

**Recruiting Minority Students into Secondary School Agriculture Education Programs:
Barriers, Challenges, and Alternatives**

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Recruiting Minority Students into School-Based Agricultural Education Programs: Barriers, Challenges, and Alternatives

The United States population is becoming increasingly diverse, and agricultural education should represent that diversity. Researchers conducted a Delphi study of 12 exemplary agriculture programs with diverse student populations in North Carolina. After three rounds, consensus was reached about 11 strategies useful in recruiting minority students, including most prominently, (1) making personal connections with potential students, (2) students recruiting their minority friends, (3) minority students recruiting other minority students, (4) showcasing exceptional minorities who have succeeded in the agriculture field, and (5) being yourself and care for your students. The study also identified 12 alternatives helpful in retaining the minority students into another agriculture course or FFA, most prominently, (1) buying-in from friends, (2) talking to minority students already in the program, (3) building teacher and student relationship, (4) creating interest in agriculture subjects, and (5) getting minority students connected and involved.

Introduction

United States population is becoming increasingly diverse. According to the U.S. Census (2016), the U.S. population diversity includes 61.3% Whites (not Hispanic), 17.8% Hispanics or Latinos, 13.3% African Americans, 5.7% Asians, 1.3% Native Americans or Alaskan Natives, 0.2% Hawaiian and Pacific Islanders, and 2.6% two or more race individuals. These population data indicate that almost 40% of the U.S. population comprises ethnic minorities. However, this ethnic diversity in the U.S. population does not reflect necessarily in secondary school agriculture programs (Bowen, 2002; LaVergne, Larke, Elbert, & Jones, 2011; Lawrence, Rayfield, Moore, & Outley, 2013; Talbert & Larke, Jr., 1995). Enrollment of minorities into secondary school agriculture education programs is important due to changing demographics in the U.S. (Cano & Bankston, 1992). The vast majority of students in secondary school agriculture education programs are White students. The secondary school agriculture education program is the beginning step of recruiting students into the agriculture professional preparation pipeline. Additionally, secondary school agricultural education programs are important sources for recruiting potential students into higher education in agriculture (Talbert & Larke, Jr., 1995). Due to this reason, lack of minority representation in secondary school-based agriculture education (SBAE) programs is a national issue that agriculture education professionals need to pay due attention. Exploring barriers preventing recruitment of minority students into SBAE programs and challenges faced by teachers of agriculture are helpful in understanding the alternatives effective in recruitment.

Barriers

Many barriers exist between students and agricultural education programs preventing student enrollment in SBAE programs. Some of these barriers include student perceptions toward agricultural education programs, negative attitudes, and scheduling conflicts (FFA, 1999). A Delphi study conducted with a national panel of agriculture teachers over 15 years ago identified “scheduling difficulties, finding time to recruit, student involvement in other activities, access to students, competition from other programs, lack of guidance counselor support, increased graduation requirements, image of agriculture, lack of interest in agriculture, and block

scheduling” as problems in recruiting students into secondary school agricultural education programs (Dyer & Breja, 2003, p.75). According to Beamon (2008), considerable involvement in athletic programs has negative effects on academic and career success of minority students. Research conducted in Ohio in the early 1990s to ascertain the barriers preventing minorities’ participation in 4-H programs indicated their lack of knowledge about the program was a major barrier to their involvement in the program (Cano & Bankston, 1992). Lack of advertisements relating to minorities was another barrier to their involvement. A study conducted with secondary school students in Texas reported that minority students had less of a rural and farm background compared to that of White students (Talbert & Larke, Jr., 1995). In addition to the lack of rural background, this study reported that minority students were not exposed to agricultural youth development programs and 4-H programs to the same extent as White students were exposed. African American parents perceive that schools do not actively engage with them other than behavior or academic issues of their children (Howard, 2015). Lack of minority role models in agriculture profession is another hindrance to recruitment of minorities into agricultural education (LaVergne et al., 2011). All of these factors contributed to limit minority students’ exposure to agriculture and acted as a barrier to their appreciation of agriculture as a profession.

