REFORM CONSIDERATIONS FOR AN AGRICULTURAL TEACHER EDUCATION
PROGRAM: A CASE STUDY

BY

CANDI JOY THORSON

THESIS

Submitted in partial fulfillment of the requirements
for the degree of Masters of Science in Agricultural Education
in the Graduate College of the
University of Illinois at Urbana-Champaign, 2010

Urbana, Illinois

Adviser:

Dr. James C. Anderson II

ABSTRACT

Nationwide agricultural teacher education programs have suffered from decreased student enrollment. In order to supply qualified agriculture teachers, teacher education programs must evaluate and possibly undergo reform. This ethnographic case study outlines a two-step reform process using the agricultural teacher education program at the University of Illinois, which had begun to suffer from a large decline in student enrollment. A conceptual model called the Agricultural Education Networked Learning Circle for Teacher Preparation (AENLC) was introduced to guide this process. The model demonstrated the collaborative nature of an effective teacher education program and can be used to evaluate and provide direction to key individuals involved in educating the pre-service teacher. Seventeen stakeholders were identified to participate in phase one. Using a three-level approach, participants identified five areas of program improvement: 1) faculty recruitment and retention; 2) courses and curriculum; 3) certification options; 4) student professional development; and 5) student recruitment. From those themes the local program developed a master plan for reform and brought the plan before a national panel of stakeholders to evaluate in phase two. Twenty-one stakeholders were identified to participate in phase two. Phase Two focused on conceptualizing agricultural education at the national level and then using that conceptualization to evaluate the master plan and make recommendations for the local program. Two pertinent areas were identified for program improvement: 1) student recruitment and 2) graduate program changes. Recommendations from the group were consistent with literature and the study provided preliminary data on the practicality of the conceptual model in program reform or renewal in other programs. The local program may now use the recommendations to refine a master plan that can be implemented and evaluated.

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

LIST OF ACRONYMS

AAAE   -   American Association for Agricultural Education

AENLC   -   Agricultural Education Networked Learning Circle

NCAE   -   National Council for Agricultural Education

NLC   -   Networked Learning Circle

CHAPTER 1: INTRODUCTION

Background

The National Council for Agricultural Education has established a goal to increase the

number of secondary agricultural education programs nationwide to 10,000 by the year 2015

(Loudenslager, 2006). Even though there has been an increased demand for secondary

agricultural educators, there are several factors impeding progress including a decline in

enrollment in agricultural teacher education programs, an increase in the number of teacher

candidates choosing not to teach, and an increase in teacher attrition. In 2006, the number of

programs nationwide was 8,013 thus requiring an increase of 1,987 agricultural education

programs to meet the goal (Team Agricultural Education, 2006). Further amplifying the problem,

40 secondary agricultural education programs were estimated to close nationwide in 2006 due to

the lack of a qualified teacher (Kantrovich, 2007).

A review of the literature yielded that there is a lack of current information concerning

teacher education reform in agricultural teacher education. The last major reform in agricultural

teacher education was in the 1990's when programs were transitioning from Vocational

Education to Agricultural Education (Lynch, 1997). A report published in 1995 by the University

Council for Vocational Education and the National Association of State Directors of Vocational

Technical Education Consortium used new terms to emphasize that learning would take place in

a variety of educational environments and asked that all levels of educators become involved in

the reform.

At the same time, reform was initiated by the University Council for Vocational

Education, who began a 3-year study on teacher education and hosted a national summit to

discuss reform of vocational teacher education. The summit resulted in a vision for vocational

education and thirteen places to start reform (Lynch, 1997). With the high need for qualified educators around the country, there has been a influx of new reform initiatives and research looking at the most effective ways to prepare educators (e.g. Darling-Hammond, Chung, & Frelow, 2002; Ridley, Hurwitz, Davis-Hackett, & Miller, 2005; Weiner, 2000). However, this is not the same case in agricultural education. It stands to reason that with the increase in the shortage of qualified agriculture teachers, it is imperative that agricultural education begin to take another look at systemic program reform.

Statement of the Problem

Due to the fact that agricultural teacher education programs have had minimal national reform initiatives in the past, the literature is very sparse with providing frameworks for effectively guiding this process (Swortzel, 1999). One may argue that the lack of empirical information is due in part because agricultural teacher educator programs vary in so many ways because they cater to the needs of their respective states and that program reform for one institution is very different from another (Graham & Garton, 2003; McLean & Camp, 2000). However, as the educational and economic situations throughout the country become dire, a collective front and national protocol for best practices will be imperative to the sustainability of our teacher education programs, secondary programs, and the agricultural industry's highly skilled workforce.

Research Question

Based on the problem presented, the research question to be addressed in this study is as follows: Considering the lack of research and the need for agricultural teacher education reform, what is an effective national protocol for reform, taking into account best practices, which should be implemented in an agricultural teacher education program?

