

Identifying Confidence Levels and Instructional Strategies of High School Agricultural Education Teachers When Working with Students with Special Needs

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The purpose of this study was to identify confidence levels of high school agriculture teachers when working with students with special needs and to determine what strategies teachers are using within their classrooms. One state was randomly selected from each of the six National Association for Agricultural Education regions and a stratified random sampling method was used. A random sample of 333 was selected with a response rate of 62%. Participants completed a questionnaire that measured teacher confidence, identified the teaching strategies that were being used, ascertained the perceived effectiveness of the strategies, and collected demographic information. Data analysis indicated that teachers are using recognized practices in their classes, though they are more likely to use practices that are easy to implement and that benefit more students than specific individualized strategies. Overall, teachers are confident in their abilities; however, they disagree that their teacher training programs and in-service opportunities have prepared them to work with students with special needs. Multiple regression analysis was used to determine predictors of confidence, and the model for total teacher confidence accounted for 11.7% of the variance. The total regression model involved in-service participation, age, and having a friend or family member with a disability.

Introduction

In recent decades, educational legislation has been focused on making education available for all students. According to “Condition of Education,” a report published by the National Center for Educational Statistics in 2007, 52% of students with disabilities spent 80% of their time in the general education classroom. Students served under the Individuals with Disabilities in Education Act now account for 14% of the total number of students enrolled in public school. This amounts to a total of 6,713,000 students with disabilities, a number that has almost doubled in the past 30 years (United States Department of Education, 2007).

These students go by many different terms within education literature. For the purpose of this study, the terms “students with special needs” and “students with disabilities” were used interchangeably to identify students who had a recognized disability and who had an Individualized Education Plan (IEP). While inclusion is not new, the impact that it has on education is being constantly analyzed. Research suggests that increased inclusion does benefit students. The National Center for Educational Restructuring and Inclusion (1995) published findings supporting inclusion for students with disabilities in general education classes. This study found increased gains on standardized tests, Individualized Education

Program (IEP) goals, behavior, motivation, and grades. There was also a significant increase in the number of Career and Technical Education (CTE) courses that are being taken by students with disabilities. Harvey (1998) found that 68% of students with disabilities participated in CTE during high school. Between 1982 and 1994, the number of students participating in CTE began to decline in all sub-groups except for students with disabilities. These students completed 54% more vocational credits in 1994 than students without disabilities (United States Department of Education, 2000). In North Carolina, 56.1% of the students in CTE courses were identified as having a disability. The total enrollment in agriculture education courses in that same state for the 2004–2005 school year was 37,822 students. Of this number, 20,789 students were considered students with special needs. (Department of Public Instruction, 2006). While these numbers vary greatly by state and even among individual programs, it can be assumed that agriculture teachers will be faced with the task of providing the best education possible for their students while teaching a very diverse group of individuals (Bateman, 1992).

Despite the fact that the number of students with disabilities in general education courses is increasing, research suggests that many teachers perceive themselves as being unprepared to address these students' needs. In 2003, Roberts and Dyer identified the in-service needs of Florida agriculture education teachers and 43% of the teachers identified a need for in-service on modifying lessons for students with special needs. A similar study found that Pennsylvania educators desired more training in evaluating learners with special needs, IEP's, inclusion practices, and teaching strategies (Elbert & Baggett, 2003).

Many teachers are not specially trained to work with students with disabilities. This lack of training can result in a decrease in job satisfaction and increased stress for teachers who feel escalating pressure to balance testing requirements, accountability, and the needs of all of their students (Lobosco & Newman, 1992). Educators are also challenged to address the numerous goals associated with teaching students with disabilities. These students need not only to be provided with a general education, but they may also require increased assistance with earning a high school diploma, learning job

skills, learning life skills, and preparing to become full members of society and to earn a living within the workplace (McLeskey & Weller, 2000). The emphasis to prepare these students for a career after high school has led to an increase in students with disabilities taking CTE coursework, which allow students to gain a practical, hands-on education that will help them to become more successful upon entering the workforce (Harvey, 2001). Increased participation in these courses for students is thought to be a result of the enhanced learning that occurs with the numerous hands-on activities that these classrooms provide (Gaona, 2004).

