

AN ANALYSIS OF DIVERSITY INCLUSION IN NORTH CAROLINA SECONDARY AGRICULTURAL EDUCATION PROGRAMS

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Abstract

The purpose of this study was to gauge the perceptions of North Carolina secondary agricultural educators regarding the benefits and barriers to diversity inclusion in North Carolina secondary agricultural education programs. Additionally, the perceived solutions to increasing diversity inclusion in North Carolina secondary agricultural education programs were also assessed. Respondents agreed that diversity inclusion benefits include the development of leadership and character skills for minorities and women, in addition to the development of critical thinking skills in students. North Carolina secondary agricultural teachers reported that the barriers to diversity inclusion included prejudicial issues, the perception of agriculture itself, stereotypes, and guidance counselors. Study participants indicated that having agricultural education stakeholders focus upon varying student learning styles, examining educational materials for diversity content, multicultural education, infusing diversity competencies in agricultural teacher education programs, and mentoring were strategies agreed upon for increasing diversity inclusion in agricultural education. Final recommendations for increasing diversity inclusion included utilizing diversified curriculum materials, establishing collaborative relationships with school officials such as guidance counselors, and preservice and inservice multicultural training.

Introduction

Mankind and a nation's survival are greatly dependent upon its agricultural sector, consequently in the United States ethnic minority and women participation in this field is highly underrepresented (Foster & Henson, 1992). According to a plethora of demographic measures ethnic minority populations are continually growing, and increasingly more of these students will be needed in the field of agriculture in order to ensure the industry's future viability and to help the United States maintain its global agricultural rank (USDA, 1998). Ethnic minority participation in the field of agriculture is increasingly declining on an annual basis, even though career opportunities in this area are steadily growing. In order to recruit and retain ethnic minorities and women into the field of agriculture, agricultural education and agribusiness must gain an understanding of the rewards and motivational factors that

would attract these populations (Zoldoske, 1996).

Diversity Inclusion Benefits

Ethnic minority and women inclusion within the field of agricultural education and society in general provides a great deal of benefits (Banks, 1994). Leadership and character development through the National FFA Organization are some of the benefits for ethnic minorities and women. The National FFA organization is "dedicated to making a positive difference in the lives of young people by developing their potential for premier leadership, personal growth, and career success through agricultural education" (National FFA Organization, 2006, n. p.). One major benefit for all students with the inclusion of ethnic minorities and women is diversity. Researchers have demonstrated that diversity has a positive impact on students' cognitive and personal development, broadens perspectives, and sharpens critical thinking skills (Banks, 1994).

Obstacles to Diversity Inclusion

Ethnic minorities and women face many barriers regarding their participation in vocational education, specifically agriculturally education. The barriers that exist include the perception of agriculture itself, stereotypes, the lack of mentors or role models, guidance counselors, and sexual harassment (Talbert & Larke, 1995). Ethnic minorities and women face many prejudicial issues by school systems that should be addressed (Klauke, 1989). Instructional materials should be analyzed for gender, racial, and cultural biases (Klauke). According to Klauke, educational professionals should become familiar with the ethnic minority groups represented in their classrooms, while simultaneously promoting an atmosphere of cooperation and acceptance. Acceptance by the community, peers, and administrators in combination with the challenge of balancing career and family are some of the obstacles women encounter in vocational education. (Foster, 2001)

Approaches to Diversity Inclusion

According to Talbert and Larke (1995) positive role models of the same ethnicity and gender can be significant factors for students to enroll in agriscience courses and ultimately pursue agricultural careers. Role models have the ability to function as teachers and additionally as coaches to develop high quality learning environments and challenge their students to develop their full abilities. Primarily great role models recognize that they are facilitators and catalysts for a process of insight and process (Bell, 2000). Another function that role models serve is in the area of mentoring. Mentors are individuals who serve in a one to one developmental relationship with a learner and also leave the learner with the feeling that personal and professional growth has taken place as a result of the mentorship interaction (Hawley, 1997). Mentors perform roles in four crucial categories which are coaching, facilitating, counseling, and networking (Hawley).