Purpose and Objectives

This study is an ethnographic case study that includes a longitudinal two-phase implementation of the conceptual framework (program evaluation at the local level, and program evaluation at the national level). In phase one, the purpose is to utilize the local stakeholder groups identified in the AENLC conceptual model to determine high-leverage strengths and areas of improvement in order to guide the program reform process. Phase two is focused on a national perspective of agricultural teacher education. The purpose of phase two is much broader, focusing on identifying the national trends in agricultural education and making recommendations to the master plan for the local program based on those trends. The ultimate purpose is to then bring both phases together to identify key goals and a plan for reforming the local agricultural teacher education program. To accomplish the purpose, the following objectives were used to direct the study:

1. Identify the key characteristics of the local agricultural teacher education program including faculty, program of study, enrollment and the academic home;

2. Define the perceived high-leverage strengths and areas of growth for the local program identified by the focus group;

3. Define perceived national trends in agricultural education at the secondary and post-secondary level as identified by the focus group; and

4. Identify recommendations to improve the agricultural teacher education program as identified by the focus group (i.e. local and national).

Definition of Terms

AENLC Conceptual Model: The Agricultural Education Networked Learning Circle for Teacher Preparation model was adapted from the Networked Learning Circle (NLC) as described

by Duran, Brunvand, & Fossum (2002). The NLC has three principal entities and the AENLC has four entities. This model demonstrates the necessary components for an agricultural teacher education program. Each one of these components is necessary for successful program reformation.

Conceptualization: Conceptualization involves communicating thoughts, ideas, or intuition in regards to programs, measures and outcomes (Fullen, 2005) and is necessary for successful program reformation.

Focus Groups: Small groups of 3-5 participants which were representative of all parts of the AENLC conceptual. Focus groups were designed to focus on the unique aspects of their background and experiences (Fern, 2001).

Follow-Up Studies: Studies completed after the initial implementation of program reform in order to determine the effectiveness of teacher education programs. Follow up studies should include accountability from outside audiences to achieve a non-biased evaluation (McGhee & Cheek, 1993).

Master Plan: A plan for reform based on the cooperative work of key stakeholders which identifies performance indicators and their underlying philosophy, specific outcomes, practice and inputs (Fullen, 2000, Rojewski, 2009)

NLC: The Networked Learning Circle (NLC) as described by Duran, Brunvand, & Fossum (2002) provided the foundation for the conceptual framework in this study. Duran et al., discuss the importance of the participation of three principle entities in the improvement of teacher education: schools of education, school districts, and colleges of arts and sciences.

Program Reform: Goodlad (2004) defines program reform as a term that involves replacement or intervention; it implies that there is a problem to be fixed. To be successful,

reform must be extensive and comprehensive, addressing the program's problems all together (National Commission on Teaching and America's Future, 1996).

Program Renewal: The renewal process is a constant evolution of the program. Renewal occurs either by adding courses to the curriculum or amending existing courses (Goodlad, 2004). Program renewal is distinctly different from program reform due to the fact that reform is not a constant revolving process.

Limitations

One case study will be used throughout this study. Therefore, drawing conclusions to other agricultural teacher education programs is limited and only possible based on the assumptions outlined. This study is also limited to available and willing participants for the assigned focus groups.

Assumptions

This study was focused on only undergraduate agricultural teacher education programs in a post-secondary institution. The first assumption is that the majority of agricultural teacher education programs nationwide have not undergone recent reform, nor do they have the literature available to do so. Secondly, it was assumed that although most agricultural teacher education programs differ, they all have the same goal of attracting and producing highly effective secondary educators that will enter and remain in the field for many years. Thirdly, it was also assumed that the participants in the focus groups are an accurate representation of their field of expertise.

Significance of the Problem

It is important that teacher education programs nationwide prepare a new breed of teachers that understand the rapidly changing world of agriculture and have the ability to

effectively teach the appropriate skills to their students while managing the myriad of other duties required of an agricultural educator. The renewal process may work for some programs, but for many, undergoing reform that builds local capacity while maintaining a rigorous external accountability system is necessary (Fullen, 2000). This reform should increase in student enrollment in agricultural education and prepare a cadre of highly qualified teachers who are excited about teaching.

This study is necessary in order to provide a framework for agricultural teacher education reform nationwide. Without reform, post-secondary programs will continue to observe reduced enrollment and secondary agricultural education nationwide will suffer from a lack of qualified agricultural educators. If agricultural teacher education reform and reform considerations are properly outlined, then agricultural teacher education programs nationwide can reform their programs, leading to an increase in qualified agricultural teachers across the nation. This study is not only an opportunity for program reform, but it is the foundation for a future of new agricultural teacher education programs and program renewal that will improve agricultural education at the post-secondary and secondary levels.