Challenges

There is a need for diversity inclusion in SBAE programs to reflect the increasing ethnic diversity in the U.S. Available literature (Banks, 2008; LaVergne et al., 2011; Warren & Alston, 2007) supports the notion that ethnic diversity in the classroom is making positive impacts on students such as tolerance. However, achieving diversity in the SBAE classroom is not yet up to the level representing the population diversity despite many efforts. Increasing the diversity in SBAE programs remains a challenge that educators need to address realistically. Many factors contribute to this situation. For instance, minority students tended to have negative attitudes toward agriculture and perceived that agriculture occupations are mainly production-focused and those jobs do not require professional education (Talbert & Larke, Jr., 1995). This mindset of minority students is a considerable challenge to overcome when planning to recruit minorities into agricultural education programs. Minority students tend to enroll in agriculture courses if the agriculture teacher is a minority himself or herself (Talbert & Larke, 1995). However, only a small percentage of minorities enter into the agricultural education profession (Camp, 1995; Jones & Bowen, 1998). Overall, secondary teachers in the U.S. are not racially diverse as the student population. For instance, in the 2011-2012 school year, only 18% of teachers were minorities while 49% of the students were minorities (USDE, 2016).

Recruitment Strategies

Marketing agricultural education programs to potential students requires a strategic commitment from agricultural education teachers (FFA, 1999). LaVergne et al. (2011) asserted the need for increasing agriculture teachers’ effort to recruit minorities into SBAE programs. In the recruitment process, agriculture teachers will have to convince potential students as well as others such as parents, school administrators, and counselors who could influence students’ decision to enroll in agricultural education and understand the benefits of studying agriculture. Teachers who relate well to all students and make learning enjoyable are capable of recruiting African American students (Ladson-Billings, 1994). Confirming this notion, Jones and Bowen (1998) found enthusiastic teachers who could relate well to all students were able to enroll the

highest number of African American students in their agriculture education programs. Jones and Bowen (1998) recommended using minority students to recruit other minority students, use of minority professionals as role models, and enhanced teacher communication with the parents of minority students as strategies to recruit minorities into agricultural education. Myers, Dyer, and Breja (2003) reported minority recruitment success when agriculture teachers and students contacting other potential students, use of the FFA and promotional communications through various channels, a strong agriscience curriculum, use of agricultural education support groups, and the use of recruitment events as effective strategies to recruit students into agricultural education programs. A study conducted at the University of Missouri to determine the strategies effective in recruiting African American students into college of agriculture revealed that the majority of students' decision to apply for admission was influenced by their visit to campus and having a discussion with a representative from the college of agriculture, access to the college website, and printed university publications (Burns, 2006). This study also found that parents and relatives were the most influential factor when African American students made their decision to pursue a college education.

Lack of minority students enrolled in SBAE programs is a national issue needing the attention of agriculture educators and is the focus of this study. This study relates to research priority three: "sufficient scientific and professional workforce that addresses the challenges of the 21st century" and research priority five: "efficient and effective agricultural education programs" of the American Association for Agricultural Education National Research Agenda (Roberts, Harder, & Brashears, 2016, p. 9).

Conceptual Framework

Researchers conceptualized the study based on Bronfenbrenner's (1979) ecological systems theory. Bronfenbrenner's ecological systems theory explained the importance of studying a child in the context of multiple environments, also referred to as 'ecological systems' for understanding his or her development. Normally, a child is interacting with different ecosystems simultaneously from most intimate home ecological system to most distant society and culture. Bronfenbrenner explained five different ecological systems that influence the development of a child. These five systems are 1) microsystem, 2) mesosystem, 3) exosystem, 4) macrosystem, and 5) chronosystem. Microsystem is the closest environment in which the child lives and makes interactions frequently with individuals such as family members, teachers, and friends. Microsystem comprises the interaction of different environments such as home, church, or school where the growing child interacts with others daily. Interactions in the microsystem involve personal relationships with the members in the system. These interactions with the child influence how the child develops. As a reciprocation to these interactions, how the child responds to individuals in his/her microsystem will also affect how they treat the child. Supportive and nurturing interactions and relationships naturally contribute to positive development of a child. Bronfenbrenner described mesosystem as the interactions of different microsystems such as home, school, or church in which the child is growing. Mesosystem is a system of interactions between the microsystems of the child. Mesosystem involves linkages between home and school, between family and friends, between church and family, etc. For example, if the parents are closely interacting and working with teachers for helping a child address learning issues and selecting classes, it will positively influence the child development and learning.

