teachers struggling with as they transition into the classroom. Finally, building administrators may have had a different perception of teaching and learning needs of beginning teachers. Developing consensus provided a common ground for professional development of beginning agricultural education instructors as well as support from building administrators for teacher induction.

The reliability of a Delphi study has been identified as greater than .80 when the group size is larger than 13 (Dalkey, 1969; Dalkey & Rourke, 1972). However, with qualitative research, reliability can be nebulous. Instead, trustworthiness and authenticity should be identified in a qualitative study (Guba & Lincoln, 1994) by considering credibility, transferability, dependability, and confirmability. Credibility is comparable to validity in quantitative research (Guba & Lincoln, 1994). A total of 181 individuals were invited to participate in this study: 88 veteran teachers; 36 beginning teachers; and 57 building administrators. The response rate of 51% (n = 92) overall and 88% (92 out of 104) in the final round indicate high credibility throughout the study. Transferability was defined as the degree to which the qualitative results can be generalized to other contexts and was addressed by explaining the process in this study so that it could be replicated in another context or setting. Dependability and confirmability in qualitative research are comparable with reliability in quantitative research. Dependability is defined as the detailing of the study for potential future. The final indicator is confirmability, which refers to degree to which the results can be confirmed or corroborated by others (Guba & Lincoln, 1994; Kumar, 2011). The results from this study were comparable to others from across the state and nation and could be replicated to continue to confirm the results.

The basic Delphi process (Hsu & Sandford, 2007) was modified to be conducted in an online environment, consistent with mailed questionnaires used for comparable Delphi studies (C. M. Moore, 1987). Additionally, the population was well within the recognized panel sizes for a Delphi study (Hussler et al., 2011; Reid, 1988), therefore the expert list was confirmed to include all three groups of respondents. Round 1 was sent to the panelists via Survey Monkey with a single, open-ended question to serve as the "cornerstone" to gather panelist responses:

1. What are the greatest challenges facing beginning (0 - 5 years' experience) agricultural education teachers in Idaho?

Panelists were given a text box in which to respond with no additional, guiding information.

In Round 1 of the modified Delphi process, 124 secondary agricultural education instructors (87 veteran teachers and 17 beginning teachers) and 57 building principals were invited to serve on the expert panels of this study. Contact information for the teachers was secured from the Idaho Vocational Agriculture Teachers' Association ("Agricultural Education Directory," 2014) and from the Idaho Department of Education for the building level administrators with active agricultural education programs ("Mailing List and Educational Directory," 2014) in the fall of 2013. The overall response rate in Round 1 was 60% (n = 106) with 69% of beginning teachers (n = 25), 59% of veteran teachers (n = 52), and 51% of building administrators (n = 29) responding.

The researcher synthesized the responses from Round 1 into three categories:

1. Teacher Skills and Knowledge – 16 items
2. Personal Skills – 15 items
3. Program Concerns – 19 items

The categorizations were then reviewed by one teacher educator in Agricultural Education and one faculty member in Adult, Organizational Leadership and Learning to assure validity.

The total panel was invited to participate in Round 2 and asked to review and rate each item to establish preliminary priorities (Hsu & Sandford, 2007). Respondents were asked to rate their agreement on a 5 point Likert-type scale (1 = Strongly Disagree; 2 = Disagree; 3 = Uncertain; 4 = Agree; 5 = Strongly Agree) with each of the items identified as a challenge for beginning Idaho

agricultural education instructors (0-5 years of experience). A 2/3 agreement rate (66%,  $X = 3.33$ ) with the statements was identified *a priori* for items to advance to the final round (Myers et al., 2005). Response rate in Round 2 was 60% ( $n = 104$ ) of the 172 invitees as 9 opted out of the survey in Round 1. Specifically, 56% ( $n = 19$ ) of beginning teacher, 62% ( $n = 53$ ) of veteran teachers, and 60% ( $n = 32$ ) of building administrators panelists responded in the second round.

Round 3 of the survey was sent the 104 panel members who participated in Round 2 (Hsu & Sandford, 2007) and included approximately half of the Round 2 items, those that had a 2/3 or higher agreement rate (66%) as established *a priori*:

1. Teacher Skills and Knowledge – 8 items
2. Personal Skills – 6 items
3. Program Concerns – 7 items

In Round 3, 88% ( $n = 92$ ) responded: 18 beginning teachers (95%), 49 veteran teachers (92%), and 25 building administrators (78%). In a Delphi study, consensus was generally reached by the third round (Hsu & Sandford, 2007).