CHAPTER 2: REVIEW OF LITERATURE

History of Agricultural Education

The Smith-Hughes National Vocational Education Act of 1917 provided federal funds for educating youth through vocational education in public secondary schools. The Smith-Hughes Act was focused on educating youth who had already begun work on a farm or planned to work on a farm. Even though changes have been made to the act since its origin, the main purpose of the act and the presence of vocational education in secondary schools remains the same today (Hillison, 1996). Throughout the 1900's, student enrollment increased in secondary agricultural education. In 1920, 31,000 students were enrolled in agricultural education and in 1970 enrollment increased to 853,000 students (Ag in the Classroom, 2005). Today the demand for secondary agricultural education teachers is still growing; however, the shortage of teachers is beginning to close programs across the nation (Kantrovich, 2007).

Declining Numbers in Qualified Agriculture Teachers

Enrollment in agricultural teacher education programs has steadily declined since the 1980's (see figure 2.1) and has remained at a low enrollment rate from 2002-2007 (see figure 2.2) (Kantrovich, 2007). The number of newly qualified secondary agricultural educators has decreased from 1,749 in 1977 to 785 in 2006 (Kantrovich). In addition, not all students who receive a degree in agricultural education enter the teaching field, resulting in an increased number of unfilled positions (Kantrovich). It was expected in 2007 that only 53% of the new teachers would take a secondary agricultural education teaching position the fall after graduating, leaving 38% of vacant secondary agricultural education positions unfilled. Due to the decreased supply of quality agricultural educators, the number of unfilled positions increased from 23 in 1990 to 78 in 2006 (see table 2.1) (Kantrovich). A recent meta-analysis found that factors such as

7

extrinsic rewards, personal goals, advancement opportunities and salaries influence graduates' decision to choose a career other than teaching secondary agriculture, resulting in competition for student enrollment with more appealing programs that offer students economic security and status such as engineering, business and medicine (Guarino, Santibanez, & Daley, 2006).

In addition to dwindling student numbers and teacher candidates deciding not to teach, there is the issue of outdated or disjointed curricula that is no longer adequately preparing teachers for their future profession and thus aiding in the increase in teacher attrition (Lytle, 2000). Several studies have found that major factors influencing teacher attrition include feelings of isolation from colleagues and administrators, helplessness over influencing school policy that impact their programs, inability to manage a diverse and "needy" student population, and heavy workloads (Alliance for Excellent Education, 2005). Although teachers are expected to use new and updated curriculum, show the relevance of their programs in a high-stakes testing culture, and teach a diverse student population, many agricultural teachers are not making the changes and continue to use traditional curriculum (Swortzel as cited in Myers & Dyer, 2004). This can be contributed in large to their preparation before entering service. However, there are programs that have identified areas for improvement within the teacher education program and have begun to address these issues through a *renewal* process either by adding courses to the curriculum or amending existing courses (Goodlad, 2004). The renewal process is a constant evolution of the program and if the comprehensive program is not taken into account during these changes, it will lead to ineffective or disjointed curricula.

History of Agricultural Teacher Education Reform

By the late 1980's a movement began nationwide to reform education and teacher education (Lynch, 1997). National reports were published calling for fundamental changes in

general education as well as teacher education (McLean & Camp, 2000). In addition to general education, agricultural teacher education and secondary agricultural programs were asked by the Secretary's Commission on Achieving Necessary Skills Report to step up and set new competencies to transform the nation's schools, preparing students to develop full academic abilities in order to improve America's competitiveness (United States Department of Labor, 1991). A report urging secondary agricultural teachers to make improvements was released by the National Academy of Science Committee on Agricultural Education in the Secondary Schools (1998) following an examination of agricultural education programs across the country. Through the examination, the committee found that the curriculum and programs were lacking and did not keep up with agricultural advances (National Academy of Science Committee on Agricultural Education in the Secondary Schools, 1998).

Even though pressure was increasing in the 1980s, it was not until the early 1990s that reform became common among agricultural teacher education programs. In 1992, the University of Council on Vocational Education and the National Association of State Directors of Vocational Education began to push vocational teacher education for reform (Lynch, 1997). A report published in 1995 by the University Council for Vocational Education and the National Association of State Directors of Vocational Technical Education Consortium used new terms to emphasize that learning would take place in a variety of educational environments and asked that all levels of educators become involved in the reform. At the same time, reform was initiated by the University Council for Vocational Education, who began a 3-year study on teacher education and hosted a national summit to discuss reform of vocational teacher education. The summit identified the necessity for reform amongst vocational education and thirteen places to start

reform, as well as a vision for vocational education. A vocational action agenda was developed by participants at the summit (Lynch, 1997).

