

# Inservice Needs of Utah Agriculture Teachers

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*The purpose of this study was to identify and prioritize the inservice needs of agriculture teachers in the state of Utah. A list of 31 modified competencies from previous research and from the Utah State Office of Education was developed to assess the needs of Utah agriculture teachers. The Borich needs assessment model was used to determine the perceived level of importance and ability of agricultural instructors regarding the 31 competencies. All inservice needs were analyzed and ranked using mean weighted discrepancy scores (MWDS). The top five competencies in which agriculture teachers were most in need of inservice were: (a) utilizing the community in providing opportunities for students i.e. advisory committees, agricultural organizations, etc.; (b) developing supervised agricultural experience (SAE) opportunities for all students; (c) identifying and preparing FFA proficiency award applications; (d) planning and implementing student recruitment activities; and (e) teaching learning disabled students. In contrast, the five competencies in which agriculture teachers required the least amount of inservice were: (a) describing how to set up the meeting room; (b) conducting parent/teacher conferences; (c) explaining the history and organization of the FFA; (d) explaining FFA degree areas; and (e) explaining proper dress and characteristics of a good FFA leader.*

Keywords: agriculture teachers, professional development, needs assessment, standards

## **Introduction/Theoretical Framework**

Teachers are faced with the challenge of providing a satisfactory learning environment and preparing their students for successful lives in today's world (Layfield & Dobbins, 2002). However, many teachers may feel that their skills or knowledge is inadequate for providing students with the necessary skills to face the demanding world. With the demands of a fast-paced world, it is evident that teachers are among those for whom learning is a lifelong suggestion (Layfield & Dobbins, 2002). Because of the diversity of activities and the enormous amount of content taught within the realm of agricultural education, most agricultural instructors require some form of inservice on a regular basis to be able to cope with the demands of the profession.

In the past, inservice programs have been conducted to assist agriculture teachers,

particularly beginning teachers, in developing knowledge and skills in order to help them to perform their teaching roles more effectively (Garton & Chung, 1997). Therefore, with the idea that learning is a lifelong pursuit, it is important that beginning teachers are not the only individuals towards whom inservice programs should be directed. Layfield and Dobbins (2002, p. 47) suggested that "more inservice needs assessment research on experienced teachers is necessary."

Historically, one of the main roles of university agricultural education programs has been the identification of pertinent topics for inservice training of agriculture instructors (Edwards & Briers, 1999). Layfield and Dobbins (2002) stated that "although training opportunities are plentiful, a critical factor in developing successful teachers is in correctly identifying their needs in highest demand" (p. 46). Therefore, the method by which needs are

identified for inservice must be valid (Edwards & Briers, 1999).

Borich (1980) introduced a needs assessment model for conducting follow-up studies. Borich noted that the model was direct enough that data analysis and instrument construction is no more complex than with any type of follow-up survey. Further, the model yields more data, and more understandable data, than many other types of follow-up questionnaires. The basis of the model was to identify the discrepancy between "what is" and "what should be." Borich stated that a training need can be defined as, "a discrepancy between an educational goal and trainee performance in relation to this goal" (p. 39). In other words, the process of identifying training needs can be conceptualized as a discrepancy between what teachers should be able to do and what teachers can do.

The needs assessment model proposed by Borich consisted of the following modified four steps: (a) List competencies; (b) survey teachers; (c) rank competencies; and (d) revise program or competencies. Teachers respond to competencies from the survey by ranking themselves in the areas of perceived importance and perceived ability for each competency. A mean weighted discrepancy score (MWDS) is calculated for each response so that each competency can be weighted and ranked in order of priority. Competencies with the highest MWDS would be of highest priority for inservice.

Since the introduction of the Borich (1980) model, many researchers have used it for determining inservice needs of agriculture teachers and extension staff (Barrick & Doerfert, 1989; Barrick, Ladewig, & Hedges, 1983; Edwards & Briers, 1999; Garton & Chung, 1997; Joerger 2002; Johnson, Schumacher, & Stewart, 1990; Layfield & Dobbins, 2002; McDonald & Lawver, 1997; Newman & Johnson, 1994; Waters & Haskell, 1989). Barrick, et al. (1983) studied different approaches to identifying inservice needs of agriculture teachers. The researchers sought to test the effectiveness of the needs assessment model by comparing it with a more direct approach using only one ranking. The conclusion of their study verified the effectiveness of Borich's model in assessing inservice needs of teachers. They stated, "The

procedures of using only the importance rankings or the knowledge rankings or the application rankings may not be valid . . . a combination of two or more rankings must be considered to form conclusions regarding inservice education needs" (p. 19). Furthermore, Newman and Johnson in a study of agriscience teachers in Mississippi also concluded that the rankings of units based solely on importance or competence were reasonably different from the MWDS, and therefore the Borich model was a more effective means of assessing inservice needs than a more direct approach.