### Results and Findings

The findings may be limited to the respondents of this study because of the narrow focus of the research question. The overall response rate in Round 1 was 60%. In Round 1, the highest response rate was from beginning teachers ( $n = 25$ ; 69%), followed by veteran agriculture teachers ( $n = 52$ ; 59%), and finally building administrators (51%;  $n=29$ ). The entire panel, with the exception of those who opted out of the study, was invited to participate in Round 2. In this round, the highest percentage of veteran teachers responded (62%;  $n = 53$ ), followed by building administrators (60%;  $n = 32$ ) and finally beginning teachers (56%;  $n = 19$ ) for a total response rate of all participants of 60% ( $n = 104$ ). For the final round, only those that had responded in Round 2 were invited to participate and response rates were higher in all respondent categories. In Round 3, beginning teachers had the highest response rate (95%;  $n = 18$ ), followed by veteran teachers (92%;  $n = 49$ ), and finally building administrators (78%;  $n = 25$ ) with an overall response rate of 88% ( $n = 92$ ) (Table 1).

Table 1

Response Rates by Respondent Type and Survey Round

Respondent Type	Round 1			Round 2			Round 3			Overall		
	Invit	Resp	%	Invit	Resp	%	Invit	Resp	%	Invit	Resp	%
Building Admin	57	29	51	53	32	60	32	25	78	57	25	44
Teacher (0-5 yrs.)	36	25	69	34	19	56	19	18	95	36	18	50
Teacher (6 + yrs.)	88	52	59	85	53	62	53	49	92	88	49	56
Total	181	106	60	172	104	60	104	92	88	181	92	51

Respondents were asked to provide demographic information in each round of the study to maintain anonymity among rounds. Round 1 Respondents were 75.2% male and 24.8% female which is consistent with the agricultural education instructor population within the state (*CTE annual report, 2013*) (Table 2).

Table 2

Round 1 Respondents by Gender

Gender	Building Administrator	Teacher (0-5 yrs.)	Teacher (6 + years)	Percent (%)	Count (n)
Male	24	13	42	75.2	79
Female	5	12	9	24.8	26
Total	29	25	51*	100.0	105

\*One veteran teacher did not provide this information.

By the final round, respondents were panel members who had participated in all three rounds of the study. The gender demographics were virtually identical to the first round (75% male and 25% female, Table 3) and were still similar to the state distribution of agricultural education instructors ("Agriculture and natural resources program area history," 2014). No information was readily available regarding the gender distribution of the building administrator population targeted by this study.

Table 3

Round 3 Respondents by Gender

Gender	Building Administrator	Teacher (0-5 yrs.)	Teacher (6 + years)	Percent (%)	Count (n)
Male	20	8	40	74.7	68
Female	4	10	9	25.3	23
Total	24*	18	49	100.0	91

\*One building administrator did not provide this information.

Participants were also asked to identify their type of certification: university trained and certified or industry/alternatively certified with a limited or standard occupational specialist. In Round 1 (Table 4) as well as Round 3 (Table 5) all of the industry or alternatively certified respondents had 5 years or less of experience in the profession.

Table 4

Round 1 Respondents by Certification Type

Certification	Building Administrator	Teacher (0-5 yrs.)	Teacher (6 + years)	Percent (%)	Count (n)
University	29	17	52	92.5	98
Industry	0	8	0	7.5	8
Total	19	25	52	100.0	106

The certification type responses were consistent with the overall industry certification retention rates within the state. Industry certified teachers have not remained in the profession long enough to be classified as veteran teachers ("Agriculture and natural resources program area history," 2014). The veteran teachers (n = 49) and building administrators (n = 25) were 100% university certified as were 17 (68%) of the beginning teacher respondents. These distributions were also consistent with the state certification requirements for building administrators and the distribution of university certified agricultural education teachers in Idaho ("Agricultural Education Directory," 2014; "Mailing List and Educational Directory," 2014).

Table 5

Round 3 Respondents by Certification Type

Certification	Building Administrator	Teacher (0-5 yrs.)	Teacher (6 + years)	Percent (%)	Count (n)
University	25	15	49	96.7	89
Industry	0	3	0	3.3	3
Total	25	18	49	100.0	92

The majority of respondents for the final round (58.7%) were from single teacher programs, 23.9% were from two teacher programs, 9.8% from three teacher programs and 7.6% from secondary programs with 4 or more teachers (Table 6).