According to Bronfenbrenner (1979), exosystem comprises the linkages that exist between two or more systems, one of which may not include the child; however, that system affects him or her indirectly. Other people and places which the child may not directly interact with but may still have an effect on the child constitute the exosystem. Examples for such places and people include parents' workplace and coworkers. Parents' workplace and coworkers may not directly interact with the child but may have some effect on the child. For example, if a coworker is telling the parent, that his/her child is a member of FFA and talks about the positive effects of FFA on his/her child, the parent may consider talking about the FFA with his/her child and convincing the child to enroll in the school FFA program.

Macrosystem constitutes the child's cultural and value system, economic system, and political system. Macrosystem includes peoples and places distance to the child but still have a significant effect on the child. For example, if the cultural system of the child is such that it appreciates agriculture, then the system will have positive effects on the child toward agriculture. The difference in values among the children growing in urban centers versus rural areas can be attributed to their differences in macrosystems. Chronosystem is comprised of change and consistency in the child's environment over a period of time. For example, chronosystem includes a change in family structure, living location, school, parents' employment, and societal changes that influence the child. For example, if the child lived in an urban area and moved to a farm in a rural area with his/her parents, then that will have a significant effect on the child.

Purpose

The purpose of this Delphi study was to determine the barriers and challenges of recruiting minority students into SBAE programs and alternatives to overcome those barriers and challenges. The following research questions guided the study:

1. What are the barriers preventing minority students' enrollment in agricultural education programs?
2. What are the challenges preventing minority students' enrollment in agricultural education programs?
3. What are the alternatives to overcome barriers and challenges preventing minority students' enrollment in agricultural education programs?

Method

The modified Delphi technique was used to conduct this study. Delphi technique is an exploratory research method (Clayton, 1997) and it is appropriate for exploring the barriers, challenges, and alternatives for recruiting minority students into agriculture programs. Delphi technique is a group process used to collect expert views and building consensus (Delp, Thesen, Motiwalla, & Seshadri, 1977). "It aims to guide group opinion towards a final decision and to answer questions through triangulation of subjective group judgments, analytical techniques and the experience of the researcher" (Cantrill, Sibbald, & Buetow, 1996, p. 67).

Modified Delphi technique is a three round iterative process. The first round aims to obtain a broad range of opinions from the selected group of experts. The responses to the first round of questions, when summarized, provide the basis for the second round of questions.

Summarized responses from the second round of Delphi process feed into the third and final round (Haughey, n.d.).

Delphi technique is effective in reaching consensus among the group of experts selected purposively (Stufflebeam, McCormick, Binkerhoff, & Nelson, 1985). A group of 20 agriculture teachers in North Carolina were selected purposefully based on their success of recruiting minorities into their agricultural education programs. There was a diverse group of students in the agricultural education programs of the selected teachers. The study used Qualtrics to conduct three rounds of online surveys for collecting data. The first round of the study used an online questionnaire with the following four open-ended questions:

1. What do you consider as major barriers preventing minorities enroll in secondary school agricultural education programs (courses and FFA)?
2. What do you consider as real challenges when recruiting minorities into secondary school agricultural education programs?
3. What do you consider as the strategies effective in recruiting minorities into secondary school agricultural education programs?
4. If minority students are placed in your courses due to reasons such as student overflow, which strategies are effective in recruiting them into another agriculture course or FFA?