Edwards and Briers (1999) also used the Borich model to assess inservice needs of entry-phase agriculture teachers in Texas and found that one of the top 15 competencies with the highest priority for inservice was assisting students in preparing for and succeeding in FFA degree and award programs. Mundt and Connors (1999) also conducted a study in which they found that recruiting and motivating students in agricultural education was among the competencies with a high priority for inservice.

Joerger (2002) assessed the inservice needs of two cohorts of beginning agriculture teachers in Minnesota and found similar results to that of Garton and Chung (1997) and Layfield and Dobbins (2002) in that the two cohorts had common inservice needs relating to: (a) the establishment, maintenance, and use of advisory committees; (b) student management, guidance, and motivation; (c) preparation of FFA degree and proficiency award applications; (d) establishment of support organizations such as the FFA Alumni or Young Farmer affiliates; (e) how to integrate current advances in agricultural technology into the curriculum; and (f) how to teach the relationship of agriculture with the environment.

Layfield and Dobbins (2002) sought to determine the inservice needs of both beginning and experienced agriculture teachers in South Carolina and found similarities among results from their study with results of Joerger (2002), and Garton and Chung (1997). They found that for experienced agriculture teachers, competencies with the highest need for inservice included: (a) using computers in classroom teaching; (b) preparing FFA degree applications; (c) preparing proficiency award applications; (d) using multimedia equipment in teaching; (e) teaching record keeping skills; (f) developing an

effective public relations program; (g) developing supervised agricultural experience (SAE) opportunities for students; (h) completing reports for local/state/federal accountability; (i) organizing a local Young Farmer Agribusiness program; and (j) developing local adult education programs. Among the lowest ranked competencies were planning banquets, conducting parent/teacher conferences, and planning and conducting student field trips. The competencies with the highest need for inservice among the beginning teachers were: (a) utilizing a local advisory committee; (b) developing local adult education programs; (c) organizing fund-raising activities for the local FFA chapter; (d) preparing agriculture/FFA contest teams; (e) developing SAE opportunities for students; (f) preparing FFA degree applications; (g) developing performance based assessment instruments; (h) completing reports for local/state/federal accountability; (i) preparing proficiency award applications; and (j) supervising students' SAE programs. Among the competencies with the least need for inservice among beginning teachers were also planning banquets, conducting parent/teacher conferences, and planning and conducting student field trips.

As indicated in the literature review, the majority of the studies examined the inservice needs of beginning teachers. Layfield and Dobbins (2002) used the Borich model to assess both beginning and experienced agriculture teachers and they recommended that more inservice needs assessment studies on experienced teachers should be performed.

### Purpose and objectives

The primary purpose of this study was to identify and describe the inservice needs of Utah agricultural education teachers so that valid inservice opportunities could be provided. To achieve this purpose, the following objectives served as guidelines:

1. Describe the demographic profile of Utah agriculture teachers;
2. Determine the perceived importance of agricultural education competencies related to the standards and objectives set forth by the Utah Applied Technology Education Skill Certification program;

3. Determine the perceived ability levels of agriculture teachers of agricultural education competencies related to the standards and objectives set forth by the Utah Applied Technology Education Skill Certification program; and
4. Determine and prioritize inservice needs of Utah agriculture teachers in relation to the standards and objectives set forth by the Utah Applied Technology Education Skill Certification program.

### Methods and Procedures

The population for the study consisted of all agriculture teachers in the state of Utah ( $N = 78$ ). Agriculture teachers were identified as those who taught at least one course listed under the curriculum of Agricultural Education, who supervised agricultural experiences (SAE), and who advised local FFA chapters. The list of agriculture teachers was obtained from the Utah State Office of Education (2004) Agriculture Teacher Directory. A census of the population was conducted. Therefore, generalizations from the results were limited only to the population of the study.