Table 6

Size of Respondent's Local Programs

	Number of Teachers in the Local Program	Responses	
		n	%
One		54	58.7
Two		22	23.9
Three		9	9.8
Four or more		7	7.6
Total		92	100.0

Most of the respondents indicated their highest level of education as a Bachelor's Degree (46.7%) followed by a Master's Degree (45.7%). None of the respondents listed a high school diploma, Associate's Degree, or Ph.D./Ed.D. as their highest level of education (Table 7).

Table 7

*Highest Degree Earned by Respondents*

Highest Degree Earned	Responses	
	<i>n</i>	%
Baccalaureate Degree	43	46.7
Master's Degree	42	45.7
Educational Specialist	7	7.6
HS/AA/PhD/EdD	0	0.0
Total	92	100.0

In Round 1, the respondents were asked one question: "What are the greatest challenges facing beginning secondary agricultural education instructors?" Of the 181 individuals invited to participate in the study, 106 (60%) responded and identified 50 different challenges in three different categories:

1. Teacher Skills and Knowledge – 16 items
2. Personal Skills – 15 items
3. Program Concerns – 19 items

The responses were categorized into major themes to make the subsequent rounds of the study simpler for the respondents to understand. In Round 2, 104 panel members responded out of the 172 invited (60%). The respondents rated each of the items from Round 1 on a Likert-type scale of 1 (Strongly Disagree) to 5 (Strongly Agree). In the Teacher Skills and Knowledge category, 7 out of 16 received a 2/3 (66%) agreement (Agree + Strongly Agree) to advance on to the third round. The items of highest concern were the amount of classroom experience (86%) held by new teachers followed closely by the classroom management skills of beginning teachers (83%) and the volume of work expected from beginning teachers (79%). In the Personal Skills and Concerns category, 6 out of 15 items rated a 2/3 agreement (66%). Low pay was the highest personal concern overall (82%) with three items following at a 78% agreement: life/work balance, alternative funding sources, and the paperwork expected to be completed by beginning teachers. When considering the Program Concerns category, 7 out of 19 received the required 2/3 (66%). Program funding was the highest concern (79%) followed by the program planning skills of beginning teachers (76%) and understanding administrators have of the local agricultural education program (75%).

Items from all three categories with a 2/3 (66.6%) agreement rate were passed on to Round 3 to reach consensus. Panel members were asked to indicate if they agreed or disagreed with each of the final 21 statements. Again, a 2/3 (66.6%) agreement rate was set *a priori* to establish consensus (Myers et al., 2005). All 21 of the final items exceeded the consensus level. When considering Teacher Skills and Knowledge (Table 8), Volume of Work was the item of highest concern ( $n = 82$ , 90.11%) followed closely by Classroom Management Skills and Classroom Teaching Experience ( $n = 81$ , 89.01%).

Table 8

*Consensus of Teachers Skills and Knowledge Round 3*

Teacher Skills and Knowledge	Agree		Disagree		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Balancing Volume of Work	82	90.11	9	9.89	91	98.9
Classroom Management Skills	81	89.01	10	10.99	91	98.9
Classroom Teaching Experience	81	89.01	10	10.99	91	98.9
Time Management	75	82.42	16	17.58	91	98.9
Communication with Students, Parents, and Colleagues	71	78.02	20	21.98	91	98.9
Teaching Strategies	70	77.78	20	22.22	90	97.8
Working with At Risk/IEP Students	69	75.82	22	24.18	91	98.9
Curriculum Development	67	73.63	24	26.37	91	98.9

Identifying alternative funding sources was the item of highest concern ( $n = 79$ , 86.81%) in the personal and professional development category. Completing and comprehending the volume of paperwork required of beginning teachers ( $n = 78$ , 85.71%), establishing and maintaining budgets ( $n = 77$ , 84.44%), funding the FFA chapter ( $n = 76$ , 84.44%) and dealing with low pay ( $n = 76$ , 83.52%) were rated closely behind as outlined in Table 9.

