

Identifying Strategies for Diversity Inclusive Agricultural Education Programs



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Abstract

While schools across the United States are witnessing an influx of students from diverse backgrounds, the need to address the issue of diversity inclusion among teachers is critical for equitable schools. This study explored and analyzed Texas agricultural education teachers' (n = 232) perceptions on proposed solutions to increase diversity inclusion in agricultural education programs. Using a web-based questionnaire, descriptive statistics were used to report demographic and personal characteristics while mean scores were used to assess teachers' perceptions on the proposed solutions. Teachers agreed that: "Agricultural education teachers should become familiar with the students of color represented in their classrooms in order to promote an atmosphere of acceptance and cooperation"; "educators, parents, and policymakers must develop strategies to address the different learning styles of all students;" and "teaching materials should reflect a diverse society in agricultural education."

Introduction

The number of students from different racial and ethnic backgrounds in schools throughout the United States has increased considerably as diversity has become progressively more reflective in public education. In a national report on the condition of

education, Planty et al. (2009) reported 24% of all public school students attended schools where the combined enrollment of students of color was at least 75%, compared with 16% of public school students in 1990-91. Equally, the numbers of students with disabilities are spending up to 80% of their instructional time in regular education classrooms (Biddle, 2006; National Center for Educational Statistics, 2007). Irvine (2003) stated, "most teachers now in classrooms and in teacher education programs are likely to have students from diverse ethnic, racial, language, and religious groups in their classrooms during their careers". The increasing diversity of students and the homogenization of non-diverse public school teachers suggest that more and more educators will teach students from diverse backgrounds (Wang, 2006). Because of the changing demographics of students in public schools, the agricultural education profession has begun to reexamine its mission as the profession understands that future teachers of agricultural education will be from a broader than ever diversity of individuals. Current and future teachers of agricultural education must be prepared in terms of philosophy, pedagogy, and curriculum to embrace the complexities of an increasingly diverse student population, and actively work on preparing this population for a positive matriculation in agricultural education programs.

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Identifying Strategies

Agricultural education programs in public schools are experiencing an increased diffusion of students from a variety of backgrounds (Kantrovich, 2007; LaVergne et al., 2008). With this rapidly occurring shift, researchers have conducted numerous studies to examine the relationship in which this phenomenon has impacted the profession (Giffing et al., 2010; LaVergne et al., 2008; Roberts et al., 2009). Additionally, the presence of diversity in agricultural education has prompted researchers to recommend greater emphasis in recruitment initiatives to national organizations such as the National Council and National FFA (Kantrovich, 2007; LaVergne, 2008).

In a study concerning recruitment efforts of Hispanic students, Roberts et al. (2009) discovered that agricultural education programs and the National FFA Organization can indeed be appealing to non-traditional students. The researchers noted that through a successful implementation of six intervention strategies, guided by Rogers (2003) theories of diffusion of innovations, an increased number of Hispanic students enrolled in agricultural education programs and participated in FFA activities. *“The analysis of this experience demonstrated that when provided with encouragement, recognition, and resources, agricultural education teachers can enroll Hispanic students and engage them in meaningful FFA activities”* (Roberts et al., 2009, p.10). Similarly, in a case study of successful agricultural teachers’ experiences in recruiting African American students, LaVergne et al. (2008) discovered six recruitment strategies that were implemented to counter negative agriculture perceptions. These strategies included: alternative agricultural courses (e.g., canine science, veterinarian technology), making connections of everyday life to agriculture (e.g., bridging the connection between the foods and agriculture), knowledge of various cultures of non-traditional students, modern technology in agricultural based facilities, cross-curriculum recruiting, and community awareness of the local agricultural programs.