The instrument used in the study was developed using the Borich (1980) needs assessment model to assess the perceived level of importance and perceived level of ability for the competencies. A list of 31 professional competencies was developed based on previous studies (Birkenholtz & Harbtreit 1987; Garton & Chung, 1997; Joerger, 2002; Johnson et al. 1990; Layfield & Dobbins, 2002; McDonald & Lawver, 1997; Mundt & Connors, 1999; Veenman, 1984) along with the objectives set forth by the Utah Applied Technology Skill Certificate Program. The competencies were modified slightly to meet the needs of Utah agriculture teachers and were named core competencies. The survey instrument was reviewed for content and face validity by a panel of experts consisting of faculty members in the department of Agricultural Systems Technology and Education at Utah State University and state leaders in agricultural education. A post-hoc reliability analysis of the instrument was performed to determine if the instrument had an acceptable reliability value. A Cronbach's alpha value of .96 was obtained.

The teachers were asked to rate, using a 5-point Likert-type scale, the 31 core competencies as they pertained to perceived importance and perceived ability. The perceived importance scale was as follows: 1 = very unimportant; 2 = unimportant; 3 = average importance; 4 = important; and 5 = very important. The perceived ability scale was as follows: 1 = very low; 2 = low; 3 = average; 4 = high; and 5 = very high. The survey instrument also contained a section relating to teachers' demographic information.

Data were collected by sending the instrument, cover letter, and return envelope to all the agriculture teachers in the study the first week in October of 2004. Teachers were asked to return the completed instrument by using the self-addressed stamped envelope that was provided with the survey instrument. Two weeks after the initial mailing, a follow-up e-mail was sent to all non-respondents. After a one-week waiting period a second survey instrument and return envelope were mailed to nonrespondents. The response rate from the defined population of agricultural teachers was 62 (79.49%). Follow-up procedures were the first step in controlling for nonresponse error, attempting to get back as many responses as possible (Dillman, 2000). Lindner, Murphy, and Briers (2001) suggested that, after diligent effort, if data can be obtained from fewer than 20 nonrespondents, the data from nonrespondents that is collected can be combined with the response data from late respondents in making comparisons for estimation of non-response error. They recommended that late respondents be operationally defined to include those who respond following the final follow-up stimulus. In this study, 28 (45.2%) participants responded after the final reminder. The summed responses of the 28 participants considered late-respondents were compared to the summed responses of the 34 (54.8%) participants who responded prior to the final reminder using an independent *t*-test. The analysis indicated no significant difference between the early and late responses,  $t(57) = -0.756, p = .453$  (two-tailed).

Data were analyzed using Microsoft Excel and the Statistical Package for the Social Sciences (SPSS) version 13.0 for Windows. Descriptive statistics (frequencies, means, and standard deviations) were utilized to analyze the

data. Discrepancy scores, weighted discrepancy scores, and mean weighted discrepancy scores (MWDS) were calculated for each core competency. To determine discrepancy scores, weighted discrepancy scores, and MWDS, the following procedures were followed. First, the ability rating was subtracted from the importance rating to determine the discrepancy score for each individual on each competency. Next, the discrepancy score was multiplied by the mean importance rating to calculate the weighted discrepancy score on each individual for each competency. A MWDS for each of the competencies was then calculated by taking the sum of the weighted discrepancy scores and dividing by the number of observations. Using the MWDS, the competencies were then ranked. The competencies with the highest MWDS were those with the highest need and priority for inservice. The competencies were grouped into related categories in which inservice could be provided for the competencies with the highest MWDS.

## Findings

### *Objective 1: Describe demographic Information*

The first research objective was designed to identify the characteristics of the population. Questions included information about the teachers' personal characteristics, program characteristics, and preferred method of inservice delivery.

#### *Teacher characteristics*

Questions about teacher characteristics included age, gender, marital status, number of children living at home, highest academic degree earned, years of teaching, teacher certification status, and background in 4-H and FFA. The mean age of the respondents was 39.61 years ( $SD = 10.74$ ). The respondents consisted of 50 males (80.6%) and 12 females (19.4%). Also, the respondents consisted of 59 (95.2%) that were married while 3 (4.8%) were single, divorced, separated, or widowed. The mean number of children living in the same household as the teachers was 2.28 children ( $SD = 1.69$ ).

