Journal of Agricultural Education
Volume 51, Number 2, pp. 102 – 114
DOI: 10.5032/jae.2010.02102

Perceptions of Agriculture Teachers toward Including Students with Disabilities

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The inclusion of students with special needs in regular education classrooms has been required by federal law for more than three decades. However, much of the responsibility for successful accommodation of students with disabilities rests upon the shoulders of teachers. Previous research has indicated that successful inclusion of students with special needs is strongly influenced by the attitude of teachers involved. In this study, secondary agriculture teachers in one western state were surveyed to determine their attitudes and perceptions related to their willingness and ability to include students with special needs in their classrooms and laboratories. Selected personal and professional characteristics were correlated with these attitudes and perceptions. A large majority of teachers responded that they understand the concept of inclusion, are in favor of including students with disabilities, and have had a positive experience teaching students with special needs. However, fewer respondents indicated that they had the skill level to successfully include students with disabilities. Overall, while teachers indicated willingness to include students with specific disability types, they were less positive in their perceived abilities to successfully accommodate these same students.

Introduction/Theoretical Framework

In 1975, Congress passed The Education of All Handicapped Children Act (Public Law 94–142), now codified as the Individuals with Disabilities Education Act (IDEA, Public Law 101–476, 1990). IDEA is a law ensuring that states and public agencies provide early intervention, special education, and related services to eligible infants, toddlers, children, and youth with disabilities in the least restrictive environment. In many cases, the least restrictive environment is one that involves placement of students with disabilities into educational programs with typically developing students to the maximum extent appropriate. This concept is also known as inclusion, and research has suggested it is vital from the beginning stages of a child's education (Gemmell–Crosby & Hanzlik, 1994).

There has been an increase in momentum of inclusive education in recent years. A key factor in the successful implementation of the policy is the attitude of the teachers who carry the majority of the responsibility of implementing inclusion (Avramidis & Norwich, 2002). Early in the history of inclusive education, Hudson, Graham, & Warner (1979) stated:

> If the mainstreaming effort is to be successful, it is crucial that the combined thoughts and energies of special and regular educators do not counteract each other or work at cross purposes. This, in turn, requires cooperation, properly trained personnel, careful planning and appropriate attitudes. (pp. 58–59)

They continued by stating that effective education for students with disabilities cannot be obtained without first understanding the regular educators' needs and outlook toward integration (Hudson et al., 1979).

In studying the perceptions of agriculture teachers toward including students with disabilities, the Theory of Reasoned Actions as proposed by Ajzen and Fishbein (1980) was utilized as the theoretical framework. In their model, Ajzen and Fishbein suggest that a person's behavior is reflected in their attitudes, and these behaviors are developed from personal beliefs, perceptions, and intentions. An individual's beliefs either come from direct experience or are inferred or self generated. Within the interpretation of this research, the theory was applied by considering how agriculture teachers' experiences and characteristics coincide with their attitudes and perceptions. As indicated by Fishbein and Ajzen (1975), past experiences influence beliefs, which in turn are reflected in their attitudes regarding the inclusion of students with disabilities in their classroom or laboratory. Based on this theory a conceptual model was developed as shown in Figure 1.

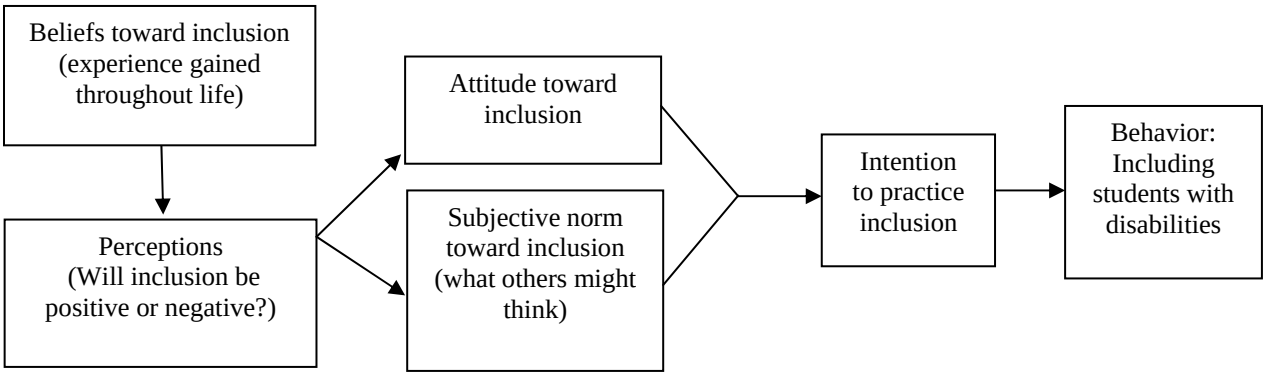

Figure 1. The influence of beliefs, perceptions, and attitudes toward inclusion on intentions and behaviors.