Table 9

*Consensus of Personal Skills and Professional Development*

Personal and Professional Development	Agree		Disagree		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Identifying Alternative Funding Sources	79	86.81	12	13.19	91	98.9
Completing and Comprehending Paperwork	78	85.71	13	14.29	91	98.9
Establishing and Maintaining Budgets	77	84.62	14	15.38	91	98.9
Funding FFA Chapter	76	84.44	14	15.56	90	97.8
Dealing with Low Pay	76	83.52	15	16.48	91	98.9
Balancing Life and Work	70	77.78	20	22.22	90	97.8

The final category was overall concerns with the secondary agricultural education program. Funding was the highest concern with 87.78% of the respondents ( $n = 79$ ) agreeing that was a challenge for beginning teachers followed by long term program planning and prioritization (84.44%;  $n = 76$ ), and two topics tied for third ( $n = 70$ , 77.78%): how well local secondary

administration understands the agricultural education program and recruiting students into the secondary program (Table 10).

Table 10

*Consensus of Program Area Concerns*

Program Area	Agree		Disagree		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Program Funding	79	87.78	11	12.22	90	97.8
Program Planning and Prioritization	76	84.44	14	15.56	90	97.8
Administrative Understanding of Program	70	77.78	20	22.22	90	97.8
Recruiting Students	70	77.78	20	22.22	90	97.8
Common Core Integration	67	74.44	23	25.56	90	97.8
PTE Documents and 10 Forms	65	72.22	25	27.78	90	97.8
Resources	65	73.86	23	26.14	88	95.7

### Conclusions, Recommendations and Implications

By establishing consensus upon challenges facing beginning agricultural education instructors, Team Ag Ed can work toward developing appropriate professional development and mentoring activities to assist in preparing new teachers for successful transition into the classroom. Teacher education programs can also address specific areas of concern in pre-service courses and activities to minimize professional development needed once beginning teachers start in the local secondary program. Additionally, identifying program needs and developing marketing materials for distribution to school, district, community, and administrative stakeholders of the local program could assist beginning and veteran teachers to increase administrators' knowledge of the total agricultural education program. Although specifically focused on beginning teachers in Idaho, these findings could aid other states in identifying current professional development needs of teachers beginning their careers in the agricultural education classroom. As resources, training, and technologies change, updated and current professional development needs should be assessed (Joerger, 2002).

Veteran teachers (6+ years' experience) on the panel responded at the highest overall rate (56%;  $n = 49$ ) while beginning teachers on the panel (0-5 years' experience) demonstrated the lowest overall response rate (44%;  $n = 18$ ), similar to previous beginning teacher studies: Joerger (2002) – 50%; Miller & Scheid (1984) – 44%. However, data collection in studies specifically tied with a class indicated a higher response rate (89%) (Stair, Warner, & Moore, 2012). Time constraints on the part of the panelists may have played into overall response rates, and veteran teachers may have seen the value of responding to the study more than other panelists. The third round showed the highest response rate, potentially indicating the panelists responding were the most interested in the study, its value to the profession, and had the available time to respond to the study requests. No significant differences in teacher skills and knowledge, personal skills, and program concerns were identified among the groups by either gender, school role, or certification type.

All of the veteran teachers ( $n = 49$ ) and building administrators ( $n = 25$ ), along with 68% ( $n = 17$ ) of the responding beginning teachers on the panel were university certified. All eight of the industry certified panelists were beginning teachers with 5 years or less of experience, and their responses indicated a higher need for FFA and SAE training as well as classroom management and curriculum development than university certified teachers. Industry (alternatively) certified teachers within Idaho have been increasing in numbers in recent years, with only 20% of new teachers being industry teachers in 2008-2009 and 43% in 2013-2014 ("Agricultural Education Directory," 2014). As this trend potentially continues to increase, professional development needs may change to reflect the changing demographic of secondary teachers. Since the majority of panelists responding ( $n = 54$ , 58.7%) were involved with single teacher programs, the challenges facing new teachers, coupled with the increase in industry certified teachers, the professional development and mentoring needs and challenges facing these new teachers may drastically change. The self-efficacy of beginning teachers was not assessed in this study and the differentiation between certification types may impact perceived self-efficacy and professional development needs (Robinson & Edwards, 2012) and should be researched further. Continued research is needed to identify beginning teacher challenges so professional development plans may be developed by the stakeholders in Team Ag Ed throughout the nation to increase teacher retention in the secondary classroom (Cannon, Kitchel, & Duncan, 2012).