The respondents consisted of teachers holding either a Bachelors degree or a Masters degree. None of the agriculture teachers indicated having a Ph.D. or a degree lower than Bachelors. The number of teachers who had a

Bachelors degree was 26 (41.9%) while the number of teachers who had a Masters degree was 36 (58.1%). The average years of teaching was 12.29 ( $SD = 8.79$ ). The number of agriculture teachers with a Level I teacher certification was 11 (21.6%) while 25 (49.0%) held a Level II teacher certification and 15 (29.4%) held a Level III teacher certification. There were 53 (85.5%) agriculture teachers who were once students in an agriculture class in high school while 9 (14.5%) never took an agriculture class in high school. Also, 49 (79.0%) agriculture teachers were previously FFA members at one time in high school while 13 (21.0%) were not. There were 39 (62.9%) agriculture teachers who were previously 4-H members while 23 (37.1%) were not. Finally, 23 (37.1%) teachers were former members of a collegiate FFA chapter while 39 (62.9%) never were.

#### Program characteristics

Questions about school and program characteristics included courses taught, students enrolled in each course, number of students enrolled in FFA, number of students with an SAE project, time invested per week doing agricultural education related activities beyond school, time spent each week supervising students' SAE projects, and average hours per week devoted to laboratory instruction.

Approved courses that agriculture teachers taught, the number of teachers that taught each course, and the average number of students in each course, are found in Table 1. The mean number of students enrolled in FFA was 61.80 ( $SD = 50.36$ ) while the average number of students with an SAE project was 58.75 ( $SD = 42.61$ ). The average time invested per week doing agricultural education related activities was 18.21 hours ( $SD = 19.14$ ) while the mean time spent per week supervising students' SAE projects was 6.30 hours ( $SD = 8.93$ ). Finally, the average hours per week devoted to laboratory instruction was 10.15 ( $SD = 10.47$ ).

Table 1  
*Approved Courses Taught by Utah Agriculture Teachers*

Approved courses taught by Utah Agriculture Teachers <sup>a</sup>	Number of teachers who taught each course	Average number of students in each course
Agricultural Biology (BAST)	37	19.92
Animal Science Entry	26	20.24
Welding, Entry	22	14.95
Floriculture/Greenhouse mgt.	19	11.11
Ag Systems and Technology I	16	16.88
Ag Science and Technology I	10	12.20
Natural Resources I	9	12.78
Welding, Advanced	9	19.88
Animal Science Advanced	6	16.00
Nursery Operations/Landscape mgt.	5	17.20
Plant & Soil Science entry	5	19.40
Ag Systems and Technology II	4	9.75
Ag Business & Mgt.	4	23.75
Ag Science and Technology II	3	9.33
Natural Resources II	1	20.00
Plant & Soil Science Advanced	0	-
Ag Science and Technology III	0	-

<sup>a</sup> Approved courses are those whose course title corresponds directly with those of the Utah State Office of Education Standards and Curriculum (Utah State Office of Education, 2004).

*Preferred method of inservice delivery*

The teachers were asked to rank their most desired method of inservice from five choices; (a) workshop, (b) video tape, (c) college class, (d) graduate course, and (e) distance education. A summary of the responses is provided in

Table 2. The teachers also indicated that other methods for inservice delivery included web-based instruction, tours, seminars, and internships.

Table 2  
*Preferred Method of Inservice Delivery for Utah Agriculture Teachers*

Inservice method	Rank <sup>a</sup>	Number desiring inservice method <sup>b</sup>	Percent
Workshop	1	52	82.54
Graduate Course	2	4	6.35
College Class	3	4	6.35
Video Tape	4	1	1.59
Distance Education	5	2	3.17

<sup>a</sup> Rank was determined by average rank.

<sup>b</sup> Numbers are those who chose the method of inservice as their first choice.

*Objectives 2 and 3: Determine the perceived importance and perceived ability of agricultural education competencies*

The goal of the second research objective was to determine the teachers' perceived level of importance and ability for each core competency. Objectives 2 and 3 were necessary steps in determining the MWDS and rank of each competency for the purpose of prioritizing inservice needs. The mean ability and mean importance for each of the 31 core competencies is summarized in Table 3. The top three competencies in which teachers had the highest mean ability for the core competencies were; (a) explain FFA degree areas, (b) conduct parent/teacher conferences, and (c) discover opportunities in the FFA. The three competencies in which teachers had the least mean ability were: (a) teach learning disabled students; (b) make repairs to equipment and tools; and (c) utilize the community in providing opportunities for students i.e. advisory committees, agricultural organizations, etc. The top three competencies in which teachers perceived as most important in the area of core competencies were; (a) develop and enforce student discipline policies in classroom and lab, (b) organize and supervise teaching laboratories, and (c) plan and implement student recruitment activities. The three competencies in which teachers perceived as least important were; (a) describe how to set up the meeting room, (b) explain the history and organization of the FFA,

and (c) explain the parliamentary procedures used in an FFA meeting.