Research has suggested that teachers' perceptions and attitudes toward inclusion affect the successful implementation of inclusive education. Burke and Sutherland (2004) report a significant correlation between teacher knowledge of disabilities and their perceived ability to educate them. Attitudinal data collected by Ward, Center, and Bochner (1994) from six different groups of educators suggested that attitudes are greatly affected by the nature of the disability and/or education problems that exist. Research by Pivik, McComas, and LaFlamme (2002) examined whether special education efforts are truly meeting the needs of the students and if the convictions of inclusion are reflected in the actions of teachers. Parents and students were asked to identify barriers to inclusion. The major obstacle identified by parents was teachers' attitudes. The researchers posited that teacher attitudes are by far the most detrimental component in allowing students with special needs to succeed. Therefore, one of the most valuable elements in the inclusion process is a positive attitude of the teachers. Cook, Cameron, and Tankersley (2007) reported that students with disabilities received higher ratings than their non–disabled peers in teacher concern, indifference, and rejection, placing their successful inclusion in the classroom at–risk.

Center and Ward (1987) surveyed regular and special education teachers from New South Wales on their attitudes toward integration of students with disabilities. Overall, a negative attitude was displayed toward integrating students with behavioral or educational disabilities. Favorable attitudes were exhibited only toward mainstreaming students whose disability did not require extra effort on the part of the teacher. It was evident in the results that teachers' attitude toward inclusion was greatly impacted by the lack of confidence the teachers had in their own instructional skills and by support personnel available. Similarly, Heron and Harris (2001) stated that teachers are more

critical of the behavior of students with special needs, provide fewer praise statements to these students, and consider them less desirable as students as compared with regular education students.

Avramidis and Norwich (2002) concluded that attitudes toward implementation changed dramatically if appropriate professional development was offered. They suggested that it is vital to have a progressive and consistent plan for teachers' professional development to help facilitate educating students with disabilities and to develop a more positive attitude toward inclusion amongst educators. A change in attitude following in–service training was reflected in results reported by Dickens–Smith (1995). Respondents were given an attitudinal survey before and after staff development. After the in–service training, both groups of respondents revealed more favorable attitudes toward inclusion than they did at the beginning of the workshop, with regular education teachers showing the strongest positive attitude change. Dickens–Smith concluded that "staff development is the key to the success of inclusion" (p. 8).

The U.S. Department of Education (1994) found an increasingly higher proportion of special needs students enrolled in agricultural education classes than other technical education classes. However, previous studies have suggested that agriculture teachers perceive themselves as having low levels of ability in teaching students with learning disabilities (Elbert & Baggett, 2003; Ricketts & Duncan, 2005; Sorenson, Tarpley, & Warnick, 2005). Dormody, Seevers, Andreasen, and VanLeeuwen (2006) conducted a study of the challenges that face New Mexico agriculture teachers when including students with special needs. On average, teachers rated including students with all types of special needs as either a *little* or a *moderate* challenge. The findings also showed that the older the teacher, the less challenging it was to include students and that teachers who felt more prepared perceived less frustration in teaching students with special needs. Additionally, teachers who had more formal course work on inclusion also felt it was less challenging to include students with disabilities.

In reviewing the literature, studies have indicated that teacher attitudes affect the success of including students with special needs. In general there is literature available that addresses the needs of including students with disabilities in typical education classrooms. However, few studies specifically addressed the attitudes and abilities of agriculture teachers. Moreover, limited research is available on teachers' perceived abilities and attitudes toward specific types of disabilities. Further assessment of the attitudes and aptitudes of agriculture teachers toward inclusion is vital, particularly so appropriate accommodations can be made for these students.