Several of the items across categories were related to organization of the instructor both in and out of the classroom as hygiene factors identified by the Herzberg Motivational Hygiene Theory (Herzberg et al., 1959) regarding work and organizational environment and supported previous research: volume of work (Mundt & Connors, 1999); time management (Mundt & Connors, 1999; Myers et al., 2005; Stair et al., 2012); communication (Myers et al., 2005); classroom management skills (Cannon, Kitchel, & Duncan, 2012; Cannon, Kitchel, Tenuto, et al., 2012; Garton & Chung, 1996; Joerger, 2002; Myers et al., 2005; Nesbitt & Mundt, 1993; Robinson & Edwards, 2012; Ruhland & Bremer, 2002; Stair et al., 2012); paperwork (Stair et al., 2012); budgets (Kitchel, Cannon, & Duncan, 2009); work/life balance (Myers et al., 2005); program planning and prioritization (Garton & Chung, 1996); state level forms and documents (Garton & Chung, 1996; Kitchel et al., 2009); and recruiting students (Stair et al., 2012). The areas of concern identified were also categorized based on the Herzberg's Motivational-Hygiene Theory (Herzberg et al., 1959) as either Motivational or Hygiene factors. Of the 20 concerns identified, the majority ( $n = 17$ , 85%) were hygiene factors relating to the work and organizational environment while a small minority ( $n = 3$ , 15%) were motivational factors relating to the individual and their relationship to the position. These factors indicated that beginning teachers in the induction stage of their career (Fessler, 1992) needed the most assistance in transitioning to the specific work environment (hygiene factors) of the school setting (Table 11).

Table 11.

*Beginning Teacher Challenges Consensus by Motivational-Hygiene Factors*

Hygiene Factors
Administrative Understanding of Program
Classroom Teaching Experience
Classroom Management Skills
Common Core Integration
Communication with Students, Parents, and Colleagues
Completing and Comprehending Required Paperwork
CTE State Documents
Curriculum Development
Dealing with Low Pay
Establishing and Maintaining Budgets
Funding the FFA Chapter
Identifying Alternative Funding Sources
Program Funding
Program Planning and Prioritization
Program Resources
Recruiting Students
Teaching Strategies
Working with At Risk/IEP Students - Strategies
Motivational Factors
Balancing Life and Work
Balancing Volume of Work
Time Management

A key factor to consider is that hygiene factors are considered to be dissatisfiers which can de-motivate workers or cause dissatisfaction with their careers and jobs if they are not present or addressed, but hygiene factors have little influence on satisfaction in the career setting. The motivational factors, however, can foster work and career satisfaction when adequately addressed in the work environment. These motivational factors are generally not environmental, but intrinsic in nature and enrich the life and interest of the job holder (Herzberg et al., 1959). Administrators, mentors, teacher educators, and individual teachers should work in concert to address the hygiene (environmental) factors to minimize the dissatisfaction and attrition from the profession due to controllable, environmental factors. Subsequently, motivational (intrinsic) could contribute to the overall job satisfaction of new teachers and foster successful transition to and retention in the secondary agricultural education classroom.

Although most of the identified concerns have been addressed in university preparation courses as well as the beginning CTE teacher seminar offered each fall, a two day seminar may not be sufficient to address the hygiene factors identified in this study. As a result of this study, Team Ag Ed and the College of Education in cooperation with the College of Agricultural and Life Sciences should expand training on the identified skills and strategies in state induction programs and seminars as previously suggested by Moore and Swan (2008) and addressing career hygiene (extrinsic) factors for beginning teachers (Herzberg et al., 1959). At the regional and national level, Team Ag Ed, The National Council, and the National Association for Agricultural Education should also provide support to beginning teachers to minimize attrition at the national level as well as supporting successful transition to the classroom.

A similar group of items of consensus were noted related to funding of the local secondary program and the FFA at the local level: alternative funding sources, FFA and program funding, and

program resources and were similar to those identified within the business and marketing program area within the state (Kitchel et al., 2009) and Stair, Warner and Moore (2012) as well as directly relating to hygiene factors of work environment (Herzberg et al., 1959). Pre-service teacher education programs should expand instruction related to funding sources for local programs, and additional professional development workshops should be available during CTE summer conference and as coursework which can be applied toward certification and advanced degrees (L. L. Moore & Swan, 2008). The results of this study were similar to results from other program areas in the state (Cannon, Kitchel, & Duncan, 2012; Cannon, Kitchel, Tenuto, et al., 2012; Kitchel et al., 2009), indicating the need for CTE teacher education and in-service training to be coordinated across program areas and offered in collaboration with colleges, universities and professional organizations to meet professional development needs of beginning teachers in agricultural education.