<div align="center">Reform Considerations</div>

Goodlad (2004) defines program reform as a term that involves replacement or intervention; it implies that there is a problem to be fixed. Throughout the reform process *conceptualization* is an important factor to incorporate. Conceptualization involves communicating thoughts, ideas, or intuition in regards to programs, measures and outcomes (Fullen, 2005). Everyone involved in the evaluation and reform process must continually communicate their thoughts or ideas to achieve the best plan for the program. Before implementing reform, a *master plan* for reform should be developed which results in everyone working in cooperation to make progress through change and development (Fullen, 2000). The master plan for teacher education reform should include the development of performance indicators in order to evaluate legislative mandates and their underlying philosophy, specific outcomes, practice and inputs (Rojewski, 2009). Using these performance indicators and other evaluation factors, *follow up studies* are commonly used to determine the effectiveness of teacher education programs. Follow up studies should include accountability from outside audiences to achieve a non-biased evaluation (McGhee & Cheek, 1993). It is recommended that data related to career patterns and program perceptions be collected and evaluated every 3-5 years to identify necessary changes to the education program (McGhee & Cheek).

<div align="center">*Student Recruitment*</div>

Studies have shown that increasing students' interest in agricultural education will potentially result in more successful recruitment processes; thereby, increasing student enrollment (Esters, 2007). Personal, career and educational interest were identified as a factor

that influenced students' decisions regarding enrollment in a post-secondary agricultural education program (Esters, 2007).

Maintaining Graduates in Teaching

In addition to decreasing enrollment, the supply of agricultural educators has decreased due to the fact that many graduates do not enter education upon certification. A study by Muller and Miller (1993), found that factors such as extrinsic rewards, personal goals, advancement opportunities, and salaries influence graduates' decisions to choose a career other than teaching secondary agriculture. Incoming urban high school students do not have a complete understanding of the type of careers available to students in agricultural fields of study and by the time agricultural teacher education students are seniors, they still are unsure of the salary for secondary agricultural teachers and the demands placed on secondary teachers (Lawver, 2009).

As agricultural teacher education curriculum continues to become outdated and demands placed on secondary educators continues to change and increase, it becomes evident that a teacher education program cannot prepare a pre-service teacher for all the tasks and responsibilities that await them (Lytle, 2000). However, as curriculum is updated, one thing that teacher educators can include is helpful information about the future aspects of their career, including income and time demands. Other curriculum considerations include helping prospective teachers understand that careers in education require continuing professional education. Agricultural teacher education students also need to be ready to learn and act on what they learn. Teacher educators need to help them to develop a strong professional philosophy focused on students as well as perspectives on practice (Lytle, 2000). Typically agricultural education has focused on evaluating the effectiveness of the courses. However, this study seeks

to evaluate and redesign an entire teacher education program, making it necessary for multiple entities to participate in the program improvement.

Conceptual Framework

The Networked Learning Circle (NLC) as described by Duran, Brunvand, & Fossum (2002) provided the foundation for the conceptual framework in this study. Duran et al., discuss the importance of the participation of three principle entities in the improvement of teacher education: schools of education, school districts, and colleges of arts and sciences. The advantage behind the NLC is that it takes multiple entities to successfully renew an educational program through the development of student teachers, even though each one has different areas of focus and strengths, they all need to collaborate to be effective. The focus of the NLC is the pre-service teacher--preparing them to enter the educational field and is made up of four parts 1) Student Teachers, 2) Content faculty--specializing in the student's field of study, 3) Education faculty--specializing in educational theories and practices, and 4) experienced practitioners— student's mentoring teachers and university-based supervisors. At the time the pre-service teacher is participating in the teaching internship, they have finished their coursework and have passed from the guidance of the content faculty to the guidance of the supervising or host teachers. The supervising teacher has the responsibility to then bring out the educational and content knowledge the student has acquired.

The Agricultural Education Networked Learning Circle for Teacher Preparation model (AENLC) (see figure 2.3) identifies four major stakeholder groups that together create the agricultural teacher education program. This unified body indicates the focus of the program; a comprehensive network instead of separate entities providing specific and sometimes disjointed or competing services. This network should wrap around the pre-service teacher, identifying the

current educational climate and responding appropriately to train him or her based on one's individual strengths and areas of improvement.

The first component to the network is the *content specialists*. The content specialists prepare pre-service teachers by teaching specialized skills in specific areas. These skills should be closely aligned to the current practices in agriculture, fusing research with application. The second component is the *teacher educators*. Teacher educators are the education faculty in both agricultural education and the college of education, providing pre-service teachers with educational theories and practices. They should have a clear understanding of what is occurring in schools as well as in the agricultural industry and provide a pedagogical foundation whereas the pre-service teachers have high self-efficacy toward effectively educating a diverse group of learners using multiple instructional approaches. The third component of the framework is the *governing body*. The governing body such as the school district, state education agencies, agricultural education agencies, etc., develops and administers policy with the goal of ensuring an effective and equitable educational environment. It is important that the governing body is a partner in the preparation process and that support is substantive and continual throughout the educator's career. The final component of the framework is the *mentors*. Mentors are made up of cooperating teachers, experienced teachers and university supervisors. Together these four components make up the comprehensive agricultural teacher education program. The agricultural teacher education program must maintain an open line of communication among all the components continuing to assess, conceptualize, implement, and evaluate the program in order to produce highly qualified agriculture teachers that will continue to engage and persist in the field. In program reform, all of these components must be taken into account.