Agricultural education was designed to provide better opportunities for all students (Iverson, 1993). While additional emphasis and research has been placed on helping teachers work with students who are disabled, some research suggests that teachers in agriculture are unprepared to provide students with the modifications that they need and are not provided with adequate resources in their teacher preparation programs to work with this student population (Schumm & Vaughn, 1995). Because agricultural education is made up of more than just classroom instruction, teachers must not only be prepared to provide resources and opportunities within the classroom, but they will also need to work with students with disabilities to increase participation in FFA and Supervised Agricultural Experience (SAE) projects. This presents a challenge to agriculture teachers as they try to balance the diverse needs of students within their program (Toole & Eddowes, 1985).

Theoretical Framework

The theoretical foundation of this study is based on the concept of efficacy. Early research conducted by Bandura (1977) analyzed self efficacy as a complex psychological process that involves the conviction that certain behaviors will lead to a desired goal and that one can perform the behaviors required to achieve the desired outcome. Therefore, a person must not only believe that certain strategies or behaviors are effective, they must also be confident in their own ability to perform those strategies. This early research was later applied specifically to teacher efficacy by Gibson and Dembo (1984).

This theory suggests that there are two separate dimensions of self-efficacy theory: self efficacy and outcome expectancy. Self-efficacy is the belief in one's ability to perform a behavior successfully. Outcome expectancy is the belief that one's behavior will lead to a specific outcome. Teachers who believe that what they do impacts student success and who have confidence in their own abilities will be more successful, more persistent, and exhibit greater academic focus within their classrooms. Teacher efficacy is generally related to teacher classroom behavior, openness to new ideas, and attitudes. It also appears to relate to student achievement and attitudes (Woolfolk, Rosoff, & Hoy, 1990). These teachers are also likely to have a wide variety of teaching methods at their disposal and be able to use these strategies effectively (Riggs & Enochs, 1990).

Purpose and Objectives

The purpose of this study was to identify which strategies agriculture teachers are using in their classrooms and how effective they believe those strategies to be when working with students with special needs. A secondary purpose of this study was to determine the self-perceived confidence levels of agriculture teachers when working with students with special needs. The objectives of this study were:

1. To determine whether agriculture teachers are utilizing recommended practices when working with students with special needs.
2. To determine how often recognized strategies are being used by agriculture teachers.
3. To determine what strategies teachers perceive as being effective strategies for working with learners with special needs.
4. To determine self-perceived confidence levels of teachers when working with students with special needs.
5. To identify predictors of teacher confidence when working with students with special needs.

Methods and Procedures

The population for this descriptive research study consisted of secondary agriculture teachers in the United States. The National Association

for Agricultural Education (NAAE) divides the country into six different regions. From each of the six regions, a state was randomly selected. The states chosen to participate in the study were Washington, Texas, Iowa, Kentucky, Tennessee, and Delaware. Because of the large population difference between the states, a stratified random sampling method was used to ensure all states were appropriately represented in the sample. The sampling frame for the study was agriculture teacher directories provided by state staff within each of the selected states. This resulted in a total of 2,610 teachers. A total sample size of 333 was selected according to Krejcie and Morgan (1970).

The instrument was created and implemented electronically using SurveyMonkey.com. The instrument was divided into three parts. The first part of the instrument was a forced-choice 12 question Likert-type scale to determine teachers' levels of confidence related to specific areas of agricultural education. Teachers were asked to respond to the statements on a scale of *strongly disagree*, *disagree*, *agree*, or *strongly agree*. The statements were selected to determine specific concerns or attitudes among agriculture education teachers. Three negative statements were included in the section and were reverse-coded upon analysis. The respondents were also asked to rate their total confidence on a scale of 1 to 10 with 1 being *not confident* and 10 being *very confident*.