Purpose/Objectives

The purpose of this study was to assess agriculture teachers' attitudes toward including students with disabilities in their classrooms and laboratories and to determine their perceived ability to include these students. To achieve this purpose, the following objectives served as guidelines:

1. Describe the demographic profile of Utah secondary agriculture teachers;
2. Determine the perceived attitudes and ability of Utah agriculture teachers concerning the inclusion of students with disabilities; and
3. Correlate selected demographic variables with the perceptions of Utah agriculture teachers toward the inclusion of students with disabilities.

Methods/Procedures

All agriculture teachers in Utah (N = 93) were selected as the target population for this study. The state supervisor of agricultural education in the state department of education provided the researchers with a current database containing the names and addresses of all Utah agriculture teachers. All teachers included in the population were invited to participate. The individuals targeted as participants for this study were those teachers indentified as current agricultural educators by the state educational agency. Any other teachers matching the parameters of the population were not known and were therefore not part of the population studied. Institutional Review Board (IRB) approval was obtained prior to conducting the survey.

Descriptive survey methods were used to explore the attitudes and aptitudes of agricultural education teachers in Utah (N = 93) related to including students with special needs. The instrument used in this study is an adaptation of the Regular Education Initiative (REI) Survey by Phillips, Allred, Bruelle, and Shank (1990) as modified by Gemmell–Crosby and Hanzlik (1994). The adapted questionnaire used in this study was revised to more accurately reflect the classroom and laboratory of an agriculture teacher. Evidence of face and content validity was acquired by a panel of experts consisting of university agriculture teacher educators, special education teacher educators, and a state supervisor of agricultural education. Terms used in the instrument were modified to reflect current terminology used by the Utah education department and were defined in the questionnaire (Utah State Office of Education, 2008). A post–hoc reliability analysis of the survey instrument was performed to determine if the instrument had an acceptable reliability value. A Cronbach's alpha value of .933 was obtained.

The questionnaire and a letter of information were presented at the 2008 Utah Association of Agricultural Educator's Fall Conference and teachers in attendance were asked to complete the questionnaire. Within two weeks following the fall conference, teachers not in attendance were asked to complete the questionnaire through mail survey procedures. Dillman's (2000) methods, including the use of pre–notice letters and follow–up procedures, were implemented to maximize survey response rates. Instructions for completion and submission of the survey and deadline dates were included in the cover letter and on the questionnaire.

Data related to the first research objective were analyzed using descriptive statistics including frequency, percentages, means, and standard deviations. Analysis of objective two data utilized descriptive statistics including frequency, percentages, and medians. For objective three, a series of multiple regression analyses was performed to determine if any significant relationship existed between teacher characteristics and the scaled responses.

Results/Findings

The number of responses from the defined population of agriculture teachers in Utah (N = 93) was 78 for a response rate of 83.9%. Three respondent groups were identified in this study. Forty participants (43.0%) completed the survey at a professional development conference for agriculture teachers and 38 participants (40.9%) completed the survey by mail. Lindner, Murphy, and Briers (2001) recommended comparing early and late respondents as a method for handling non–response. Participants completing the survey following the initial mailing were identified as early respondents (n = 31; 32.2%) and those completing the survey after the second reminder were identified as late respondents (n = 7; 7.5%). To determine if differences existed between any of the three groups (conference, early responders, and later responders), the participants' scaled responses were summed and an Analysis of Variance (ANOVA) was calculated. The results indicated no statistically significant differences between any of the three groups, $F_{(2,\ 75)} = 0.593$, $p = .555$.

Objective 1: Describe the Demographic Profile of Utah Secondary Agriculture Teachers

The typical Utah agriculture teacher was 36.35 years old (SD = 10.97), had 10.38 years of teaching experience (SD = 9.05), and had 9.47 years of experience teaching students with disabilities (SD = 8.91). The respondents consisted of 22 females (28.2%) and 56 males (71.8%). Community size was determined by the U.S. Census Bureau's (2000) classification system. Overall, 27 (34.6%) of the teachers taught in a rural community (population less than 2,500), 40 (51.3%) taught in a suburban community (population of 2,500 – 49,999;.), and 11 (14.1%) taught in an urban community (population greater than 50,000). Fifteen (19.3%) teachers in this study held a Bachelor's degree as their highest level of education, 29 (37.2%) held a bachelor's degree plus additional credit hours, 13 (16.7%) held a master's degree, and 19 (24.4%) held a master's degree plus additional credit hours. Of the respondents, 75 (96.2%) indicated they had participated in the IEP process with 3 (3.5%) reporting they had not participated in this process. The mean number of special education courses taken on a

university level was 1.34 (*SD* = 1.07), and the mean number of professional development workshops attended was 1.21 (*SD* = 2.18).