Addressing the importance of meeting the needs of students with learning disabilities in agricultural education also has garnered some attention. Pense et al. (2010) reported that a redesigned curriculum should be considered. The researchers declared, “if the curricular needs of specific learning disabilities students in the agricultural education classroom are not met, the agriculture industry risks losing 25% of the future workforce” (p.115). Additionally, the researchers suggested that further studies should investigate ways to train and further develop agricultural educators on accommodating the needs of students with learning

disabilities. In additional research, Stair et al. (2010) sought to identify instructional strategies that high school agricultural education teachers used when working with students with disabilities. According to the researchers, strategies used by teachers included providing hands-on opportunities for students, reading a student’s Individualized Educational Plan (IEP), modified testing, increased time spent with students, close observation during hands-on activities, not penalizing spelling errors, and strategic assigning of group work or student collaborations. The researchers also noted that these findings would suggest that agricultural education teachers may need additional training in order to effectively administer the recommended suggestions.

Given the increasing mixture of students in agricultural education classrooms, a lack of an assortment of resources concerning the issue of diversity can exacerbate the difficulties that many agricultural education teachers have with the recruiting and retaining of underrepresented groups in agricultural education programs. The ability of agricultural education teachers to teach a wide variety of students is vital to the success and practicality of the profession. Although the aforementioned studies have provided an excellent example of research in practice, additional resources for concrete solutions to diversity inclusion still exist. This study sought to add tangible solutions for diversity inclusive agricultural education programs.

Conceptual Framework

Through a review of literature, a conceptual framework was developed (LaVergne et al., 2008) based on theories associated with Bank’s (2008) dimensions of multicultural education, Salend’s (2008) principles of inclusion, and Gay’s (2000) culturally responsive teaching. Diversity inclusion is an educational philosophy that embraces all students by engaging them in educational programs regardless of their race, ethnicity, or exceptionality (LaVergne, 2008). The concept mirrors a practical, human development approach not only to the educational but also social well-being that calls for more than removing the barriers or fears of a culturally responsive classroom. It requires teachers to be dedicated in bringing about actions to create a diversity inclusive classroom. It is the proactive approach of recognizing and accepting differences and ensuring that every student in the classroom can be successful (LaVergne, 2008).

Underlying the concept is the assertion that diversity inclusion is a frame of mind, more than a list of strategies and recommendations, which

guides the educational beliefs of teachers. Diversity inclusive teachers are aware of their strengths and misunderstandings (LaVergne, 2008). They recognize how these strengths and misunderstandings influence their expectations for success and their interactions with the diversity of students in their programs. They recognize that the ultimate goal of a diversity inclusive classroom is not to achieve the cliché of a “one program fits all” model, but to create a program where their students have equal opportunities to benefit from everything that the program has to offer (LaVergne, 2008).

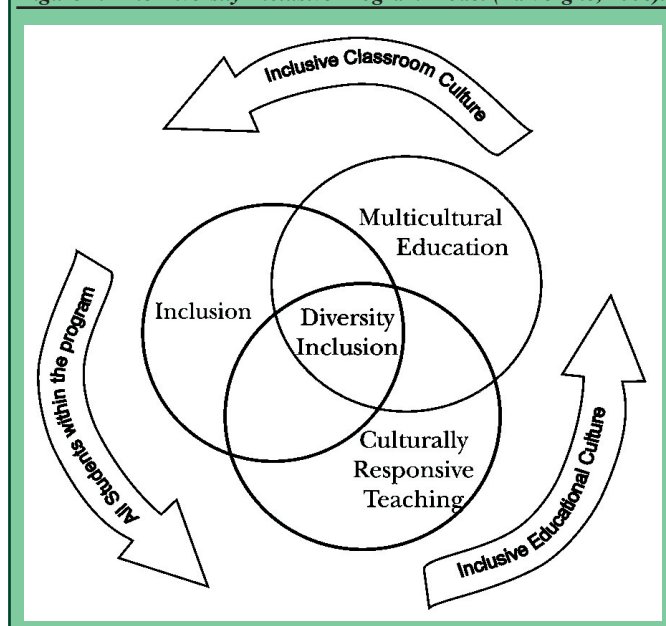
Because of its originality, previous research on diversity inclusion has generated trivial results. In a study of diversity inclusion of North Carolina secondary agricultural educators, Warren and Alston (2007) found that stakeholders, teachers, and students benefit from diversity inclusion in various ways. The researchers noted that diversity inclusion “*broadens the perspectives of teachers and students, a characteristic that will be greatly needed...*” (p. 76). Research exclusively on diversity has shown a positive impact on students’ cognitive and personal development because it challenges stereotypes, broadens perspectives, and sharpens critical thinking skills (Banks, 2008).