*Objective 4: Determine and prioritize inservice needs*

The purpose of objective 4 was to calculate a MWDS for each core competency and rank each competency in order of inservice priority. A rank and MWDS are summarized for each core competency in Table 4. The top six competencies in which inservice was needed dealing with core competencies were: (a) utilize the community in providing opportunities for students i.e. advisory committees, ag organizations, etc. (MWDS = 3.00); (b) develop SAE opportunities for all students (MWDS = 2.97); (c) identify and prepare FFA proficiency award applications (MWDS = 2.86); (d) plan and implement student recruitment activities (MWDS = 2.71); (e) teach learning disabled students (MWDS = 2.48); and (f) make repairs to equipment and tools (MWDS = 2.42). In comparison, six competencies with the least need for inservice included; (a) describe how to set up the meeting room (MWDS = -1.44), (b) conduct parent/teacher conferences (MWDS = -0.99), (c) explain the history and organization of the FFA (MWDS = -0.85), (d) explain FFA degree areas (MWDS = -0.82), (e) explain the proper dress and characteristics of a good FFA leader (MWDS = -0.70), and (f) plan and organize an FFA meeting (MWDS = -0.07).

Table 3  
 Mean Ability and Mean Importance of Core Competency Inservice Needs of Utah Agriculture Teachers  
 (N = 59)

Inservice Need	Mean Ability	Mean Importance
Teach learning disabled students	3.46	4.07
Make repairs to equipment and tools	3.49	4.08
Utilize the community in providing opportunities for students i.e.advisory committees, ag organizations, etc	3.51	4.22
Identify and prepare FFA proficiency award applications	3.57	4.24
Develop SAE opportunities for all students	3.58	4.27
Prepare teams for Career Development Events	3.62	4.12
Plan and organize FFA fundraisers	3.64	3.90
Conduct regular safety inspections and correct hazardous conditions	3.64	4.19
Prepare FFA degree applications	3.67	4.12
Maintain SAE records (SAE Record books)	3.68	4.22
Plan and implement student recruitment activities	3.69	4.32
Explain parliamentary procedure used in an FFA meeting.	3.69	3.88
Explain different team and individual CDEs	3.78	3.92
Identify agricultural interests and/or career goals	3.78	4.09
Develop long-term and short-term plans for SAE projects	3.90	4.22
Explain leadership skill opportunities in FFA	3.90	4.26
Organize and supervise teaching laboratories	3.92	4.37
Supervise students' SAE programs	3.95	4.25
Determine various kinds of SAE projects	3.95	4.27
Describe how to set up the meeting room.	3.95	3.54
Plan FFA Banquet	3.98	4.19
Develop and enforce student discipline policies in classroom and lab	4.02	4.47
Control classroom management and student behavior	4.03	4.53
Plan and organize an FFA meeting	4.07	4.03
Effectively work with FFA officer team to carry out duties and responsibilities of the chapter	4.07	4.31
Explain the history and organization of the FFA	4.08	3.86
Determine the benefits of an SAE	4.10	4.28
Discover opportunities in FFA	4.12	4.27
Conduct parent/teacher conferences	4.15	3.90
Explain FFA degree areas	4.16	3.95
Explain proper dress and characteristics of a good FFA leader.	4.31	4.14

Note. Ability: 1 = very low 2 = low 3 = average 4 = high 5 = very high

Importance: 1 = very unimportant 2 = unimportant 3 = average importance 4 = important 5 = very important