Open-ended questions were used to generate possible responses from the Delphi panel. In addition to these four questions, there were five demographic questions to describe the background of the panel members and their agricultural education programs. Five demographic questions were about number of students enrolled in the agricultural education programs, percentage of minorities in the agricultural education program, years of teaching experience, gender and ethnicity of agriculture teachers. In the first round, 12 agriculture teachers responded to the survey. Their unique responses to the four open-ended questions were identified and used to develop the second-round survey. In the second-round survey, panel members were asked whether they agree or disagree with the listed responses received for the first round and list or modify if any item needs to be added or modified. In the second round, six agriculture teachers of the panel responded to the survey. Most of them agreed with the items listed and few added/modified responses. The responses received for four open ended-questions in the second round were used to develop the third round online survey. All unique responses received and agreed in the second-round for each of the four open-ended questions were listed under the question with a five-point Likert scale (1=Strongly Disagree, 2=Disagree, 3=Neither Agree nor Disagree, 4=Agree, 5=Strongly Agree) for the third-round survey. Eleven panel members responded to the third-round survey. Descriptive statistics were used to analyze and summarize the data. The responses to *strongly agree* and *agree* categories were aggregated to determine the percentage of Delphi panel members in agreement with each item. Similar to that, responses to *strongly disagree* and *disagree* categories were aggregated to determine the percentage of Delphi panel members disagree with each item. The items having 70% or above agreed or strongly agreed rating were identified as important items with Delphi panel-built consensus. Boulkedid, Abdoul, Loustau, Sibony, and Alberti (2011) analyzed the response rate of 80 Delphi studies conducted in health care for a systematic review study and found only 39% had reported the response rate. The lowest response rate was 80% in the first round and 69% in the last round among the 39% studies reported the response rate. The low response rate of this study especially for the second round is mainly due to busy timing of the teachers. Low response rate is a limitation of this study.

Results and Discussion

Of the respondents, nine were White, one was African American, and two were identified as “others.” Eight of the respondents were male and four were female teachers. The respondents’ years of teaching experience ranged from four years to 45 years with the mean value of 14.4 years. The number of students in reported agricultural education programs ranged from 26 to 300 with the mean of 128. The minority presentation in these agricultural education programs ranged from 7% to 90% with the mean of 46%. These programs represented the community population diversity in their SBAE programs. The review of this background information about the responding agricultural education teachers and their programs indicates that the group comprised a mixed group of experienced teachers having a good size of agricultural education program with diverse group of students.

Barriers to Recruit Minority Students

Barrier is described in this study as a circumstance or obstacle that prevents students’ enrollment in agriculture programs. The analysis of the third-round data was used to identify barriers of recruiting minority students into agricultural education programs. Lack of parental encouragement, competition with athletic programs for time, lack of minority students’ family experience in agriculture, lack of minority students’ exposure to agriculture, and the preconceived stereotype idea of FFA and its typical membership is White were identified as the top ranking six barriers to recruit minorities into agricultural education (see Table 1). Over 80% of the Delphi panel members either agreed or strongly agreed with these six items signifying those are major barriers. The next major barriers having over 70% agreement were negative views/stigma associated with minority students toward agriculture/agriculture careers, minority students’ culture that see little or no opportunities in the agriculture sector, and friends of minority students not being enrolled in agricultural education.

Table 1

Barriers to Recruit Minority Students into Agricultural Education Programs (n = 11)

Barriers	Disagree or Strongly Disagree (%)	Neither (%)	Agree or Strongly Agree (%)
Lack of parental encouragement	---	9.1	91.0
Competition with athletic programs for time	---	18.2	81.8
Lack of minority students’ family experience in agriculture	9.1	9.1	81.8
Lack of minority students’ exposure to agriculture	9.1	9.1	81.8
Lack of minority students’ interests in agriculture	18.2	---	81.8
The preconceived stereotype idea of FFA and its typical membership is White	9.1	9.1	81.8
Negative views/stigma associated with minority students toward agriculture/Ag careers	---	27.3	72.8
Minority students’ culture that see little or no opportunities in the Ag Sector	9.1	18.2	72.8

Friends of minority students not being enrolled in Ag Education	---	27.3	72.8
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Challenges to Recruit Minority Students

Over 80% of the panel members agreed or strongly agreed convincing minority parents buy into agricultural education programs, creating appreciation for agriculture among minority students, and breaking down cultural barriers as the three most significant challenges when recruiting minority students into agricultural education (see Table 2). Of the panel members, 72.8% agreed or strongly agreed breaking down stereotype perceptions of minority students toward agricultural education programs, getting minority students interested in agricultural education programs, finding minority students that are interested in agriculture and FFA, and removing “redneck” stigma of FFA with minority students as other significant challenges they need to consider when recruiting minority students.