The different learning styles possessed by students must be addressed by parents, educators, and policymakers in order for all students to achieve in school. According to

the National Coalition for Women and Girls in Education (1988) the public educational system must provide all students with the opportunity to achieve, learn, and excel. Multicultural education is one major strategy that can be employed to develop an attitude of change toward ethnic minority and women inclusion. With an increasingly complex global society multicultural education offers a relevant view (Banks, 1994). Multicultural education can be utilized as a map to direct the future and aid educators, government, communities, and the private sector in eliminating societal inequities that exist.

Vocational educators in relation to multicultural education need training given the fact that the United States has developed into a culturally pluralistic society (Sheppard, 1983). The National Council for the Accreditation of Teacher Education described multicultural education as preparation for the social, political and economic realities individuals will experience in culturally diverse and complex human encounters providing a process for individuals to develop competencies for perceiving, evaluating, and behaving in different cultural settings (Georgia State University, 2006). According to Anderson (1990), a change in educational thinking is represented by multicultural education. Banks (1994) cited four principles of ethnic and cultural diversity: (1) ethnic and cultural diversity should be recognized and respected at the individual, group, and societal levels; (2) diversity provides a basis for societal enrichment, cohesiveness, and survival; (3) equality of opportunity must be afforded to all members of ethnic and cultural groups; and (4) identification for individuals should be optional in a democracy.

In order to increase the percentage of ethnic minorities and women that matriculate into the profession of agricultural education the following task could be accomplished: increasing acceptance by administrators, increasing salaries, changing current societal attitudes against ethnic minorities and women teachers in agriculture, improving teacher education programs, and building support networks and increasing recruitment efforts (Foster, Pikkert, & Husmann, 1991).

Numerous researchers have indicated that ethnic minorities and women would be more likely to participate in vocational education, specifically agricultural education, if individuals from their respective ethnic or gender group hold positions of employment in instructional and supervisory roles (Williams, 1992; Jones & Bowen, 1998; Osborne, 1994).

More focused efforts should be in place to specifically recruit ethnic minority and female students who possess an interest in agricultural occupations (Luft, 1996). Teachers from minority populations are greatly underrepresented in America's public school teaching force, with white females composing the majority (Shure, 2001). Inservice teachers could be provided with cultural diversity training in order to increase their diversity pedagogical techniques. Additionally, it is also recommended that preservice agricultural teacher preparation programs infuse more courses concerning cultural diversity in the development of future agricultural educators; in particular the content of these courses should be designed by experts in multicultural education (Luft).

Conceptual Framework

The conceptual framework for this research endeavor is built upon the concept of Inclusion. As a concept, Inclusion emphasizes bringing students, families, educators, and community members together to create learning environments and other social institutions based on acceptance, belonging, and community (Bloom, Perlmutter, & Burrell, 1999). The concept of inclusion seeks to "establish collaborative, supportive, and nurturing communities of learners that are based on giving all students the services and accommodations they need to learn, as well as respecting and learning from each other's individual differences" (Salend, 2001, p. 5). Inclusion is built upon four major principles: Diversity, Individual Needs, Reflective Practice, and Collaboration.

By incorporating students into general education settings irrespective of economic status, learning styles, gender, religion, race, family structure, sexual orientation, ability,

or cultural background diversity enriches educational programs. In relation to an individual's personal and cognitive development diversity sharpens critical thinking skills, challenges stereotypes, and broadens overall perspectives, skills needed as educational professionals in today's ever changing learning environments (Banks, 1994).

In today's educational environment teachers will consistently interact with students from varying socioeconomic backgrounds, ethnicities, and cultures unlike their own, which will require individuals to have sensitivity to individual needs. Having an awareness of a student's individual needs greatly enhances the educational environment (Banks, 1994).

According to Banks (1994), educational professionals must consistently engage in introspection, in order to evaluate their respective educational practice to ensure that diversity is being addressed in relation to all students. In order to address individual needs teachers must constantly reflect upon their pedagogical and classroom management practices.

Banks (1994) stated ideal educational environments involve collaboration among all stakeholders to ensure that optimal learning can take place. In order to develop effective learning environments collaboration is key among community agencies, families, professional educators, parents, and students (Salend, 2001).