Objective 2: Determine the Perceived Attitudes and Ability of Utah Agriculture Teachers Concerning the Inclusion of Students with Disabilities

Participants were asked to indicate their perceived skill level, understanding and security level of including students with special needs in their classroom/laboratory. These findings are summarized in Table 1. Nearly 90% of participants agreed or strongly agreed that they understood the concept of inclusion yet only 61.5% agreed or strongly agreed that students with disabilities should be integrated into the regular classroom and just over half of the participants believed they had the skills to successfully include students with disabilities.

Table 1
Understanding and Attitude Related to Including Students with Special Needs

Question	SA *f* %	A *f* %	N *f* %	D *f* %	DS *f* %	Median
I understand the concept of inclusion/integration.	21 26.9	49 62.8	6 7.7	1 1.3	0 0.0	4
Students with disabilities should be integrated into general school classes for typically developing students rather than attending special education classes.	11 14.1	37 47.4	23 29.5	6 7.7	0 0.0	4
The size of the class needs to be lowered when students with disabilities are included.	43 55.1	21 26.9	9 11.5	4 5.1	0 0.0	5
I presently have the skills to successfully include students with disabilities in my classroom.	12 15.4	29 37.2	22 28.2	13 16.7	1 1.3	4
The inclusion of students with special needs into regular classes will take much of the teacher's time and attention from typically developing students.	12 15.4	31 39.7	19 24.4	15 19.2	0 0.0	4
I am in favor of including students with disabilities in my class.	22 28.2	38 48.7	13 16.7	1 1.3	0 0.0	4
I feel secure in my abilities to adapt materials/curriculum for students with disabilities.	11 14.1	38 48.7	17 21.8	12 15.4	0 0.0	4
I feel secure in managing behavior problems related to students with disabilities.	13 16.7	34 43.6	19 24.4	12 15.4	0 0.0	4
I feel I can create a safe environment in my classroom/laboratory for all students when including students with disabilities.	12 15.4	44 56.4	11 14.1	9 11.5	2 2.6	4
I feel secure in my abilities to interpret assessment results.	19 24.4	39 50.0	14 17.9	6 7.7	0 0.0	4
I feel secure in my abilities to work with parents of students with disabilities.	11 14.1	32 41.0	18 23.1	11 14.1	3 3.8	4
I feel comfortable participating in Individual Education Plan (IEP) Conferences.	34 43.6	29 37.2	13 16.7	2 2.6	0 0.0	4
A regular classroom setting is probably the best placement for students with mild level of need	36 46.2	40 51.3	2 2.6	0 0.0	0 0.0	4
A regular classroom setting is probably the best placement for students with moderate level of need	14 17.9	39 50	21 26.9	4 5.1	0 0.0	4
A regular classroom setting is probably the best placement for students with significant level of need	0 0.0	13 16.7	25 32.1	27 34.6	13 16.7	2
In my classroom, teacher/student ratios are adequate or appropriate for mainstreaming children with disabilities.	6 7.7	21 26.9	14 17.9	24 30.8	13 16.7	3
There is very little difference in the curriculum when a student with special needs is included in the class or group.	0 0.0	29 37.2	24 30.8	20 25.6	5 6.4	3
The extra paperwork and time needed for students with disabilities (accommodations, IEP forms etc.) is not a problem.	7 9.0	22 28.2	22 28.2	21 26.9	6 7.7	3
My experience in teaching students with disabilities has been mostly positive.	21 26.9	43 55.1	10 12.8	4 5.1	0 0.0	4

Respondents were also asked to indicate their level of willingness and skill level to include students with specific special needs. Table 2 provides a summary of the responses for each disability. While the majority of teachers indicated willingness to include students with autism (73.1%), visual impairments (66.7%), and hearing impairments (87.2%), less than half of the teachers agreed that they had the skill to include students with these specific disabilities.