CHAPTER 3: METHODOLOGY

Methods and Procedures

The population for this study is agricultural teacher education programs throughout the United States. The accessible population is the University of Illinois agricultural teacher education program, which has experienced declines in student numbers in a state with an increase demand for highly qualified agriculture teachers and had agreed to participate in a two-phase longitudinal reform process. The purpose of the study was to begin the reform process of conceptualization by determining high-leverage strengths and areas of improvement as perceived by stakeholders identified in the AENLC both at the local and national level. Therefore, a nested ethnographic case study was used. In order to be effective, the study was designed to be holistic, taking into account every part of the conceptual framework and sensitive to the context where the study took place (Patton, 2002). A nested study was used due to the fact that the researchers were interested in determining the individual experiences, attitudes, and recommendations of individuals representing the components of the learning circle as it relates to reforming the agricultural teacher education program being studied (Patton). Therefore, there are three levels to this case study in both phase one and two (1) the individuals in the study, (2) the focus groups, and (3) the local program.

Sample Selection

The sample used in this case study were key stakeholders nominated by the local program that represented three of the four components of the AENLC. In phase one, this list included experienced teachers that have previously served as cooperating teachers and teacher leaders for the state, novice teachers who had gone through the program, recent graduates that were certified but not teaching, and educational and agricultural education governing board members. In phase

two the list of nominated stakeholders was representative of peer institutions across the country. Stakeholders participating in phase two of the study included post-secondary agricultural education faculty members which were representative of all three national regions of the American Association for Agricultural Education (AAAE), educators from secondary education, and educational and agricultural educational governing board members. In phase one, 20 individuals were invited with 17 attending. In phase two, 21 individuals participated in the study. According to Fern (2001), large groups of 12 or more members are more likely to focus on the information they have in common rather than on the unique aspects of their backgrounds and experiences. Therefore, the group was broken into smaller focus groups of 3-4 for phase one and 4-5 for phase two (Brown as cited in Barnett, 2002).

Procedures

The first step within the procedures focused on the first level of the study, the individual. In both phases, participants brainstormed their ideas of the premier agricultural teacher education program. From this list of characteristics, participants identified important themes that the group should continue to discuss as it relates to high-leverage strengths or areas of improvement for the local program. Once themes were identified for discussion, focus groups were formed.

In phase one, for level two of the study, participants were randomly divided into focus groups of three to four members. Each group was stratified to have at least one member from the governing body, one experienced teacher, and one novice teacher. Each group was provided a laptop to record notes, a theme from the list generated by the larger group, and two programs of study (i.e. one comparable out-of-state agricultural teacher education program and one comparable in-state program). In addition, each focus group received one of the state approved agriculture career pathways to discuss. The themes assigned to the groups were, teacher training

and student teaching, student professional development, program image, and outside partnerships, faculty responsibilities, and curriculum and content knowledge. Each focus group was given three hours to discuss their four assigned topics (Kitzinger, 1995). In addition, groups were instructed to provide high-leverage strengths and areas of growth for the program, recommendations and action steps for addressing the areas of growth.

In phase two, for level two of the study participants were randomly assigned to one of four focus groups. Each group was then provided blank paper for discussion notes. Focus groups were assigned all four of the themes generated from the large group brainstorming activity and instructed to discuss each theme and provide general discussion of ideas back to the entire group. The themes assigned to the groups were opportunities and roles in the future of agricultural education, trends and national movements, what the premier post-secondary program looks like, and how the local program can be revitalized based on national discussion themes. After discussion, focus groups were provided with a copy of the master plan that was created by the local program faculty after phase one of the study (figure 3.1) in order to evaluate and provide recommended changes to the plan.

For level three, the local program, the researchers used inductive data analysis by defining data and identifying key themes (concerns and recommendations) in relation to the key components in the conceptual framework for both phase one and two. More specifically, identifying distinct recommendations, the components within the model that are impacted by the recommendations, and how those individuals can work to address the recommendations within the master plan for reform.

CHAPTER 4: RESULTS

The local program consisted of two faculty members, one member with agricultural education training at the Ph.D. level and one at the masters level. Combined there was five years of secondary agriculture teaching experience, 30 years of agricultural leadership development experience, and four years of teacher education experience. The local program had seen a turnover of four Ph.D. faculty members in five years taking with them much of the institutional knowledge and decades of teacher education experience. The program is housed in the agriculture college and requires that students enroll in courses in the college of education as part of their professional training. The undergraduate program consists of two concentrations, agricultural leadership education and teacher certification. The teacher certification concentration required 126 hours of coursework including, 48 general education hours, 33 professional education hours, and 45 agricultural content and elective hours. Students are also required to document 2000 hours of agriculture work, over 80 hours of secondary classroom observations, and twelve weeks of a teaching internship. No program existed for certification at the graduate level. Finally, enrollment in the teacher certification concentration has consistently decreased from 36 to 20 total students in the last five years. During the five year period the female enrollment ratio steadily increased from 60% to 85%.