Section II of the instrument was based on an earlier Delphi study conducted by Richardson and Washburn (2006) that identified strategies employed by North Carolina agriculture teachers in serving students with mild to moderate learning disabilities. The researchers used three main research questions to identify what strategies were used to modify instruction for students with mild to moderate disabilities. The study identified different strategies for modifying curriculum, modifying instruction, and modifying the classroom lab environment. For the purpose of this study, just the final round responses regarding instructional strategies were included in the survey instrument. These strategies were chosen for the instrument because they were not only identified as being used most often in agricultural education by a panel of experts, but also the strategies were confirmed through additional research as being

effective strategies for students with special needs. A total of 26 strategies were incorporated into section II of the instrument. The teachers were asked to identify how often they used each strategy with one of the following choices: *Never* (I have never used this strategy), *Rarely* (this strategy is used, but only a few times each semester), *Occasionally* (this strategy is used only once or twice per month), *Often* (the strategy is used several times a month), and *Regularly* (the strategy is used as often as possible as part of my method of teaching). The respondents were also asked to rate their opinion of the effectiveness of each strategy on a scale of 1 to 10 with 1 being *not effective* and 10 being *very effective*.

The third part of the instrument was designed to collect demographic data and information about specific educational experiences. Information collected included gender, age, years teaching, level of education, teacher licensure information, previous courses taken related to students with disabilities, in-service opportunities, and the identification of friends or family members with disabilities.

The instrument was pilot-tested on a sample of agriculture teachers in North Carolina. Content and face validity was established using a panel of experts in the agriculture education field from different universities. The confidence portion of the instrument was analyzed for reliability was calculated using Cronbach's coefficient alpha, and an alpha score of .77 for the final instrument was obtained.

Data were collected during the fall and spring semesters of the 2008–2009 school year. A total of 207 instruments were collected for a total response rate of 62%. Eight instruments were considered unusable due to a lack of reportable data. Twenty non-respondents were randomly selected, contacted by phone, and asked selected questions from the instrument. There was no statistically significant difference between respondents and non-respondents. Therefore it was concluded that the results of this research were generalizable to the target population. This approach to controlling non-response error was chosen based on research conducted by Linder, Murphy, and Briers (2001).

Findings

Of the teachers that responded, the majority of respondents (63.3%) were male. Teachers' ages ranged from –22 to –63 with a mean of 39.12 and a standard deviation of 11.91. Years of teaching experience ranged from 1 year to –36 years. The mean number of years teaching was 14.21 with a standard deviation of 10.72. Teachers were asked their current level of education, and 52.8% responded that their current level of education was a bachelor's degree. Additionally, 45.7% currently had their master's degree, and 1% had received a specialist or sixth year certificate. One teacher had earned a doctorate (0.5%). The majority of teachers were traditionally certified (91.6%), and the remaining teachers were licensed through lateral entry (8.4%).

The remaining demographic information related to teachers' educational or personal experience with students in special education. A total of 58.8% of teachers reported that they had taken at least one class that contained a unit of instruction dedicated to teaching students with special needs, and 41.2% had taken a whole course related to special education. Of the respondents, 73.9% had completed in-service through their school, school system, professional organization, or teacher conference related specifically to working with students with special needs, with a mean of 19.95 contact hours. A total of 58.3% of respondents had a close friend or family member identified as a person with a disability.

Based on the analyzed data, most of the recommended practices identified by Richardson and Washburn (2006) are being used by teachers when working with students with disabilities in their programs. Of the –26 strategies, eight were identified as being used *often* to *regularly* (4.0 – 5.0), 18 were identified as being used *occasionally* to *often* (3.0 – 4.0), and only two were identified as being used *rarely* to *occasionally* (2.0 – 3.0). No strategies were identified by teachers as strategies that they *never* to *rarely* use (1.0 – 2.0) (see Table 1). This method of data analysis was used to allow easier comparison among use and effectiveness.