Consensus was also reached regarding teaching skills in agreement with previous research regarding the needs of beginning teachers: teaching strategies; working with IEP and at risk students (Cannon, Kitchel, & Duncan, 2012; Myers et al., 2005; Ruhland & Bremer, 2002); curriculum development (Cannon, Kitchel, Tenuto, et al., 2012; Joerger, 2002; Ruhland & Bremer, 2002); and common core integration (Cannon, Kitchel, & Duncan, 2012; Cannon, Kitchel, Tenuto, et al., 2012). Each of the teacher skills identified were job environment (hygiene) factors related to Herzberg's model (Herzberg et al., 1959) and could be addressed by either statewide induction programs, mentoring programs, and/or local school districts. Advanced level coursework should also be prioritized for certification and higher level degrees in these identified areas as also recommended by Cannon, Kitchel, & Duncan (2012). Collaborative efforts between the College of Education and the College of Agricultural and Life Sciences could be employed on teaching skills and strategies to continue to meet the professional development needs of agricultural education instructors.

A portion of the topics of consensus were challenges difficult to address by the teacher education process: classroom teaching experience; low pay; and administrative understanding of the secondary program (Walker et al., 2004) which was also consistent with Business Education instructors within the state (Kitchel et al., 2009). These topics were both job environment (hygiene) and job duties (motivational) based on Herzberg's motivation-hygiene theory (Herzberg et al., 1959). Classroom experience simply comes with time. If the professional development needs of the beginning teachers are addressed, teacher retention can be increased, and classroom experience can be gained over time in the school systems. Teacher pay continues to be a concern throughout the educational system nationwide. Activities such as the Idaho 2014 Agricultural Initiative for Secondary Agricultural Education Improvement which passed the state legislature in 2014 can assist in providing expanded resources to secondary agricultural education instructors in the form of incentive grants for highly qualified teachers and start up grants for new secondary programs ("2014 Initiative for Secondary Agricultural Education Improvement," 2014). The salary concern is consistent with attrition factors in both elementary and secondary school systems nation-wide (Gawel, 1997). Team Ag Ed groups should work with stakeholders to develop informational materials to be used by teachers with administration and strategies to disseminate information to address administrative understanding of the total agricultural education program.

Idaho currently has a beginning teacher induction program in place which has been successful for over 25 years (L. L. Moore & Swan, 2008; Mundt & Connors, 1999; Nesbitt & Mundt, 1993). The facilitators of the induction program and pre-service teacher educator training should include detailed mentorship plans to assist in teacher transition and retention. Expanded opportunities should be explored by Team Ag Ed to facilitate and expand the mentorship program. A grant received by the University of Idaho from the Idaho State Department of Education plans to target the areas of professional development identified within by the panelists.

Past research has shown the need for targeted professional development that addresses the needs of beginning teachers in both hygiene and motivation areas. Professional-development

activities could prove useful in increasing the perceived self-efficacy of beginning teachers (Robinson & Edwards, 2012; Wolf, 2011) as well as increasing retention of teachers, regardless of their certification type (Robinson & Edwards, 2012). By including panelists with varying experience levels of secondary agricultural education teachers as well as building administrators in developing consensus, the perceived needs of multiple populations may be met when developing and conducting successful teacher induction programs. Long term retention of quality teachers may be at least partially dependent on meeting perceived professional development needs of beginning teachers which may also help to address the continued shortage of agricultural educators across the state and, potentially, the nation.