Table 2
Perceptions of Will and Skill toward Including Students with Specific Special Needs

	SA	A	N	D	SD	
	f	*f*	*f*	*f*	*f*	
Question	%	%	%	%	%	Median
I am willing to include students with *autism* in my classroom/laboratory.	13 16.7	44 56.4	14 17.9	5 6.4	1 1.3	4
I am willing to include students with an *emotional or behavioral disorder* in my classroom/laboratory.	14 17.9	38 48.7	21 26.9	3 3.8	1 1.3	4
I am willing to include students with a *hearing impairment/deafness* in my classroom/laboratory.	25 32.1	43 55.1	1 1.3	8 10.3	1 1.3	4
I am willing to include students with an *intellectual disability* in my classroom/laboratory.	19 24.4	47 60.3	7 9.0	4 5.1	0 0.0	4
I am willing to include students with a *learning disability* in my classroom/laboratory.	26 33.3	45 57.7	4 5.1	1 1.3	0 0.0	4
I am willing to include students with *multiple disabilities* in my classroom/laboratory.	14 17.9	36 46.2	17 21.8	9 11.5	1 1.3	4
I am willing to include students with an *orthopedic impairment* in my classroom/laboratory.	24 30.8	45 57.7	7 9.0	1 1.3	0 0.0	4
I am willing to include students with *visual impairment (includes blind)* in my classroom/laboratory.	18 23.1	34 43.6	17 21.8	6 7.7	2 2.6	4
I presently have the skills to include students with *autism* in my classroom/laboratory.	7 9.0	22 28.2	24 30.8	19 24.4	6 7.7	3
I presently have the skills to include students with an *emotional or behavioral disorder* in my classroom/laboratory.	7 9.0	33 42.3	19 24.4	16 20.5	2 2.6	4
I presently have the skills to include students with a *hearing impairment/deafness* in my classroom/laboratory.	6 7.7	30 38.5	25 32.1	15 19.2	2 2.6	3
I presently have the skills to include students with an *intellectual disability* in my classroom/laboratory.	9 11.5	40 51.3	15 19.2	11 14.1	2 2.6	4
I presently have the skills to include students with a *learning disability* in my classroom/laboratory.	14 17.9	46 59.0	12 15.4	5 6.4	1 1.3	4
I presently have the skills to include students with *multiple disabilities* in my classroom/laboratory.	2 2.6	29 37.1	25 32.1	19 24.4	3 3.8	3
I presently have the skills to include students with an *orthopedic impairment* in my classroom/laboratory.	11 14.1	35 44.9	22 28.2	8 10.3	2 2.6	4
I presently have the skills to include students with *visual impairment (includes blind)* in my classroom/laboratory.	4 5.1	19 24.4	23 29.5	24 30.8	8 10.3	3

Journal of Agricultural Education
Volume 51, Number 2, pp. 102 – 114
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A solid majority of teachers agreed or strongly agreed that in–class support (88.5%) and consultations with special education teachers and parents (84.6%) would be beneficial for including students with disabilities. However, less than one–fourth of respondents believed they have received or are receiving adequate education regarding the inclusion of students with special needs. Table 3 summarizes the results of these findings.

Table 3
Perceived Support for Including Students with Specific Special Needs

Question	SA *f* %	A *f* %	N *f* %	D *f* %	SD *f* %	Median
The support services I have or am currently receiving to help me with the inclusion of students with special needs have been adequate.	10 12.8	29 37.2	12 15.4	22 28.2	5 6.4	4
I have received or am receiving adequate education, training and/or professional development regarding inclusion and teaching students with disabilities.	2 2.6	16 20.5	26 33.3	27 34.6	7 9.0	3
Consultations with special education teachers, parents etc. would be beneficial for including students with disabilities in my classroom.	29 37.2	37 47.4	10 12.8	2 2.6	0 0.0	4
In–class support such as peer tutoring students, paraprofessional, etc. would be beneficial support in my classroom with the students with special needs.	30 38.5	39 50.0	5 6.4	3 3.8	1 1.3	4
Team teaching with special education teachers/specialists would be beneficial in including students with special needs in my classroom.	17 21.8	41 52.6	14 17.9	5 6.4	1 1.3	4
I would attend professional development workshops or activities dealing with special education techniques.	16 20.5	43 55.1	17 21.8	2 2.6	0 0.0	4
I would attend professional development workshops dealing with behavior management.	19 24.4	41 52.6	14 17.9	4 5.1	0 0.0	4
I would attend professional development workshops or activities on how to collaborate with support service personnel.	12 15.4	40 51.3	21 26.9	4 5.1	1 1.3	4
I would participate in college course work in Special Education.	10 12.8	24 30.8	26 33.3	13 16.7	5 6.4	3