To determine how often recognized strategies are being used by agriculture teachers, the data were collected, averaged, and ranked (see Table 1). Teachers described *emphasizing*

hands on skills ($M = 4.42$), providing *modification from a student's IEP* ($M = 4.29$), *modifying testing* ($M = 4.10$), *spending more time with those students during activities* ($M = 4.09$), *not penalizing spelling errors* ($M = 4.08$), and *strategically assigning partners or groups for work or projects* ($M = 4.06$) as the most used strategies. The strategies that were identified as being used the least were *using a different rubric for students with special needs* ($M = 2.91$) and *tutoring after school* ($M = 2.54$). More individualized strategies such as using fill-in-the blank notes and focusing on vocabulary were generally used least often by teachers, while more general teaching strategies such as emphasizing hands-on skills and following a student's IEP, were identified as being used more often.

Respondents were asked to rank the twenty-six strategies on a scale of one to ten with one being not effective and ten being very effective. Teachers identified "emphasizing hands-on skills" as being the most effective strategy when working with students with disabilities ($M =$

9.40). Teachers also identified *spending more time with students or watching them more closely during hands-on activities* ($M = 8.94$), *strategically assigning partners or groups for work/projects* ($M = 8.61$), *modifying testing* ($M = 8.56$), *assigning tasks that focus on active learning* ($M = 8.55$), and *not penalizing spelling errors* ($M = 8.52$) as being the most effective strategies (Table 1). The least effective teaching strategies identified were *using different rubric/scoring guide for students with special needs on the same assignment other students complete* ($M = 6.38$), *tutoring after school* ($M = 6.53$), and *giving students a rubric for the grading of performance items* ($M = 6.53$). For analysis purposes, strategies were classified as being *very effective* if the mean score fell between 8.1 and 10.0, *somewhat effective* if the mean fell between 5.1 and 8.0, *less effective* if the mean fell from 3.1 to 5.0, and *not effective* if the mean fell from 1.0 to 3.0. Therefore, even though these strategies were identified as being the least effective, they were still considered to be at least somewhat effective.

Table 1
Use and Effectiveness of Recommended Strategies by Agricultural Teachers

Recommended Practice	Use		Effectiveness	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Emphasize hand-on skills or activities	4.42	0.79	9.40	1.68
Read a students' IEP and provide those modifications	4.29	0.89	8.38	2.28
Modify testing (open notebook tests for students with learning disabilities, separate location, more time, etc)	4.10	0.94	8.56	2.04
Spend more time with them of watching then more closely during hands-on activities	4.09	0.84	8.94	1.62
Not penalizing spelling errors	4.08	1.23	8.52	2.30
Strategically assign partners or groups for work/projects	4.06	0.86	8.61	1.93
Give study guides for tests	3.93	1.08	8.04	2.22
Give students handouts that coordinate with lessons	3.88	0.87	8.26	1.83
Use of Power Points in class for notes or visuals	3.87	1.13	8.11	2.36
Use stories to illustrate a point in a lesson	3.86	1.08	8.28	2.35
Assign them tasks that focus on active learning rather than passive learning	3.85	0.83	8.55	1.84
Show videos and other visual media that relates to topics	3.84	0.87	8.30	1.91
Slow down to give more individualized instruction	3.72	0.87	8.19	1.90
Allow students with special needs to use a word bank for difficult vocabulary on tests (Plant identification tests, Tool identification tests, etc)	3.72	1.11	8.20	2.34
Keep special education teachers informed about what students should be learning in your class.	3.66	1.07	7.54	2.47
Allow tests or assignments to be read aloud to the student	3.62	1.16	8.03	2.47
Provide shorter assignments	3.44	0.93	7.74	2.20
Ask Special Education teachers to provide an overview of students	3.41	1.30	7.19	3.10
Require a students to keep a notebook that is graded and checked for accuracy	3.40	1.43	7.01	3.16
Give students a rubric for the grading of performance items	3.33	1.35	6.82	3.07
Give students copies of notes from the teacher of other students	3.29	1.02	7.04	2.41
Use oral exams or presentations	3.26	1.06	7.46	2.55
Give students fill in the blank note guides or note outlines	3.21	1.07	7.08	2.46
Focus on vocabulary that may be difficult for them to understand (creating a word wall, worksheet, etc)	3.04	1.10	6.82	2.77
Use a different rubric/scoring guide for students with special needs on the same assignment other students complete	2.91	1.37	6.38	3.27
Tutor students after school	2.54	1.00	6.53	3.27