Purpose and Objectives

The purpose of this study was to determine the benefits, barriers, and possible approaches to increasing diversity inclusions in North Carolina secondary agricultural education programs. In order to accomplish the aforementioned purpose, the following objectives were developed:

1. Assess North Carolina secondary agricultural education teachers' perceptions of the barriers of diversity inclusion in North Carolina secondary agricultural education programs.
2. Assess North Carolina secondary agricultural education teachers'

perceptions of the benefits of diversity inclusion in North Carolina secondary agricultural education programs.

3. Assess North Carolina secondary agricultural education teachers' opinions of proposed solutions to increase diversity inclusion in North Carolina secondary agricultural education programs.
4. Determine the demographic characteristics of North Carolina secondary agricultural education teachers.

Methodology

Traditional mail survey methodology, using a three round, one week interval format, in alignment with Dillman's Total Design Method (2000) was utilized to carry out this study. No previously established survey instruments were available for the purposes of this study; therefore an instrument was developed by the researcher after an exhaustive review of literature. The survey instrument consisted of three sections. Part one consisted of 10 statements to measure the benefits of diversity inclusion, part two consisted of 18 statements to measure the barriers of diversity inclusion, and the last section measured various demographic characteristics of North Carolina secondary agricultural education teachers. Content validity was established by a panel of experts of 8 university faculty with research experience in the area of diversity. Face validity and reliability were established during a pilot test of twenty North Carolina agricultural education teachers not included in the final survey population. In order to test the internal consistency reliability of the instrument, the returned pilot tested instruments (7) were analyzed with the aid of Cronbach's alpha according to conventions established by Nunnally (1967).

The overall reliability coefficient for the instrument was .93. The population for this study consisted of secondary agriculture teachers in North Carolina who were listed in the 2001-2002 North Carolina Agricultural Education Directory ($N = 366$) (North Carolina State University, 2001).

Based on Krejcie and Morgan's (1970) formula for a 5% margin of error, a random sample of 180 would be required for a population of this size. A three round mail questionnaire approach was utilized for this study. The first round consisted of North Carolina secondary agricultural education teachers receiving a cover letter from the researcher outlining the purpose of the research, a survey, and a return stamped envelope. Teachers were given one week to return the initial survey; this resulted in four surveys being returned. The next round consisted of all non-respondents receiving a follow-up letter stressing to them the importance of returning the survey for data analysis purposes and to strengthen the study. This resulted in 61 surveys being returned. Non-respondents were again given one week to return the survey. The third round consisted of all nonrespondents receiving all of the items received in the first round, with another week to respond, 9 surveys were returned. In order to control for nonresponse error, Miller and Smith (1983) recommended comparing early to late respondents. Research has shown that late respondents are often similar to nonrespondents. In relation to this study, no significant differences were found. The final return rate was 41%.

Findings

Table 1 shows the means and standard deviations for the perceived barriers to diversity inclusion as they relate to secondary agricultural education programs in North Carolina. For the purpose of data analysis, readers should utilize the following specifications when interpreting the aforementioned scale for tables one, two, and three: 1 – 1.49 = Strongly Disagree, 1.50 – 2.49 = Disagree, 2.50 – 3.49 = Uncertain, 3.50 – 4.49 = Agree, 4.5 – 5.0 = Strongly Agree. Respondents agreed that the perception of agriculture itself, staff commitment to a fair and representative environment, guidance counselors, acceptance by peers, and stereotypes were barriers to diversity inclusion. Respondents were uncertain if acceptance by school administrators, the glass ceiling theory, and a lack of role models for

women and minorities in agriculture were barriers. In relation to sexual harassment, it

was not seen as a barrier to diversity inclusion.