## References

- 2014 Initiative for Secondary Agricultural Education Improvement. (2014). Retrieved April 2, 2014, 2014, from <http://Idahoagedinitiative.com/>
- Agricultural Education Directory. (2014). Retrieved April 7, 2014, 2014, from <http://www.uidaho.edu/~media/Files/orgs/CALS/Department/AEE/2012-2013%20Idaho%20Ag%20Teacher%20Directory%2011-16-12.ashx>
- Agriculture and natural resources program area history (A. a. N. Resources, Trans.). (2014). Boise, ID: Idaho State Division of Professional-Technical Education.
- Cannon, J. G., Kitchel, A., & Duncan, D. W. (2012). Perceived teaching and learning professional development needs of Idaho secondary career and technical education teachers. *The Researcher*, 24(1), 43-54.
- Cannon, J. G., Kitchel, A., Tenuto, P. L., & Joki, R. A. (2012). *School administrators perceptions of secondary CTE teachers' teaching and learning professional development needs*. Paper presented at the CTE Research and Professional Development Conference, Atlanta, GA.
- Christensen, J., & Fessler, R. (1992). Teacher development as a career-long process. In R. Fessler & J. Christensen (Eds.), *The teacher career cycle: Understanding and guiding the professional development of teachers*. Neeham Heights, MA: Allyn and Bacon.
- Clark, M. S., Kelsey, K. D., & Brown, N. R. (2014). The thornless rose: A phenomenological look at decisions career teachers make to remain in the profession. *Journal of Agricultural Education*, 55(3), 43-56. doi: 10.5032/jae.2014.03043
- Connors, J. J. (2013). *A history of professional associations for teacher educators in agriculture: 1929 to present*. Paper presented at the American Association for Agricultural Education Research, Salt Lake City, UT.
- CTE annual report*. (2013). Boise, ID: Division of Professional-Technical Education Retrieved from <http://www.pte.idaho.gov/pdf/2013.AnnualReport.Final.pdf>.
- Dalkey, N. C. (1969). *The Delphi method: An experimental study of group opinion*. Santa Monica, CA: The Rand Corporation.
- Dalkey, N. C., & Rourke, D. L. (1972). Experimental assessment of Delphi procedures with group value judgements *Studies in the quality of life: Delphi and decision-making* (pp. 55-83). Lexington, MA: Lexington Books.
- Danielson, C. (2007). *Enhancing professional practice: A framework for teaching* (2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.
- Delbecq, A. L., Van de Ven, A. H., & Gustafson, D. H. (1975). *Group techniques for program planning*. Glenview, IL: Scott, Foresman, and Co.
- Doerfert, D. L. e. (2011). *National research agenda: American association for agricultural education's research priority areas for 2011-2015*. Lubbock, TX: Texas Tech University, Department of Agricultural Education and Communications.

- Fessler, R. (1992). The teacher career cycle. In R. Fessler & J. Christensen (Eds.), *The teacher career cycle: Understanding and guiding the professional development of teachers*. Needham Heights, MA: Allyn and Bacon.
- Garton, B. L., & Chung, N. (1996). The in-service needs of beginning teachers of agriculture as perceived by beginning teachers, teacher educators, and state supervisors. *Journal of Agricultural Education*, 37(3), 52-58.
- Gawel, J. E. (1997). Herzberg's theory of motivation and Maslow's hierarchy of needs. *Practical Assessment, Research and Evaluation*, 5(11).
- Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research*. Thousand Oaks, CA: Sage.
- Hasson, F., Keeney, S., & McKenna, H. (2000). Research guidelines for the Delphi survey technique. *Journal of Advanced Nursing*, 32, 1008-1015.
- Herzberg, F., Mausner, B., & Snyderman, B. B. (1959). *The motivation to work*. New York, NY: John Wiley and Sons.
- Hsu, C., & Sandford, B. A. (2007). The Delphi technique: Making sense of consensus. *Practical Assessment, Research and Evaluation*, 12(10).
- Huberman, M. (1989). The professional life cycle of teachers. *Teachers College Record*, 91(1), 31-57.
- Hussler, C., Muller, P., & Ronde, P. (2011). Is diversity in Delphi panelist groups useful? Evidence from a French forecasting exercise on the future of nuclear energy. *Technological Forecasting and Social Change*, 78(9), 1642-1653. doi: 10.1016/j.techfore.2011.07.008
- Joerger, R. M. (2002). A comparison of the in-service education needs of two cohorts of beginning Minnesota agricultural education teachers. *Journal of Agricultural Education*, 43(3), 11-24.
- Joerger, R. M., & Boettcher, G. (2000). A description of the nature and impact of teaching events and forms of beginning teacher assistance as experienced by Minnesota agricultural education teachers. *Journal of Agricultural Education*, 41(4), 104-115.
- Kitchel, A., Cannon, J. G., & Duncan, D. W. (2009). Program management educational needs of Idaho business and marketing teachers. *Career and Technical Education Research*, 34(3), 175-189.
- Kumar, R. (2011). *Research methodology: A step-by-step guide for beginners* (3rd ed.). Thousand Oaks, CA: Sage Publications, Ltd.
- Lambeth, J. M., Eliot, J., & Joerger, R. M. (2008). The national Career and Technical Education research agenda. *Techniques*, 83, 52-55