Note. Use data is based on a 5 point Likert-type scale (1= *Never*, 2= *Rarely*, 3= *Occasionally*, 4= *Often*, 5= *Regularly*). Effectiveness data was ranked on a scale of 1 to 10 (1 = *not effective* and 10 = *very effective*)

Objective four of the study analyzed teacher confidence levels when working with students with special needs in their classes. Teachers were asked to respond to twelve statements by

stating if they strongly disagreed, disagreed, agreed, or strongly agreed (see Table 2). Teachers overall were very positive about their abilities to provide a positive classroom

atmosphere (M = 3.39). Teachers also generally agreed that they were capable of following the requirements found in special education legislation (M = 3.15), involving students with disabilities in their local FFA chapter (M=3.14), managing the behavior of students (M=3.13), and modifying assignments or activities according to a student’s IEP (M=3.11). Of the twelve statements, teachers were least confident that their teacher education programs prepared them to work with students with disabilities

(M=2.45) and that they received adequate education and training through in-service opportunities (M=2.46). Teacher were also asked to rank their overall confidence when working with students with special needs on a scale of one to ten with one being “very low” and ten being “very high”. The minimum confidence score was a one and the highest score was a ten. The mean confidence score was 7.27 with a standard deviation of 1.69.

Table 2
Confidence Levels of Teachers When Working With Students with Special Needs

Statement	SD	D	A	SA	M
I can provide a positive classroom atmosphere for students with special needs	2%	3%	49.2%	45.7%	3.39
I am capable of following the requirements found in special education legislation	2%	13.1%	52.3%	31.7%	3.15
I am confident in my ability to involve students with disabilities in the local FFA chapter	1.0%	4.1%	75%	19.9%	3.14
I can manage behavior of students with special needs	2.6%	6.1%	67.3%	24.0%	3.13
I can modify assignments or activities according to a student’s IEP	3%	11.6%	56.8%	28.6%	3.11
I provide Supervised Agricultural Experience (SAE) projects for students with special needs that are comparable to SAE programs for students without special needs	3.0%	16.7%	68.2%	12.1%	2.89
I can provide physical accommodations for students with special needs if needed	5%	19.6%	58.8%	16.6%	2.87
I provide adequate instruction for students with special needs	3%	24.1%	57.3%	14.6%	2.82
I can evaluate students who have special needs	2.5%	31.7%	52.8%	12.1%	2.75
I am comfortable working with students with any type of disability	6.1%	35.2%	49.5%	9.2%	2.62
I have received adequate education and training for working with students with special needs through in-service opportunities	10.6%	41.2%	40.2%	8.0%	2.46
I am confident that my teacher training program prepared me to work with students with disabilities	13.1%	40.2%	34.2%	11.6%	2.45

Note. Mean score calculated on a four point scale. (1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree).