Table 1
Barriers of Diversity Inclusion

Barriers	<i>M</i>	<i>SD</i>
Only when students observe staff commitment to providing a fair and representative environment will they feel a sense of school ownership.	3.93	.78
The perception of agriculture itself influences the participation of ethnic minorities in agricultural education.	3.89	.90
Guidance counselors influence the participation of ethnic minorities in agricultural education.	3.80	.98
Acceptance by peers is a barrier to diversity inclusion in vocational education.	3.77	1.01
Guidance counselors influence the participation of women in agricultural education.	3.75	1.04
The perception of agriculture itself influences the participation of women in agricultural education.	3.72	1.00
Prejudicial issues in relation to ethnic minorities by school systems should be addressed.	3.67	1.14
Prejudicial issues in relation to women by school systems should be addressed.	3.63	1.15
Stereotypes are a primary reason why ethnic minorities do not enroll in agricultural classes.	3.50	1.18
A lack of role models hinders the participation of ethnic minorities' inclusion in agricultural education.	3.47	1.08
Stereotypes are a primary reason why women do not enroll in agricultural classes.	3.41	1.13
Acceptance by the community is a barrier to diversity inclusion in vocational education.	3.24	1.03
Balancing family and a career is a barrier women endure in vocational education.	3.17	1.24

Barriers	<i>M</i>	<i>SD</i>
Acceptance by school administrators is a barrier to diversity inclusion in vocational education.	3.04	1.13
A lack of role models hinders the participation of women's inclusion in agricultural education.	2.99	1.21
The glass ceiling theory may influence the participation of ethnic minorities in agricultural education.	2.85	.83
The glass ceiling theory may influence the participation of women in agricultural education.	2.82	.86
Sexual harassment may be a factor why women do not enroll in agricultural education classes.	2.16	1.11

Note. Scale: 1.00 -1.49 = Strongly Disagree, 1.50 – 2.49 = Disagree, 2.50 – 3.49 = Uncertain, 3.50 – 4.49 = Agree, 4.50 – 5.00 = Strongly Agree.

Table 2 shows the means, standard deviations, and rankings for the perceived benefits of diversity inclusion as they relate to secondary agricultural education programs in North Carolina. Overall, respondents strongly agreed that secondary agricultural education provides minorities and women with opportunities

for leadership and character development. North Carolina secondary agricultural educators also agreed that stakeholders, teachers, and students benefit from diversity inclusion in various ways. Moreover, it was agreed upon that diversity sharpen students' critical thinking skills.

Table 2
Benefits of Diversity Inclusion (n = 74)

Benefits	<i>M</i>	<i>SD</i>	Rank
The inclusion of diverse populations in agricultural education is a benefit for all agricultural education stakeholders.	4.62	.61	1
Secondary agricultural education provides women with the opportunity for leadership development.	4.57	.55	2
Diversity inclusion broadens the perspectives of agricultural teachers.	4.55	.58	3
Secondary agricultural education provides ethnic minorities with the opportunity for leadership development.	4.55	.55	3
Diversity inclusion broadens the perspectives of agricultural students.	4.54	.62	4
There are many benefits for secondary agricultural education with the inclusion of women.	4.54	.67	4
Secondary agricultural education provides ethnic minorities with the opportunity for character development.	4.53	.62	5
Secondary agricultural education provides women with the opportunity for character development.	4.51	.62	6
There are many benefits for secondary agricultural education with the inclusion of ethnic minorities.	4.50	.67	7
Diversity inclusion can sharpen students' critical thinking skills.	4.34	.80	8

Note. Scale: 1.00 -1.49 = Strongly Disagree, 1.50 – 2.49 = Disagree, 2.50 – 3.49 = Uncertain, 3.50 – 4.49 = Agree, 4.50 – 5.00 = Strongly Agree.

Table 3 shows the means and standard deviations rankings for the perceived solutions to diversity inclusion as they relate to secondary agricultural education programs in North Carolina. Research study participants agreed that school officials should become familiar with the learning styles and cultures of minorities, which could be done with the aid of multicultural education. It was also

found that diversity should be infused in curriculum materials, and that curriculum materials be examined for gender, cultural, and racial biases. Mentoring, support systems, and increased recruitment efforts were also found to be solutions for diversity inclusion in secondary agricultural education, increased teacher salaries were found not to be a solution.