Phase One Results

During phase one for research objective two, each of the five groups were assigned two themes and asked to identify suggestions or concerns based on that theme. Table 4.1 displays the results for this objective at the local level. The 10 themes discussed included local program development, appeal to diverse populations, program image, outside partnership, teacher training, supervision of student teacher, teacher training, curriculum, content knowledge, faculty

17

and academic professionals. In addition, the each group was assigned two programs of study to compare to the local program (Table 4.2). Suggestions based on the comparison of other programs of study were made in terms of courses, curriculum, and requirements. The third area focus groups identified suggestions based on were the Illinois Career Pathways (Table 4.3). The Illinois Career Pathways include Agricultural Business and Management, Natural Resources and Conservation Management, Agricultural Science, Horticulture, and Agricultural Mechanics and Technology. For each pathway, focus groups identified additional classes, units or topics needed at the local program in order to prepare students for secondary education. Several strengths were identified throughout the study; focus groups agreed that many quality resources are available through the university for the local program, such as the high quality content courses. In addition, students gained practical experience and advice through student organizations and relationships with faculty. The connection that the program has with the state and local governing bodies was also a strength. Overall, focus groups felt that internships and field work did not reinforce content knowledge for students. Focus groups also found that some necessary coursework was lacking or unsatisfactory while other required courses were unnecessary. When compared to other universities, the local program required many more courses, resulting in very few course options for students within required coursework and electives. In addition, continuing education courses were not offered to current educators. The final concern was recruitment of faculty. Focus groups identified that it is important to re-evaluate faculty recruitment in order to recruit and maintain quality teacher educators. Table 4.4 is a summary of perceived high-leverage strengths and areas of growth for program as defined by the five focus groups.

As a result of the discussion of high-leverage strengths and areas of growth, focus groups provided 48 specific recommendations to improve the current agricultural teacher education

program. For research objective three, redundant recommendations were removed leaving the following recommendations that are displayed in Table 4.5. These recommendations fell into five categories: 1) faculty recruitment and retention; 2) courses and curriculum; 3) certification options; 4) student professional development; and 5) student recruitment. Several recommendations were identified from the groups that dealt with the importance of quality faculty. This included tenure-track, non tenure-track, and adjunct or master teachers. Focus groups identified specific courses that were considered unnecessary or missing within the curriculum of the current program. The overall perception was that all courses in the curriculum should be reevaluated for appropriateness and effectiveness. In addition, recommendations for improving the certification options to better meet the needs of the state.

Furthermore, focus groups felt that even though resources were available for student professional development, they are not being used to their full capacity. Groups recommended specific changes in the opportunities for professional development in order to make better use of the available resources at the university and throughout the state. These included, designating time to use the university agricultural farms, improved cooperating teacher training and opportunities for students to practice teaching skills within the university. Focus groups also recommended improving student recruitment efforts by improving connections with secondary teachers and increasing recruitment targets.

<div align="center">Phase Two Results</div>

Phase two focused on research objective three at the national level. Participants engaged in four discussions based upon identified themes. The first discussion was focused on the theme envisioning the future of "agricultural education—opportunities and roles". Participants were asked to reflect on their collective vision of what agricultural education is and what it represents

(figure 4.2, 4.3, 4.4, 4.5 and 4.6). The consensus among all groups was that the boundaries of agricultural education are difficult to define as it extends through the disciplines of agricultural sciences, teacher preparation, and other fields. It is not restricted to discipline-specific careers or technologies. It is a profession that helps others learn how to solve problems rather than being a profession that is directly responsible for finding solutions to the problems in the agriculture industry, broadly defined. Focusing on agricultural education at the secondary and post-secondary levels, several themes emerged from those discussions, as summarized here:

Secondary Programs

The aforementioned future problem solvers enter a secondary agricultural education program as a diverse group of students from traditional and nontraditional backgrounds. Programs need to deliver effective educational content that result in knowledge acquisition, skill development, and global understanding of the importance of agriculture and agricultural education. Secondary agricultural education programs facilitate and inform the experience of learning in ways that foster connections with the real world of agriculture. The result is graduates who are prepared to apply their learning and solve problems broadly in their communities, the academic community, and even careers that have not yet emerged.

Post-secondary Program.

Focus groups suggested that the post-secondary program should foster the collaboration between research and the classroom, and be fully integrated into the university community. Just as with the secondary program, post-secondary programs need to deliver sound pedagogical content that result in consistency of knowledge, skill development, agricultural literacy, and global understanding of the profession. Building any agricultural education program should take advantage of the fraternal nature of the Agricultural education community.