While students with disabilities and the special education curriculum continue to be the principal focal point of inclusion, the term has been extended to include the increased cultural/linguistic plurality, coupled with other dimensions along which people may differ (e.g., socioeconomic status, geographical influences, gender, religious sect, etc.) (Salend, 2008). Conversely, local public schools now are educating millions of children with disabilities, and a growing number of them are enrolling in general education courses (National Center for Education Statistics, 2008). Over the past couple of years, meticulous studies have been conducted concerning teacher attitudes and perceptions towards the inclusion of students with disabilities in regular education classes (McLeskey and Waldron, 2007; Smith, 2007). Underlying the premise of these studies was the fact that the attitudes of teachers play an important role in the success of an inclusive program. If the goal of successful inclusion is in the best interest of the students, teachers, and parents, then the proper steps must be taken to ensure that success happens at all levels.

The Diversity Inclusive Program Model (Figure 1) is an illustration that aids in the visualization of the diversity inclusion concept. As previously mentioned, diversity inclusion encompasses multicultural education, inclusion, and culturally responsive teaching in a three-part model that

highlights the critical infusion in which a diversity inclusive program should exist. Teachers that support a diversity inclusive program have an understanding of the benefits of diversity inclusion and the perceived barriers that may prevent underrepresented groups from enrolling. In addition, these individuals are constantly seeking possible strategies and solutions to increase underrepresented group participation in agricultural education. Advocates of diversity inclusive programs have become allies of those who understand that successful agricultural education programs will be determined by how prepared our agricultural educators are in teaching students of color and students with disabilities (LaVergne, 2008). The overarching goal of the program model is to formulate an inclusive educational and classroom culture by which all students experience program success.

Figure 1. The Diversity Inclusive Program Model (La Vergne, 2008).



Purpose and Objectives

The purpose of this study was to explore and analyze Texas agricultural education teachers’ attitudes toward diversity inclusion in Texas agricultural education programs. The following objectives were identified to accomplish the purpose of this study:

1. Identify personal characteristics of the selected Texas agricultural education teachers;
2. Determine Texas agricultural education teachers’ perceptions of proposed solutions to increase diversity inclusion in Texas agricultural education programs.

Methods and Procedures

The Texas A&M University Institutional Review Board approved this study (via exemption). As such, informed consent was obtained through returned emails from those participants willing to take part in

Identifying Strategies

the study. Following Dillman's (2007) Tailored Design Method for survey implementation, the researchers implemented a questionnaire using a series of e-mails while using SurveyMonkey.com as the host Web site. The questionnaire was based on previous work by Warren and Alston (2007) concerning diversity and inclusion perceptions of North Carolina agricultural education teachers. Researchers acquired permission to use and modify the instrument. The instrument was modified slightly to coincide with the three constructs of the diversity inclusion model. As such, Part one consisted of 12 statements designed to gauge participants' perceptions on possible strategies or solutions that would promote diversity inclusion in agricultural education programs. Participants responded to each question using a four point Likert-type scale wherein 1= strongly disagree, 2= disagree, 3= agree, and 4= strongly agree. Part two consisted of eight items designed to collect demographic information on the agricultural education teachers. A statistical factor analysis was not conducted. Factors were determined conceptually by the research team, based on the borrowed instrument. Individual statements were identified conceptually as contributing to the construct. Then, Cronbach's alpha coefficient was calculated and reported to describe the internal consistency of the summated scale. The reliability analysis coefficient for the construct was .90. A panel of experts with expertise in diversity and inclusion established content validity. Construct validity confirmed that the questionnaire's score actually reflected the conceptual area that it was intended to measure. Evidence of construct validity was collected from the responses and suggestions from the panel of experts. A pilot test of 15 agricultural teachers, not included in the final survey population, provided input regarding the content and direction of the statements, which added to the accuracy and precise construction of the questionnaire.