Objective 3: Correlate Selected Demographic Variables with the Perceptions of Utah Agriculture Teachers Toward the Inclusion of Students with Disabilities

To determine the relationship between perceptions toward including students with disabilities and selected personal and professional characteristics, a series of stepwise multiple regression analyses were performed. Separate analyses were performed for each of the demographic dependent variables, including gender, age, years of teaching experience, size of community, level of education, and number of special education courses and professional development workshops taken, with the perception responses serving as the independent variables. All regression analyses were performed at the .05 level of significance.

The regression analysis in relationship to gender explained 9.8% of the variance and indicated that females tended to be willing to attend professional development workshops or activities dealing with behavior management ($p = .008$). Four variables had a statistically significant relationship with the variable age and explained 33.6% of the variance. Younger

respondents tended to be willing to include students with an emotional or behavioral disorder in their classrooms and laboratories (p = .000). Younger respondents were also generally more willing to attend professional development workshops or activities on how to collaborate with support service personnel (p = .018). Older respondents generally indicated that they presently had the skills to successfully include students with disabilities in their classrooms (p = .000). Older teachers also tended to agree that class sizes needed to be lowered when students with disabilities are included (p = .007). In analyzing the size of the community in which the respondents taught, five variables explained 39.5% of the variance. The analysis indicated that teachers who taught in urban or suburban communities would be more likely to participate in college course work in special education (p = .000), that respondents from larger communities tended to agree that there was very little difference in the curriculum for students with special needs (p = .003), that respondents from larger communities generally agreed that students with disabilities should be integrated into general school classes (p = .004), that urban and suburban respondents would usually attend professional development workshops or activities dealing with special education techniques (p = .001), and that urban and suburban teachers tended to agree that consultations with special education teachers, parents, etc. would be beneficial for including students with disabilities in their classrooms (p = .005).

Level of education explained 36.5% of the variance. Those with less education agreed that their teacher to student ratios were adequate (p = .003), that placing students with a significant level of need in the regular classroom setting is best (p = .002), and that they have the skills to include students with learning disabilities (p = .031). Those with a higher level of education were more likely to agree that they had the skills for inclusion (p = .000). In analyzing whether the respondents had participated in an IEP (Individual Education Plan), 15.8% of the variance was explained. Further analysis indicated a positive correlation and indicated that teachers who had participated in the IEP process agreed that class size should be lowered when including students with disabilities (p = .001). The relationship of the years of teaching explained 65.6% of the variance. Teachers with more years of experience indicated that they: (a) presently had the skills to include students with disabilities (p = .000), (b) that class sizes should be lower when including students with special needs (p = .000), (c) that they felt secure in managing behavior problems related to students with disabilities (p = .001), and (d) that they were specifically willing to include students with an intellectual disability (p = .010). Teachers with fewer years of experience: (a) were willing to attend professional development workshops (p = .000), (b) were willing to include students with emotional or behavior disorders (p = .000) and students with learning disabilities (p = .002) in their classroom, and (c) agreed that a regular classroom setting was the best placement for students with a significant level of need (p = .010).

The relationship related to the number of professional development workshops attended accounted for 21.5% of the variance. Respondents who had participated in more workshops reported: (a) that they understood inclusion (p = .023), (b) that class size needs to be lowered when integrating students with disabilities (p = .005), and (c) that they possessed the skills to include students with disabilities (p = .007). Teachers who had attended fewer professional development workshops were more willing to include students with an emotional or behavioral disorders (p = .000).

Conclusions/Recommendations/Implications

A majority of teachers surveyed indicated that they understand the concept of inclusion/integration, were in favor of including students with disabilities in their classrooms and laboratories, and have had a positive experience teaching students with disabilities. Many of the respondents only agreed or were neutral when indicating their skill level to successfully include students with disabilities in their classroom. Similarly, Burke and Sutherland (2004) and Center and Ward (1987) found that teachers were generally positive about integrating students with disabilities yet lacked confidence in their abilities. Overall, the teachers in this study had the will to include the majority of students with specific disabilities yet lacked the skill to do so successfully. Willingness varied

based upon the type of disability. As an example of this disparity, 87% of teachers indicated willingness to include students with a hearing impairment, yet only 46% of them perceived that they possessed the skills to successfully include these students in their classrooms and laboratories. Cooper, Bocksnick, and Frick (2002) noted that there is a great deal of shop and laboratory experience built into the agricultural education curriculum. In a shop or laboratory setting, the most pressing concern with all students is safety. When students with special needs are included in classes this concern is heightened. The results of this study suggest that the type of disability a student has influences the teacher's willingness and perceived skill level in including these students. Similarly, Ward et al. (1994) found that attitudes are greatly affected by the nature of the disability and/or educational problems that exist.