Multiple regression analysis was used to identify predictors of total teacher confidence. For better accuracy, a total confidence score was calculated by adding up the responses to each of the confidence statements to give respondents a total score. The maximum total score possible was a –48 indicating a response of *strongly*

agree for each of the statements. In order to determine the best predictive model, the dependent variable (total confidence score) was analyzed with selected demographic variables (gender, age, years of teaching experience, level of education, certification, coursework, in-service involvement, and having a friend or

family member with a disability.). Stepwise regression was used to determine the multiple regression model that best explained teacher confidence. The best fitting model consisted of three variables: in-service participation related to

special education, age, and having a friend or family member with a disability. This model had a total R² of .118 accounting for almost 12% of the total variance in predictors of total confidence (see Table 3).

Table 3
Best Fitting Predictive Model for Total Confidence

Model	R	R Square	Adj R Square	Std Error
1 ^a	.219	.057	.051	4.41
2 ^b	.293	.086	.074	4.35
3 ^c	.342	.117	.099	4.29

^aFactors: In-service. ^bFactors: In-service, Age. ^cFactors: In-service, Age, Friend or Family Member with a Disability

Total teacher confidence as explained by in-service accounts for 5.7% of total model. When age was the only factor in the model 2.9% of the variance in total teacher confidence was explained. Having a friend or family member with a disability accounted for an additional 3.1% of the variance.

The standardized beta coefficient for participating in in-service was .249, age was -.204, having a friend or family member with a disability was .148 in the best fitting model, indicating age as a negative predictor in the model (see Table 4).

Table 4
Standardized Beta Coefficients of the Best Fitting Model

Model	Factors	B	SE B	β
1	In-service	2.47	0.215	0.239
2	In-service	2.93	0.249	2.830
	Age	-0.07	-0.149	-0.176
3	In-service	2.79	0.249	0.269
	Age	-0.08	-0.204	-0.201
	Friend or Family Member with a Disability	1.64	0.148	0.179

Note. $p < .05$, $R^2 = .117$

Conclusions

From this study, it is concluded that teachers perceive themselves to be using recommended practices as identified by Richardson and Washburn (2006). On average, all of the strategies were reported as being used as part of a teacher’s instructional practices though some may only be used a few times each semester. It is positive news that teachers seem to be using some of these strategies or a collection of these strategies as part of their classroom instruction.

Additionally, teachers reported that they are providing hands-on opportunities for students,

reading a student’s IEP, modifying testing, spending more time with students and watching them more closely during hands-on activities, not penalizing spelling errors, and strategically assigning partners or groups. The strategies that teachers identified as being used most often are also strategies that can be easily implemented with an entire class while strategies that are being used least often are strategies that may take more time to use for individual students. Because of the nature of agriculture courses it is expected that teachers are using a large amount of hands-on learning activities in their classes. This makes agriculture courses an ideal

environment for the success of students with special needs (Phillips & Dormody, 1993). While teachers are using these recommended strategies, they are less likely to use specific individualized educational strategies such as separate rubrics, providing opportunities for guided notes or outlines, and focusing on essential vocabulary. The lack of regular emphasis on vocabulary may be especially detrimental to students because agriculture contains unique vocabulary that is essential to content-area knowledge. Students with learning disabilities may have additional problems with vocabulary acquisition and may need additional educational support (Bryant, Goodwin, Bryant & Higgins, 2003).

In regards to the effectiveness of teaching strategies, teachers scored most strategies relatively effective on a 10-point scale. The lowest mean score for any of the strategies was 6.38 on a 10-point scale. The strategies that were ranked the least effective were the use of rubrics, tutoring, and vocabulary instruction. Teachers view hands-on skills, spending more time with students and monitoring them closely, strategically assigning partners or groups, modifying testing, assigning tasks that focus on active learning rather than passive learning, and not penalizing spelling errors as the most effective skills. Active learning is generally a characteristic of agriculture education classes and good teaching practices. Therefore, it seems logical that teachers would view these strategies as being most effective. All individualized strategies were still ranked as effective, though teachers indicated that they are not using all strategies regularly. This suggests that teachers may need additional educational opportunities through in-service or training that would help them use these strategies effectively in their classrooms. This may allow teachers to have more teaching strategies at their disposal and increase total students achievement, especially for students with disabilities. Despite being less confident in some areas, teachers are very optimistic about their ability to provide a positive classroom atmosphere for students with special needs. This indicates a willingness to provide an atmosphere that will be beneficial for students with special needs in their classes regardless of their confidence in specific areas of special education. The respondents were also positive in their ability to follow special