Table 4  
*Inservice Needs for Core Competencies of Utah Agriculture Teachers*

Inservice Need	Ranking	MWDS <sup>a</sup>
Utilize the community in providing opportunities for students i.e. advisory committees, ag organizations, etc	1	3.00
Develop SAE opportunities for all students	2	2.97
Identify and prepare FFA proficiency award applications	3	2.85
Plan and implement student recruitment activities	4	2.71
Teach learning disabled students	5	2.48
Make repairs to equipment and tools	6	2.42
Maintain SAE records (SAE Record books)	7	2.29
Conduct regular safety inspections and correct hazardous conditions	8	2.27
Control classroom management and student behavior	9	2.23
Develop and enforce student discipline policies in classroom and lab	10	2.05
Organize and supervise teaching laboratories	11	2.00
Prepare FFA degree applications	12	1.81
Prepare teams for Career Development Events	13	1.70
Explain leadership skill opportunities in FFA	14	1.40
Develop long-term and short-term plans for SAE projects	15	1.38
Determine various kinds of SAE projects	16	1.38
Supervise students' SAE programs	17	1.30
Identify agricultural interests and/or career goals	18	1.27
Effectively work with FFA officer team to carry out duties and responsibilities of the chapter	19	1.02
Plan and organize FFA fundraisers	20	0.99
Plan FFA Banquet	21	0.87
Explain parliamentary procedure used in FFA meetings	22	0.72
Determine the benefits of an SAE	23	0.68
Discover opportunities in FFA	24	0.65
Explain different team and individual CDEs	25	0.53
Plan and organize an FFA meeting	26	-0.07
Explain the dress and characteristics of a good FFA leader	27	-0.70
Explain FFA degree areas	28	-0.82
Explain the history and organization of the FFA	29	-0.85
Conduct parent/teacher conferences	30	-0.99
Describe how to set up the meeting room	31	-1.44

<sup>a</sup>MWDS = Mean Weighted Discrepancy Score.

### Conclusions

Using the Borich (1980) model, the following competencies were identified by Utah agriculture teachers as the highest priority for inservice: (a) utilize the community in providing opportunities for students i.e. advisory committees, agricultural organizations, etc.; (b) develop SAE opportunities for all students; (c) identify and prepare FFA proficiency award applications; and (d) plan and implement student

recruitment activities. As this study was conducted within Utah only, generalizations outside Utah should not be made. However, the findings are similar to those of previous researchers in other states (Edwards & Briers, 1999; Garton & Chung, 1997; Joerger, 2002; Layfield & Dobbins, 2002; Mundt & Connors, 1999).

As for competencies that the research indicated needed the least need for inservice, most originated from the Utah agricultural

education curriculum. Therefore, similarities to other studies cannot be made. However, the competencies not derived from the Utah curriculum that were of lowest priority were conducting parent/teacher conferences, planning and organizing FFA fundraisers, and planning FFA Banquets. These competencies ranked 30, 20 and 21 respectively (Table 4). Conducting parent/teacher conferences was commonly found in other studies (Garton & Chung, 1997; Layfield & Dobbins, 2002) as being of low priority for inservice. Planning and organizing FFA fundraisers, and planning FFA Banquets were also found in the bottom six of experienced teachers in South Carolina (Layfield & Dobbins, 2002). However, organizing fund-raising activities was ranked as third highest inservice need in South Carolina for beginning teachers. Planning FFA banquets was also found to be of very low priority for beginning teachers in Missouri (Garton & Chung, 1997).

### Recommendations

Based upon the preceding findings of this study, the researchers recommend:

1. The competencies with the highest MWDS for the core competencies should be targeted for inservice training. Teacher educators in the agricultural education program should develop inservice that addresses the high priority inservice needs. The competencies of high priority for inservice include: (a) utilize the community in providing opportunities for students i.e. advisory committees, ag organizations, etc.; (b) develop SAE opportunities for all students; (c) identify and prepare FFA proficiency award applications; (d) plan and implement student recruitment activities; (e) teach learning disabled students; and (f) make repairs to equipment and tools.
2. Inservice should be delivered to Utah agriculture teachers in the form of workshops. These workshops could be conducted during the three state-wide meetings of agriculture teachers during the year.
3. Community cooperation strategies such as utilizing advisory committees and developing cooperation with businesses to provide opportunities for students should be incorporated as a component of courses for pre-service teachers. Faculty in Utah State University's ASTE department should also determine how other top inservice needs for core competencies can be addressed in the agricultural education pre-service program.
4. Based on the similar results found in other studies (Edwards & Briers, 1999; Garton & Chung, 1997; Joerger, 2002; Layfield & Dobbins, 2002), it appears that the Borich needs assessment model is an appropriate tool for assessing inservice needs of agriculture teachers. Furthermore, due to the inservice needs which were common in other studies (Edwards & Briers, 1999; Garton & Chung, 1997; Joerger, 2002; Layfield & Dobbins, 2002; Mundt & Connors, 1999), the similarities could imply a possible national trend. The current study should be replicated in other states and on a national level to determine if the inservice needs of agriculture teachers are consistent across state lines and to compare demographic information.

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