Nearly all teachers in this study agreed or strongly agreed that the regular classroom setting was the best placement for students with a mild level of need, yet less than one–fifth of respondents agreed and none strongly agreed that it was the best setting for students with a significant level of need. An interesting finding in this area was that teachers with fewer years of experience were more likely to agree that students with a significant level of need would be best served in a regular classroom setting when compared to teachers with more experience. Similar trends were found throughout the study, including a higher level of willingness to include students with behavioral and emotional disorders and students with multiple disabilities amongst teachers with fewer years of experience. Van Hover and Yeager (2003) indicated that high school history teachers were "hostile" toward the idea of including students with disabilities due to lack of support and preparation. The majority of teachers in the study reported that they are not receiving adequate support, education, or professional development regarding the inclusion and teaching of students with disabilities. They indicated that in–class support, consultation with parents and special education teachers, and team teaching would be very beneficial for providing a successful experience for a student with disabilities and the teachers involved. More than three–fourths of teachers agreed that they would be willing to attend professional development workshops to improve their abilities to include students, and two–thirds reported that they would like professional development workshops on how to collaborate with support services.

Teachers indicated that they understood inclusion. However, some teachers reported they currently had no special needs students in their classrooms, although they did respond that they currently had students in their classes who had an IEP. This disconnect is a concern and may be reflected in the perception of their beliefs and not reality of what inclusion really is. The perception by a majority of teachers is that education regarding inclusion is limited. If teachers are required to successfully include students with special needs they need to be prepared. Based upon the results of the current study, and supported by the literature (Dickens–Smith, 1995), leaders in agricultural education and special education should seriously consider increasing special education preparation for pre–service teachers as well as professional development opportunities targeted at providing teachers with the skills and ability to successfully include students with special needs in their classrooms and laboratories.

The respondents who tended to agree they were skilled in teaching students with disabilities were those teachers with more years of experience, yet these experienced teachers were more particular as to the type of disability they were willing to include, and were less willing to accept assistance from others. Teachers with fewer years of experience appeared to be more open to the type of disability they would include in their classroom or laboratory. This relationship could potentially be explained by idealistic expectations as novice teachers enter the profession, more adequate preparation or interaction with students with disabilities, or a lack of experience in teaching students with these types of challenges. Regardless of the explanation, as supported by the Fishbein and Ajzen theory (1975), a relationship was found in this study between experience and perceptions.

The concern arises as to whether we are truly practicing inclusion. Are we truly providing a quality education and experience for students with disabilities? Teachers should be properly trained and attitudes assessed on both a

national and regional level regarding inclusion of students with special needs in agriculture classes. The teachers in this study reported willingness to include students with special needs, but indicated a lack of confidence in their skills to successfully do so. Based on these findings, questions arise regarding the adequacy of accommodations students with special needs are receiving in agricultural education classrooms. While agricultural education's variety of teaching methods, authentic instruction, active student response, and hands–on approach have the potential to benefit students with disabilities, some of the reservations displayed by the respondents could reflect the lack of confidence in having a special needs student in a laboratory setting. Discussions should be held in collaboration with special education professionals regarding the inclusion of students with severe disabilities in laboratory settings. To increase teachers' abilities, specific in–service programs and professional development should be developed and implemented, addressing the needs of specific disabilities in specific agricultural education classroom and laboratory settings. These programs and workshops could be easily implemented as part of already existing agriculture teacher conferences utilizing special education teachers and teacher educators. Further, future curriculum projects should enhance the ability of teachers to accommodate students with disabilities.

Based upon the findings of this study, it is suggested that future research be conducted to:

- Assess specifically the needs and safety risks of agriculture teachers teaching students with special needs in shop/laboratory settings; and,
- Qualitatively distinguish between teachers' perceived abilities and attitudes toward including students with disabilities and actual behavior related to inclusion.