education legislation and modify assignments or activities according to students' IEPs. Because of accountability and legal issues involved in education, it is good that teachers generally feel confident in these areas. However, because of the importance of these issues, teacher education programs should strive to raise these confidence levels higher. Teachers also agree that they can involve students in their local FFA chapter. Because of the unique social needs for some students with special needs, this is a very positive response and another area that should be strengthened through educational programs.

The majority of respondents disagreed that their teacher education program prepared them to work with students with special needs and that they received adequate in-service opportunities. This supports the research conducted by Roberts and Dyer (2003) which found that Florida agriculture education teachers identified a need for quality in-service related to teaching students with special needs. It is during these in-service opportunities and courses that teachers could be provided with different strategies to work with students with special needs. If teacher education programs are not already doing so, these programs should provide opportunities for teachers to be exposed to special education techniques that will help them become more confident in their abilities to educate all students. Gibson and Dembo (1984) concluded that teacher confidence is a significant part of teacher success. Based on this study, teachers generally consider themselves to be confident in their abilities. On a scale of 1 to 10, respondents averaged a 7.27. This high score may indicate that teachers are confident in what they are able to do within their classes even though they may not be fully aware of all of the strategies benefitting students with special needs.

Based on the stepwise multiple regression model, participating in in-service, age of the teacher, and having a friend or family member with a disability created the best fitting model for prediction of total teacher confidence. The total model accounted for 11.7% of the variance in total teacher confidence. The variables *in-service* and *having a friend or family member with a disability* were both positively associated with the predictor model. Both of these factors suggest that additional training opportunities should be provided in teacher education

programs and for teachers currently in the field. Having a close friend or family member with a disability suggests a certain amount of familiarity with an individual with a disability may give that teacher a better sense of how to work with other students with special needs. If this is the case, then teacher education programs should try to incorporate activities or experiences that allow teachers to work closely with student with disabilities to gain a better understanding of how to teach students from this population. It should be noted that there was a very large amount of the variance unaccounted for. This indicates that there are other factors that may be involved in determining total teacher confidence within this study

Age was the only negative predictor in the model. According to this regression model, older agriculture education teachers may contribute to a lower total confidence when working with students with disabilities. This indicates that teacher education programs and in-service opportunities should focus on providing additional opportunities for older teachers to help them develop more confidence when working with students with special needs in their classrooms.

Recommendations

Based on this research, teacher training programs should ensure that numerous opportunities are available to provide pre-service teachers with experience in working with students with special needs. Training and in-service should also be provided to help teachers

learn to implement recommended teaching strategies and to find ways to use these strategies effectively in their classrooms. Simple strategies such as fill-in-the-blank notes and using graphic organizers are easy techniques that teachers can be trained to use. Also, in-service and training should be developed for older teachers within the field to help build total confidence when working with students with special needs. Additional research should be conducted to explore why teachers are less likely to use certain recommended strategies. It would be helpful for teacher training programs to understand if teachers are not using these strategies as often because they are not as familiar with them or if there are other factors involved. Factors such as a lack of time, class size, training, and planning may all be perceived barriers to the implementation of these strategies in educational programs. Also, experimental research should be conducted to determine what practices are most beneficial to increase achievement for students with special needs in agricultural education. Lastly, this regression model only accounted for a relatively small amount of the variance. Additional research should be conducted to identify other predictors of teacher confidence when working with students with special needs in agricultural education. While coursework and personal experience are factors that are often addressed in the literature, there may be other factors such as training, class size, supports systems, and mentoring that may have a greater impact on total teacher confidence when working with students with special needs.

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