The target population consisted of all Texas agricultural education teachers as listed by the Texas Education Agency during the 2006-2007 school year. Because of the unavailability of personal information from the Texas Education Association, access to all agricultural education teachers listed by Texas Education Association was not feasible. The accessible population of the study consisted of all Texas agricultural education teachers that had email addresses listed on the JudgingCard.com Website. At the time of selection, 1,500 Texas agricultural education teachers were listed. To ensure that all teachers listed on the website were agricultural education teachers in Texas, cross referencing was

used with the Texas Vocational Agriculture Teachers Association membership roster to ensure validity (N= 1500). Using a sampling formula from Bartlett et al. (2001), researchers used a nonproportional stratified random sample to ensure that all ten administrative areas as defined by the Texas FFA Association would be represented proportionately in the study. Within each administrative area, researchers randomly selected 32 teachers (n = 320).

The questionnaire was administered using a series of e-mails. Participants received a pre-notice/introductory letter outlining the purpose and importance of the study and informing them that they would receive an e-mail in about one week with instructions on how to complete the questionnaire online. At the time of the first e-mail, 31 e-mail addresses were invalid. To obtain valid e-mail addresses, the researchers searched district websites and contacted school personnel. After this update, another e-mail was sent, and the e-mail address was deemed valid. For the remainder of the data collection phase, the researchers sent reminder e-mails every Monday until the study was concluded. In order to address nonresponse error, the researchers compared respondents to non-respondents by comparing participants who completed the questionnaire before the deadline (n =195) to

Table 1. Demographic Profile of Respondents (n=232)

Demographics	f	%
Gender ^z		
Male	170	79.1
Female	45	20.9
Race/Ethnicity ^y		
Asian American	1	0.5
Black/African American	2	0.9
Hispanic/Latino American	13	6.2
Native American	4	1.9
White/European American	191	90.5
School Setting ^z		
Rural	135	62.8
Urban	32	14.9
Suburban	48	22.3
Years of Teaching Experience ^z		
< 5	48	22.3
5-10	52	24.2
11-15	32	14.9
16-20	24	11.2
21-25	27	12.6
> 25	32	14.9
Preservice Diversity/Multicultural Training ^z		
Yes	68	31.6
No	147	68.4
Inservice Diversity/Multicultural Training ^z		
Yes	100	46.5
No	115	53.5
	M	SD
Agex	39.36	10.72

^z Seventeen participants chose not to respond to this question.

^y Twenty-one participants chose not to respond to this question.

^x Twenty-three participants chose not to respond to this question.

those completed the questionnaire after the closing date (n =37) (Lindner et al., 2001). Using the cutoff date as the independent variable and mean scores as the dependent variable, independent sample t-tests revealed no statistically significant difference (p <.05) existed between respondents' mean scores on the construct, deeming the responding sample as a viable representation of the accessible population. The final return rate was 72.5%.

Results

Of the respondents, 170 were male, while 45 were female (Table 1). The majority (90.5%) of the respondents indicated that they were White/European American. The data also indicate that a large percentage (62.8%) of teachers taught in schools located in a rural setting. Regarding teaching experience, 52 (24.2%) indicated that they had between 5 and 10 years of teaching experience. Sixty-eight participants (31.6%) indicated that they received some form of diversity/multicultural training during their undergraduate matriculation while 147 (68.4%) indicated that they had not. One hundred participants (46.5%) indicated that they received some form of diversity/multicultural education outside of a college/university requirement.