Table 3
Solutions to Diversity Inclusion (n = 74)

Solutions	<i>M</i>	<i>SD</i>
FFA advisors should encourage and strive to increase ethnic minority and female membership.	4.45	.67
For all students to achieve in school, educators, parents, and policymakers must develop strategies to address the different learning styles of all students.	4.39	.76
Teachers and staff should become familiar with the ethnic minority groups represented in their classrooms in order to promote an atmosphere of acceptance and cooperation.	4.20	.60
Multicultural education can be used to increase the awareness of ethnic minority groups in relation to diversity.	3.95	.77
Multicultural education provides a more global view of society.	3.93	.93
Multicultural education can be used to increase the awareness level of society as a whole toward diversity inclusion.	3.89	.88
An increase in support networks and recruitment efforts by public school officials would enhance diversity inclusion in agricultural education.	3.81	.83
Multicultural education can serve to inform future instructional decisions teachers will make.	3.77	.84
Teaching materials should be examined for racial, cultural or gender biases.	3.76	1.04
Mentoring is a strategy that could be utilized to increase diversity inclusion in secondary agricultural education.	3.67	.78
Multicultural education is a strategy that can be utilized to promote an attitude of change toward diversity inclusion in secondary agricultural education.	3.66	.93
The infusion of diversity competencies in teacher education programs will have a positive effect upon agricultural education.	3.59	.91
Secondary agricultural education teachers need training in multicultural education.	3.53	1.04
Multicultural education may not eliminate the stereotypes that agricultural teachers have about diversity inclusion.	3.35	.93
An increase in salary levels would encourage a higher degree of diversity inclusion at the instructor level.	3.18	1.36

Note. Scale: 1.00 -1.49 = Strongly Disagree, 1.50 – 2.49 = Disagree, 2.50 – 3.49 = Uncertain, 3.50 – 4.49 = Agree, 4.50 – 5.00 = Strongly Agree.

Table 4 presents the means, standard deviations, frequencies, and percentages for the demographic variables contained in the survey instrument. Regarding the demographic of age, teachers in this study had a mean age of forty. Fifty-one respondents in this study were male and 23 were female. Sixty-five white agricultural education teachers and nine black agricultural education teachers participated in the study. Consequently, there were no Hispanic, Native American, or Asian agricultural education teachers reported.

Regarding education 38 North Carolina secondary agricultural education teachers held bachelor degrees and 32 teachers held master's degrees. Four agricultural teachers had earned the specialist degree. In this study no teachers reported holding a doctorate degree. In addition, respondents had taught secondary agriculture an average of 12 years. In relation to hours of training concerning diversity inclusion taken within the past five years, agricultural teachers in this study reported a mean of four hours.

Table 4
Demographic Profile of Respondents

Demographics	<i>N</i>	%
Age	40	--
Gender		
Male	51	68.9
Female	23	31.1
Race/Ethnicity		
Black	9	12.2
Caucasian	65	87.8
Hispanic	0	0
Native American	0	0
Asian	0	0
Highest Degree		
Bachelor's	38	51.4
Master's	32	43.2
Specialist	4	5.4
	<i>M</i>	<i>SD</i>
Number of years teaching	11.59	9.75
Number of Hours in Diversity Training	3.67	5.67

Table 5 presents the means and standard deviations for the program variables contained in the survey instrument. On the average FFA membership for the programs in this study was seventy. Regarding overall program enrollment the mean was 79. In

relation to the number of ethnic minorities currently enrolled in their respective programs teachers reported a mean of 19. Female enrollment in the agricultural education programs in this study was on the average 27.