- Mailing List and Educational Directory. (2014). Retrieved April 3, 2014, 2014, from [https://www.sde.idaho.gov/site/mailling\\_list/index.htm](https://www.sde.idaho.gov/site/mailling_list/index.htm)
- Miller, W. W., & Scheid, C. L. (1984). Problems of beginning teachers of vocational agriculture in Iowa. *Journal of the American Association of Teacher Educators in Agriculture*, 25(4), 2-7. doi: 10.5032/jaatea.1984.04002
- Moore, C. M. (1987). *Group techniques for idea building*. Newbury Park: Sage Publications.
- Moore, L. L., & Swan, B. S. (2008). Developing best practices of teacher induction. *Journal of Agricultural Education*, 49(4), 60-71. doi: 10.5032/jae.2008.04060
- Mundt, J. P. (1991). The induction year - a naturalistic study of beginning teachers of agriculture in Idaho. *Journal of Agricultural Education*, 32(1), 18-23. doi: 10.5032/jae.1991.01018
- Mundt, J. P., & Connors, J. J. (1999). Problems and challenges associated with the first years of teaching agriculture: A framework for preservice and inservice education. *Journal of Agricultural Education*, 40(1), 38-48.
- Myers, B. E., Dyer, J. E., & Washburn, S. G. (2005). Problems facing beginning agriculture teachers. *Journal of Agricultural Education*, 46(3), 47-55. doi: 10.5032/jae.2005.03047
- Nesbitt, D. L., & Mundt, J. P. (1993). An evaluation of the university of Idaho beginning agriculture teacher induction program. *Journal of Agricultural Education*, 34(2), 11-17.
- Powell, C. (2003). The Delphi technique: Myths and realities. *Journal of Advanced Nursing*, 41(4), 376-382. doi: 10.1046/j.1365-2648.2003.02537.x
- Rayfield, J. S., McKim, B. R., Lawrence, S., & Stair, K. (2014). Developing attitudinal metrics for induction-year agricultural education teachers. *Journal of Agricultural Education*, 55(1), 38-50. doi: 10.5032/jae.2014.01038
- Reid, N. (1988). The Delphi technique: Its contribution to the evaluation of professional practice. In R. Ellis (Ed.), *Professional Competence and Quality Assurance in Caring Professions*. London: Chapman & Hall
- Rhodes, C., Stokes, M., & Hampton, G. (2004). *A practical guide to mentoring, coaching, and peer-networking: Teacher professional-development in schools and colleges*. Glasgow, Scotland: Bell & Bain Ltd.
- Robinson, J. S., & Edwards, M. C. (2012). Assessing the teacher self-efficacy of agriculture instructors and their early career employment status: A comparison of certification types. *Journal of Agricultural Education*, 53(1), 150-161. doi: 10.5032/jae.2012.01150
- Ruhland, S. K., & Bremer, C. D. (2002). Professional development needs of novice career and technical education teachers. *Journal of Career and Technical Education*, 19(1), 18-31.
- Stair, K. S., Warner, W. J., & Moore, G. E. (2012). Identifying concerns of preservice and inservice teachers in agricultural education *Journal of Agricultural Education*, 53(2), 153-164. doi: 10.5032/jae.2012.02153

- Touchstone, A. J. L. (2014). *Challenges facing beginning agricultural education teachers in Idaho as perceived by beginning teachers, veteran teachers, and building administrators: A Delphi study*. Paper presented at the Western AAAE Conference, Kona, Hawaii.
- Walker, W. D., Garton, B. L., & Kitchel, T. J. (2004). Job satisfaction and retention of secondary agriculture teachers. *Journal of Agricultural Education, 45*(2), 28-38.
- Williams, P. L., & Webb, C. (1994). The Delphi technique: A methodological discussion. *Journal of Advanced Nursing, 19*, 180-186.
- Wolf, K. J. (2011). Agricultural education perceived teacher self-efficacy: A descriptive study of beginning agricultural education teachers. *Journal of Agricultural Education, 52*(2), 163-176. doi: 10.5032/jae.2011.02163