The statement in which participants scored the highest mean score involving multicultural education

was, "Teaching materials should reflect a diverse society in agricultural education " (M = 2.98, SD = .65) (Table 2). The statement in which participants scored the highest mean score involving agricultural teachers was: "Agricultural educators should encourage and strive to increase students' of color membership in FFA" (M = 3.09, SD = .67). In relation to statewide initiatives, respondents agreed that "For all students to achieve in school, educators, parents, and policymakers must develop strategies to address the different learning styles of all students" (M = 3.33, SD = .63), and "A state-wide support network for agricultural educators would enhance diversity inclusion in agricultural education" (M =2.72, SD = .73).

Conclusions

Overall, participants from the 10 teaching areas had a high rate of response using an Internet based survey method. This finding adds credence to the study conducted by Ladner et al. (2002) that concluded that web-based survey instruments provide valid and reliable methods of collecting data.

The majority of agricultural education teachers more than likely had not received diversity/multicultural training during their undergraduate careers (68.4%) or outside of a college or university requirement (53.5%).

Table 2. Proposed Strategies to Increase Diversity Inclusion in Agricultural Education Programs

Diversity Inclusion	Item	M z	SD
Multicultural Education	Teaching materials should reflect a diverse society in agricultural education.	2.98	.65
	Multicultural education can be used to increase the awareness of students of color in relation to diversity.	2.91	.62
	Multicultural education can be used to increase the awareness of students with disabilities in relation to diversity.	2.86	.66
	Multicultural education is a strategy that can be utilized to promote an attitudinal change toward diversity inclusion in agricultural education.	2.78	.70
	It is important for colleges and universities to incorporate more multicultural education classes in their preservice teacher preparation curricula.	2.68	.78
	Agricultural education teachers need training in multicultural education.	2.64	.77
	Agricultural Teachers	Agricultural education teachers should become familiar with the students of color represented in their classrooms in order to promote an atmosphere of acceptance and cooperation.	3.42
Agricultural educators should encourage and strive to increase students' of color membership in FFA.		3.09	.67
An increase in recruitment efforts by agricultural educators would enhance diversity inclusion in agricultural education.		2.95	.66
Mentoring is a strategy that could be utilized to increase diversity inclusion in agricultural education.		2.92	.60
Statewide Initiatives		For all students to achieve in school, educators, parents, and policymakers must develop strategies to address the different learning styles of all students.	3.33
	A state-wide support network for agricultural educators would enhance diversity inclusion in agricultural education.	2.72	.73

*Scale: 1.00 to 1.49 = Strongly Disagree, 1.50 to 2.49 = Disagree, 2.50 to 3.49 = Agree, 3.50 to 4.00 = Strongly Agree.

Identifying Strategies

However, the decreased percentage between inservice and preservice diversity/multicultural training could indicate that Texas high schools are making conscious efforts to provide diversity/multicultural education to agricultural education teachers.

Respondents tended to agree with the statements regarding the benefits of diversity inclusion in agricultural education programs. This finding supports the idea that respondents do see the benefits of diversity inclusion in agricultural education programs. Because the scale addressed both students of color and students with disabilities, findings of this study support previous studies that found that general education teachers can have positive benefits on both students of color and students with disabilities (Finegan, 2004; Smith, 2007; Wood, 2007).

Respondents agreed that a lack of role models hindered the participation of students of color and students with disabilities in agricultural education. Given this information, efforts to recruit role models that would change the perceptions of these students about agricultural education potentially would benefit the profession. However, Scott and LaVergne (2004) discovered that individual influences did not play a significant role in students' perceptions of enrolling in an agricultural education course.