Table 5
Program Characteristics

Program Variables	<i>M</i>	<i>SD</i>
1. Student enrollment	78.65	47.74
2. Current FFA membership	69.45	58.47
3. Ethnic minorities currently enrolled in program	18.77	28.19
4. Females currently enrolled in program	26.88	29.43

Conclusions

1. Prejudicial issues were found to be a barrier to ethnic minority and women involvement in agricultural education, given this factor perhaps North Carolina agricultural teachers recognize the existence of such factors and see the need to address them in relation to their respective programs.
2. The perception of agriculture itself was found to be a barrier in relation to ethnic minority and women involvement in agricultural education, with this factor in mind greater marketing efforts by agricultural education stakeholders to promote agricultural awareness among all segments of the population could help to eliminate historical ideals about agriculture, thus helping to encourage wider participation and enrollment by all.
3. It was noted that guidance counselors were considered to have a major influence upon ethnic minority and women involvement in agricultural education, given this factor collaborative networks should be established with guidance counselors to help encourage more involvement of the aforementioned populations in agricultural education.
4. Respondents were in agreement that stereotypes are a barrier to ethnic minority participation in agricultural education, but were uncertain whether if stereotypes were a barrier to female participation in agricultural education. Perhaps the respective secondary agricultural educators in this study in their daily professional practice see minorities encountering more stereotypes than female students.
5. Interestingly it was found that respondents were uncertain regarding the impact role models have upon ethnic minority and women involvement in secondary agricultural education. Perhaps agricultural educators in this study were not aware of the impact role models can have upon ethnic minorities and women participation in agricultural education as supported by research conducted by Bell (2000) and Talbert and Larke (1995).
6. The glass ceiling theory was seen as an uncertain barrier to minority and women participation in agricultural education, maybe this is a factor not yet recognized by these educators in their respective schools.
7. Respondents agreed that secondary agricultural education provides women and ethnic minorities with opportunities for leadership development, which is in direct alignment with the mission and goals of the National FFA Organization (2006).
8. Respondents agreed that secondary agricultural education provides women and ethnic minorities with opportunities for character development, which is in direct alignment with the mission and goals of the National FFA Organization (2006).
9. It was agreed upon that diversity sharpens students' critical thinking

- skills, skills which will be needed to compete in the highly competitive ever-changing global workforce.
10. Respondents agreed that diversity broadens the perspectives of teachers and students, a characteristic that will be greatly needed as individuals participating in the global agricultural industry.
 11. Multicultural education was seen as a solution to diversity inclusion in secondary agricultural education, a strategy that could create major dividends for agricultural education programs if implemented correctly.
 12. Respondents agreed that secondary agricultural educators should make a greater effort to get to know their students including gaining an understanding of their respective cultures and learning styles. By doing this, more inclusive and supportive learning environments may be created, thus potentially serving as a marketing tool to attract a more diverse pool of students in secondary agricultural education programs.
 13. Teaching materials being examined for diversity concepts is a major strategy to ensure inclusiveness of all populations and to avoid biases.
 14. It was suggested that support networks could be established to recruit more diverse populations in agricultural education, including mentoring components as well. With this strategy in mind families, students, administrators, and other stakeholders should work collectively to ensure diverse agricultural education programs.
 15. Respondents reported that agricultural teacher preparation programs should include diversity competencies, which would better prepare them for the student population they will serve.

Recommendations

1. In order to better prepare preservice agricultural teacher education

candidates to work with diverse student bodies, increased coursework in diversity should be incorporated into the programs.

2. Veteran teachers should receive training in diversity offered through inservice workshops either by school systems or universities. The content of the workshops should be recommended by experts in the field as stated by Luft (1996).
3. Secondary agricultural education teachers should develop relationships and collaborative networks with families, school administrators, guidance counselors, and other stakeholders in order to diversify their respective programs.
4. Agricultural educators should seek out curriculum materials that are supportive of diversity, thus eliminating biases towards diverse groups, which encourages a more inviting learning environment.
5. The local FFA program should be utilized as an effective recruitment tool to bring exposure and demonstrate the inclusive attitude of the local agricultural education program.

Implications

Warren and Alston (2006, p. 22) indicated that "Agricultural Education in America is a lot like "Potluck" in that many individuals from a variety of racial, cultural, and gender backgrounds have contributed to the overall academic quality and vastness of the programs that exist today." If the aforementioned concept is truly the case, then how will North Carolina Agricultural Education stakeholders and agricultural education nationally create learning environments that support inclusiveness, encouraging participation from all demographic sub groups. The authors of this study are definitely not fortune tellers, but can undoubtedly guarantee that the winds of economic and social globalization will have a major role in shaping agricultural education's collective future.

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