References

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behaviors.* Englewood Cliffs, NJ: Prentice–Hall, Inc.

Avramidis, E., & Norwich, B. (2002). Teachers' attitude towards integration/inclusion: A review of the literature. *European Journal of Special Needs Education, 17*(2), 129–147.

Center, Y., & Ward, J. (1987). Teachers' attitudes towards the integration of disabled children into regular schools. *Exceptional Children, 34*, 41–56.

Burke, K., & Sutherland, C. (2004). Attitudes toward inclusion: Knowledge vs. experience. *Education, 125*(2), 163–172.

Cook, B. G., Cameron, D. L., & Tankersley, M. (2007) Inclusive teachers' attiudinal ratings of their students with disabilities. *The Journal of Special Education, 40*, 230–238.

Cooper, K., Bocksnick, J., & Frick, M. (2002). Trends in working with special needs students. *The Agricultural Education Magazine, 75*(3), 6–7.

Dickens–Smith, M. (1995). *The effect of inclusion training on teacher attitude towards inclusion.* (ERIC Document Reproduction Service No. ED381486)

Dillman, D. A. (2000). *Mail and internet surveys: The tailored design method* (2nd ed.). New York, NY: Wiley and Sons.

Dormody, T. J., Seevers B. S., Andreasen R. J., & VanLeeuwen, D. (2006). Challenges experienced by New Mexico agricultural education teachers including special needs students. *Journal of Agricultural Education, 47*(2), 93–105.

Elbert, C. D., & Baggett, C. D. (2003). Teacher competence for working with disabled students as perceived by secondary level agricultural instructors in Pennsylvania. *Journal of Agricultural Education, 44*(1), 105–114.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison–Wesley.

Gemmell–Crosby, S., & Hanzlik, J. (1994). Preschool teachers' perceptions of including children with disabilities. *Education and Training in Mental Retardation and Developmental Disabilities, 29*(4), 279–90.

Heron, T. E., & Harris, K. C. (2001). *The educational consultant: Helping professionals, parents, and students in inclusive classrooms* (4th ed.). Austin, TX: PRO–ED.

Hudson, F., Graham, S., & Warner, M. (1979). Mainstreaming: An examination of the attitudes and needs of regular classroom teachers. *Learning Disability Quarterly, 3,* 58–62.

Lindner, J. R., Murphy, T. H., & Briers, G. E. (2001). Handling nonresponse in social science research. *Journal of Agricultural Education, 42*(4), 43–53.

Phillips, W. L., Allred, K., Bruelle, A., & Shank, K. (1990). The will and skill of regular education. *Teacher Education and Special Education, 13,* 182–186.

Pivik, J., McComas, J., & Laflamme, M. (2002). Barriers and facilitators to inclusive education as reported by students with physical disabilities and their parents. *Exceptional Children, 69,* 91–107.

Public Law 94–142. (1975). *Federal Register, 42,* 42474–42518.

Public Law 101–476. (1990). *Federal Register, 54,* 35210–35271.

Ricketts, J., & Duncan, D. (2005). A teaching and learning needs assessment for Georgia agriculture teachers. *The Agricultural Education Magazine, 78*(1), 22–24.

Sorenson, T. J., Tarpley, R. S., & Warnick, B. K. (2005). Inservice needs of Utah agriculture teachers. *Proceedings of the 24th Annual Western Region Agricultural Education Conference*, Prescott, AZ.

Utah State Office of Education. (2008). *Disability Information*. Retrieved October 8, 2008, from http://schools.utah.gov/sars/inforesource/disabilities.htm

U.S. Census Bureau. (2000). *Urban and rural classification*. Retrieved from https://ask.census.gov/cgi–bin/askcensus.cfg/php/enduser/std_adp.php?p_faqid=623

U.S. Department of Education. (1994). *Final report to congress: Summary and recommendations the future of Perkins.* Washington, DC: U.S. Department of Education.

Van Hover, S. D., & Yeager, E. A. (2003). Secondary history teachers and inclusion of students with disabilities: An exploratory study. *Journal of Social Studies Research, 27(1),* 36–45.

Ward, J., Center, Y., & Bochner, S. (1994). A question of attitudes: Integrating children with disabilities into regular classrooms? *British Journal of Special Education, 21,* 34–39.

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