Texas agricultural education teachers believed that the lack of information about agricultural education has an impact on students' of color perceptions of agricultural education. Considering this finding, agricultural educators should revisit their recruitment efforts and, in turn, develop strategies that would foster a greater opportunity for students of color to create a positive perception of agricultural education. This finding adds relevance to studies such as Warren and Alston (2007) and Roberts et al. (2009), which examined the link between teachers and students in relation to the recruitment of diverse populations in agricultural education.

Multicultural education was viewed as a tool to increase the awareness of students of color and students with disabilities in relation to diversity inclusion in agricultural education programs. The finding affirms the critical need of developing culturally responsive teachers. Culturally responsive teaching is important for the success of students of color and students with disabilities in agricultural education (Gay, 2000; LaVergne, 2008). Furthermore, the continuation of ignorance about equitable pedagogy and cultural differences would be harmful to diverse students (Gay, 2000).

Mentoring was seen as a strategy to increase diversity inclusion in agricultural education programs.

This finding supports what Banks (2008) called an empowering school climate and culture. Teachers, administrators, and parents must work collectively to make sure schools create an atmosphere that promotes diversity and inclusiveness. Teachers must understand that their goal to promote diversity inclusion is not an isolated mission but rather a school-wide effort.

Implications and Recommendations

Texas agricultural education teachers tended to have favorable attitudes toward diversity inclusion in agricultural education programs. Based on these findings, efforts should be made by agricultural education teachers to ensure that students of color and students with disabilities are persuaded to enroll in agricultural education courses. Beginning agricultural education courses such as Introduction to Agricultural Education (AGSC) 101 and 102 could provide excellent opportunities for these students to be introduced to agricultural education. Additionally, local FFA chapters could be utilized as a recruitment tool for students of color and students with disabilities. If, as the literature suggests, Texas agricultural education teachers do favor diversity inclusion, then respondents should promote and encourage greater participation of diverse students into agricultural education programs.

Based on the findings of this study, participants were not enrolling in diversity/multicultural courses at the undergraduate level. The high percentage of concurrence that diversity/multicultural training is not taking place could indicate that many preservice teachers may not be prepared adequately to serve a diverse mixture of students in agricultural education programs. Whether or not this detachment is from the unavailability of such courses (at one's institution) or from the lack of teacher educator departments incorporating a diversity/multicultural course component, the fact remains that the agricultural education profession must provide its teacher education students with this type of training. As such, the researchers recommend that these programs provide future agricultural education students with at least one diversity/multicultural education course preferably with a field experience component incorporated. As Talbert and Edwin (2008) stated, "through field experiences, students have many opportunities to gain practical experience in the field of agricultural education and at the same time be exposed to issues of diversity in their everyday activities" (p.59). Data of demographic trends in public schools imply that this type of training is warranted (Biddle, 2006; National Center for Educational Statistics, 2007; Planty et al., 2009).

Mentoring was seen as a strategy to increase diversity inclusion in secondary agricultural education programs. This finding supports what Banks (2008) called an empowering school climate and culture. Teachers, administrators, and parents must work collectively to make sure schools create an atmosphere that promotes diversity and inclusiveness. Given this fact and based upon previous research (Williams, 1992; Jones and Bowen, 1998; Osborne, 1994), agricultural educators should seek to identify diverse individuals to provide mentoring to underrepresented groups enrolled in agricultural education courses. By demonstrating evidence of a collaborative, trusting, and respectful relationship with potential mentors, Texas agricultural education teachers may enhance their recruitment and retention efforts of students of color and students with disabilities in agricultural education programs.

Because of the success of using a web-based survey, researchers should promote and encourage the use of the Internet as a reliable and valid tool for accessing a wide range of individuals for conducting social science research. Additionally, research of a qualitative nature should be conducted with agricultural education teachers to develop effective strategies to increase diversity inclusion in agricultural education programs. Case studies involving successful inclusive programs could provide strategies and recommendations to other teachers.

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