Table 2
Challenges to Recruit Minority Students into Agricultural Education Programs (n = 11)

Challenges	Disagree or Strongly Disagree (%)	Neither (%)	Agree or Strongly Agree (%)
Convincing minority parents buy in Ag Ed Programs	---	9.1	91.0
Creating appreciation for agriculture among minority students	9.1	---	90.9
Breaking down cultural barriers	---	18.2	81.8
Breaking down stereotype perceptions of minority students toward Ag Ed Programs	---	27.3	72.8
Getting minority students interested in Ag Ed Programs	9.1	18.2	72.8
Finding minority students that are interested in agriculture and FFA	9.1	18.2	72.8
Removing “redneck” stigma of FFA with minority students	9.1	18.2	72.8

Alternatives to Recruit Minority Students into Agricultural Education

Delphi panel members unanimously agreed or strongly agreed making personal connections with potential students and students recruiting their minority friends as the best two alternatives to recruit minorities (see Table 3). Of the panel members 90.9% agreed or strongly agreed minorities recruiting minorities, showcasing exceptional minorities who have succeeded in the agriculture field, being yourself and care for your students, demonstrating student growth through leadership development, and showing minorities who are excelling in FFA as the second most effective alternatives. The third important alternatives received between 70.7% and 81.8% agreement were demonstrating how agricultural education is different from other courses, being receptive to minorities and acting as an encourager, meeting students where they are such as sporting events, concerts, awards ceremonies, church/community functions, and making North Carolina FFA an inclusive organization to attract minority students as shown in Table 3.

Table 3

Alternative for Recruiting Minorities into Agricultural Education

Alternatives	Disagree or Strongly Disagree (%)	Neither (%)	Agree or Strongly Agree (%)
Making personal connections with potential students	---	---	100
Students recruiting their minority friends	---	---	100
Minorities recruiting minorities	---	9.1	90.9
Showcasing exceptional minorities who have succeeded in the Ag field	---	9.1	90.9
Be yourself and care for your students	---	9.1	90.9
Student growth through leadership development	---	9.1	90.9
Showing minorities who are excelling in FFA	9.1	-	90.9
Demonstrating how Ag Ed is different (more hands on) from other courses	---	18.2	81.8
Be receptive to minorities and acting as an encourager	18.2	---	81.8
Meet students where they are, go to sporting events, concerts, awards ceremonies, church/community functions	18.2	9.1	72.8
Need to make NC FFA an inclusive organization to attract minority students	9.1	18.2	72.7

Strategies for Recruiting Minorities into Another Agriculture Course or FFA, if Minority Students are Placed in an Agriculture Course Due to Reasons Such as Student Overflow

The Delphi panel unanimously agreed or strongly agreed buying in from friends, talking to minority students already in the program, and building teacher and student relationship as effective strategies in recruiting minorities into another agriculture course or FFA if they are placed in an agriculture course due to reasons such as student overflow (see Table 4). Creating interest in agriculture subjects, and getting them connected and involved were identified with 90.9% agreement as the second most important two strategies for recruiting minorities into another agriculture course. The third important strategies identified with 81.8% agreement were helping minority students succeed in the class they already enrolled, exploring their interests, introducing fun activities such as travel and competitions, selecting a diverse group of people when discussing agricultural leaders as part of the class, treating minorities as other students, and taking them to non-competitive FFA events. Panel members identified with 72.7% agreement involving minority students in hands-on laboratory activities as the fourth important strategy to recruit them into another agriculture course (see Table 4).