The second theme discussed by focus groups was the trends and national movement in agricultural education (figure 4.7, 4.8, 4.9 and 4.10). Participants agreed that there is considerable demand for people to go into agricultural education as reflected by the 10x15 initiative set by the NCAE. Opportunities for growth in attracting people into agricultural education occur through connecting with diverse populations, including the link between urban, suburban and rural populations, and addressing characteristics of an evolving workforce. Groups noted that the challenge is to restructure programs to meet these opportunities while continuing to service the needs of agriculture. Focus groups suggested that one strategy is recruitment of students from diverse populations to return to teach within those populations, such as recruiting urban students who return to teach in urban communities; and another strategy is through creating career pathways that promote matriculation of students from diverse populations.

Focus groups noted that while maintaining the emphasis on teacher preparation and the principles of teaching and learning, further enhancement of delivery of technical and educational programs will continue to be an area of growth. Participants of focus groups identified that educational programs addressing nontraditional and emerging issues related to agriculture are among the national trends, including biofuels, environmental topics and the green movement, organic foods, global issues of all kinds, and life skills training. Agricultural literacy and the role of science, technology, engineering, and math fields (STEM) will become even more important in these educational programs.

Other trends identified by focus groups in secondary education were academic integration, high stakes testing, content standards and program standards, groups noted that these need to be accounted for by Agricultural education programs so that each school can expect that their Agricultural education program will contribute to academic achievement. Along with trying

to meet the demands of secondary programs, groups felt that trends in higher education include

constraints of resource-based budgets, increased demand for outreach education, and a call for

improved faculty development.

The third area discussed by participants was what a premier higher education program in

agricultural education would look like (figure 4.11, 4.12, 4.13, and 4.14). Participants concluded

that a premier Agricultural education program is founded on high quality and diverse students

and faculty. A premier program in Agricultural education must be recognized and understood by

other fields as a program that helps students be employable and ready to accept leadership roles

in society, whether in teaching or in other aspects of agriculture.

Students

Participants felt that students recruited into the program should have an understanding

that the field of Agricultural education demands a high aptitude and an engagement in

scholarship. Group participants also felt that an integrated curriculum should be incorporated on

campus beginning with the freshman year until graduation, incorporating authentic learning at

every opportunity. In addition, focus groups identified that the program should encourage

applied learning and embrace a multidisciplinary exposure that balances theory with the

frameworks and mechanics of understanding and offer formal and non-formal educational

choices, strong internships, and relevant and practical experiences, as well as emphasize life-long

learning.

Faculty

Focus group participants also identified several areas for improvement in the faculty

area. Participants suggested that the faculty reflect the composition of diverse students in the

program, as well as contribute to the internationalization of the program through recruitment

initiatives. Focus groups also agreed that faculty should be "highly qualified" and "highly motivated" and they should be provided with opportunities to fully develop the agricultural education program, as well as develop their own professional credentials. Participants also noted that faculty research should be fostered by their home unit and college and faculty should be encouraged to conduct action research on the agricultural education program that may further advance the program, as well as improve the productivity of other programs through human capital development. Finally, participants agreed that faculty should create links between agricultural education students and faculty with other fields in agriculture.

The final theme discussed by focus groups asked participants to reflect on the discussion of the three prior themes and discuss how the local agricultural teacher education program can build on the recommendations to revitalize their program (figure 4.15, 4.16, 4.17, 4.18, 4.19, 4.20, and 4.21). Participants agreed that both the leadership education and teacher certification programs are important within the local program. These curricula should include a combination of theory and experience. Participants felt that finding flexibility in the current curriculum is important to allow students to meet the expectations of the broad array of career pathways, while having the opportunity to specialize in an area. Participants agreed that dual certification also should be considered in finding flexibility within the curriculum.

Focus groups also recommended that career pathways in Agricultural education be made more transparent in how the curriculum is communicated to students. Participants noted that student advising is important to ensure this transparency of the curriculum, but also to help students find the balance between general knowledge and specialization. Participants stated that curricular enhancements should consider ethics, understanding team work, lifelong learning, human development, community development, history, problem solving, and field experiences.

They also felt that capstone experiences should be further developed, including opportunities to assist in teaching lower-level disciplinary courses. Participants noted that students need to enter the workforce knowing how to continue to be competent in their field and how to continue their education. Participants recommend that the graduate program incorporate a common course that all students take, perhaps addressing new frontiers in agricultural education. The graduate program also needs to have a more clearly defined purpose.