Table 4

Alternatives for Recruiting Minorities into another Ag. Course or FFA, if minority students are placed in your courses due to reasons such as student overflow (n=11)

Alternatives for Recruiting Minorities into Another Ag Course	Disagree or Strongly Disagree (%)	Neither (%)	Agree or Strongly Agree (%)
Buy-in from friends	---	---	100

Talk to students	---	---	100
Building teacher and student relationship	---	---	100
Creating interest in agriculture subjects	---	9.1	90.9
Getting students connected and involved	---	9.1	90.9
Helping students succeed in class	---	18.2	81.8
Explore students' interests, culture/home life/prior experiences	9.1	9.1	81.8
Introduce travel and competitions that are fun	9.1	9.1	81.8
When discussing agricultural leaders as part of the class, select a diverse group of people to discuss	18.2	---	81.8
Treat students of diversity the same as other students and involve them in all facets of a total Ag Ed model	18.2	---	81.8
Taking students to non-competitive FFA events such as Regional Leadership Conference	18.2	---	81.8
Hands-on/laboratory activities are a major hook to keep students	9.1	18.2	72.7

Conclusions

The study identified nine barriers that hinder the recruitment of minority students into secondary school agriculture education programs. The major barriers preventing minority students' enrollment in agriculture education were lack of parental encouragement to enroll in agriculture education, competition with athletic programs for time, lack of minority students' family experience in agriculture, lack of minority students' exposure to agriculture, and the preconceived stereotype idea that FFA and its typical membership is White. The second major barriers were negative stigma associated with minority students toward agriculture/agriculture careers, minority students' culture that see little or no opportunities in the agriculture sector, and friends of minority students not being enrolled in agricultural education. The review of these identified barriers preventing minority students' enrollment in agriculture education indicates that minority students and their parents do not have adequate knowledge about the modern agriculture and agriculture-related professional careers. "Historically, minorities have participated less than Whites in agricultural careers other than as laborers" (Talbert & Larke, Jr., 1995, p.14). Their mindset and attitudes toward agriculture are based on their preconceived notion of manual hard labor work as the only agricultural career of which they are aware. Minority students and parents give priority for athletic programs over agriculture education program because they tend to consider getting to athletic programs is a way of moving to a higher earning professional athletic career. Unfortunately, they do not see the rare opportunity in this path. If the minority students are aware of the career opportunities and prospects available for them in agriculture, this situation could change.

Bronfenbrenner's (1979) ecological theory provides a framework for understanding identified barriers and finding solutions. The review of barriers indicates that minority students do not have much exposure to agriculture and agriculture-related careers. Their home and community environment are also not having any appreciative exposure or experience with agriculture. As Bronfenbrenner's (1979) ecological theory explains the most impactful everyday

interacting microsystem of minority students – home and community- is away from the current reality of agricultural careers. Additionally, mesosystem – interactions of different microsystems- of minority students seems to have not yet connected them with agriculture. Expanding the distance further from agriculture, macrosystem - culture and value - of minority students place higher value for athletic programs over other academic programs. When all of these combined, it is obvious that minority students grew up in an ecological system where they are disconnected from the reality of current agricultural career opportunities. If agricultural educators want to recruit minorities into agricultural education programs, it is important to link them through their microsystem, and mesosystem with the help of their own community members.

The study was able to build the consensus among the Delphi panel members for eight tasks as significant challenges when recruiting minority students into agricultural education programs. The identified challenges are convincing minority parents buy into agriculture education programs, creating appreciation for agriculture among minority students, breaking down cultural barriers, breaking down stereotype perceptions of minority students toward agriculture education programs, getting minority students interested in agriculture education programs, finding minority students that are interested in agriculture, and removing “redneck” stigma of FFA with minority students. The review of these challenges clearly indicates that establishing a communication link with the minority students, their parents, and the community to make them aware of the prospects of agricultural education and related careers is the major task all of these eight challenges are centered. Bronfenbrenner’s (1979) ecological theory explained this communication process as the interactions between microsystems and it is referred to as the *mesosystem*. This includes interactions between the home and school, teachers and students, etc. to engage with minority students, their parents, and community for making them aware of prospects of agriculture education.

The study identified 11 strategies useful in recruiting minority students. These alternatives are 1) making personal connections with potential students, 2) students recruiting their minority friends, 3) minority students recruiting other minority students, 4) showcasing exceptional minorities who have succeeded in the agriculture field, 5) being yourself and care for your students, 6) demonstrating student growth through leadership development, 7) showing minorities who are excelling in FFA, 8) demonstrating how agriculture education is different from other courses, 9) being receptive to minorities and acting as an encourager, 10) meeting students where they are such as sporting events, concerts, awards ceremonies, church/community functions, and 11) making NC FFA an inclusive organization to attract minority students. A critical review of these alternatives highlights that building linkages with minority students using available opportunities and already connected minorities to make them aware of the prospects of agricultural education is necessary to change their mindset and convince to enroll in agriculture education. When making linkages it is effective to use minority students already in the program to convince their friends to enroll and participate. Similarly highlighting successful minority agricultural professionals as examples is helpful in convincing minority students. For instance, Jones and Bowen (1998) reported that minorities in agriculture professions could serve as role models to help minority students overcome their negative perceptions about agriculture-related careers.

The study also identified 12 alternatives helpful in retaining the minority students into another agriculture course or FFA, if they are placed in an agriculture course due to reasons such as student overflow. The 12 strategies helpful in retaining minorities are 1) buying-in from friends, 2) talking to minority students already in the program, 3) building teacher and student relationship, 4) creating interest in agriculture subjects, 5) getting minority students connected and involved, 6) helping minority students succeed in the class they already enrolled, 7) exploring their interests, 8) introducing fun activities such as travel and competitions, 9) selecting a diverse group of people when discussing agricultural leaders as part of the class, 10) treating minorities as other students, 11) taking them to non-competitive FFA events, and 12) involving minority students in hands-on laboratory activities. The review of these alternatives indicates that linking them with others in the class and creating an environment for helping them to gain a positive learning experience are necessary to retain them in the agriculture education program.

Recommendations

Agriculture teachers should be aware of possible barriers and challenges when recruiting minority students into agricultural education programs for finding ways to overcome barriers and face challenges realistically. This study identified possible nine barriers that agriculture teachers need to be aware of when planning to recruit minority students into agriculture education programs. Most of these barriers are associated with minorities' lack of knowledge about the prospects of agriculture-related career opportunities and misconceptions about agriculture. Therefore, it is important to use all available communication channels and public relation avenues to educate potential minority students, their parents, and the community about career opportunities available in agriculture-related professions and help them clear their misconceptions about agriculture. Strengthening school and home links and establishing a clear communication link with minority students and their parents are necessary steps to overcome barriers of recruiting minorities into agriculture education programs.

This study identified 11 alternatives useful in recruiting minority students into agricultural education programs and 12 alternatives helpful in recruiting minorities into another agriculture course or FFA if they are placed in an agriculture course due to reasons such as student overflow. These alternatives are helpful strategies to overcome barriers and address the challenges of recruiting minority students into SBAE programs. Agricultural educators should explore available communication linkages between the school and minority communities to make potential students and their parents aware of the career opportunities and prospects of agriculture and eliminate their misconceptions about agriculture for recruiting minorities into agriculture education. It is necessary to use exemplary minority agriculture career professionals as guest speakers to help minority students comprehend the potential careers in agriculture. That will help minority students change their stereotype mindset about limited opportunities in agriculture. Recruiting displays, websites, and handouts should be developed citing positive experiences of minorities who are successful in agriculture-related careers to educate potential minority students and their parents. Promotional materials should be made available to career counselors and administrators to convey the message to potential students and their parents. When minority students are in the program, it is important to help them to be successful, get a positive learning experience, and develop an appreciation for agriculture and agriculture-related careers. So that the minority students already connected with the program can be used as

ambassadors to reach their community and recruit new students. For example, 28 minority secondary school students were provided an opportunity to visit Purdue University's West Lafayette campus for a program that exposed them to agricultural careers and educational opportunities (Robinson, 2015). Bringing African American secondary school students into college campus was effective in recruiting them into college of agriculture (Burns, 2006). The minority students who exposed to agriculture and developed favorable values toward agriculture-related careers can be used to recruit other minority students.

This study used a small group of agriculture teachers from one state to determine barriers, challenges and alternatives when recruiting minorities into agricultural education program. This is a limitation of the study. Therefore, it is important to repeat this study with a national panel of agriculture teachers to validate the findings of this study further.

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