After focus groups discussed the themes based on national trends they discussed changes and recommendations for the master plan that originated in phase one of the study. Overall no major changes were made to the master plan; however, as a result of the discussion of recommendations to improve agricultural education nationwide, focus groups provided specific recommendations to incorporate the master plan into the local agricultural teacher education program based on the fourth theme discussed. These recommendations fell into four categories: 1) student recruitment; 2) graduate program; 3) leadership concentration; and 4) multidisciplinary leadership minor (table 4.6). For student recruitment, participants felt there was a lot of opportunity for growth. The biggest key was targeting new and appropriate students and creating a program that built relationships with those students in order to attract them to the program. Participants suggested that targeted students be refocused on urban students and minorities. The most important step in attracting these students is to build a connection through similarities so that they feel like they are part of a family. It was recommended that a student ambassador program be developed to accomplish this purpose. The program would target juniors and seniors interested in agricultural education and actually bring them to the campus. Encouraging non-traditional students to work with the ambassador program would further promote relationships with non-traditional prospects. The main recommendation for the graduate

program was that the local program expands the curricula to offer an online program. Participants noted that the online program would not only reach a broader audience, but would also allow for collaboration with other resources in order to continue to grow the local program. The leadership program was also briefly discussed and recommendations for improvement were made. However, since the scope of this study is the teacher education program, the leadership program will not be discussed.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

Phase one and two of this study yielded important information to develop the master plan for reforming the local program. The following conclusion is a summary of the focus groups conceptualizations but also summarizes the third level data, the local program recommendations. Henceforth, the term "the group" will indicate the third level data. The group determined that most critical to this reform initiative is teacher educator quality and retention. The program has access to many institutional and governmental resources but the high turnover rate in faculty over recent years has had a large and negative impact on the program. Without disregard for the current faculty, the group reported a lack of confidence in the program's ability to effectively train pre-service teachers. This was apparent by the consistent decrease in enrollment and the repeated comments of negative perceptions of the program by stakeholder groups within the state. The group recognized a need for a strong but diverse teacher education team that is both "highly qualified" and "highly motivated". This is consistent with the literature that agricultural teacher educators play a large role in the quality of the agricultural teacher education program, in order to diversify the input for agricultural education and provide a range of opportunities to expand and collaborate with other fields of education, a diverse professoriate is necessary (Swortzel, 1999). Therefore, the group recommended determining the most suitable qualifications of desired faculty and establishing a recruitment process to hire these individuals. Furthermore, support mechanisms should be put into place to promote faculty retention. In addition, several groups suggested maintaining the strong connections among the teacher educators, the governing body and mentors.

With the foundation of a diverse and knowledgeable teacher education team, the local program should look at the quality of the courses. Studies found a positive relationship between

the amount of professional coursework taken by teachers and their teaching performance, including their students' achievement (Darling-Hammond et al., 2002). The Group identified unnecessary coursework and many focus groups recommended removing specific courses or overlapping course requirements so that the curriculum had more flexibility to meet the needs of the individual pre-service teacher without compromising quality. In addition, the group identified holes within the program of study and recommended adding required courses or replacing topics within current courses. Recommendations to improve course offerings are consistent with literature where a review of several studies reported positive relationships between education coursework and teacher performance (Darling-Hammond et al., 2002). The group also strongly recommended that the teacher educators work closely with content specialists both within and outside the institution, including specialists in the agriculture industry and in-service teachers, to make sure that there is a seamless flow from theory to real-life application.

The next set of recommendations call for action by both the teacher educators and the governing body. Several focus groups commented on the fact that certification options for students need to be re-evaluated and requirements be more transparent to potential recruits and in-service teachers. The group recommended that the program pursue options to allow for secondary endorsements within the 4-year curriculum in other content areas such as science and math. In addition, the group recommended that post-baccalaureate certification options are introduced. More specifically, options for individuals who are interested in full-time graduate studies, those currently teaching under provisional licensure, and secondary agricultural education endorsements for core content teachers. The latter recommendation also addresses the issue of student recruitment in secondary agriculture programs in that secondary endorsements will increase the number of teachers with agriculture content knowledge, potentially exposing

more students to agricultural applications. In terms of certification transparency, those who have contact with current students don't know or understand that process, making it difficult to explain to other individuals that may be interested. A more transparent certification process will make a more informed group of agricultural education advocates, which will only benefit the recruitment process.

The next set of recommendations targeted the responsibilities of the teacher educators, the mentors, and the content specialist in providing relevant professional development experiences for pre-service teachers. The group recommended that both internships and field experiences have more structure in order to offer students specific content knowledge. In addition, teacher training should be offered to cooperating teachers in the areas of effective instructional strategies, authentic assessment of teaching, and fostering a healthy mentoring relationship. The group also recommended that practical experience be offered to students at the university, including experiences assisting in content area courses and university farm experiences. Furthermore, they need to be exposed to situations where they must act on what they learn so that they can develop a strong professional philosophy focused on students as well as perspectives on practice (Lytle, 2000).

Finally, the group recommended that a larger focus be placed on recruiting students into the local program and that program faculty work to foster connections with current educators in the field. Consistent with the literature, it is important to realize that direct contact with students and teachers is necessary to develop relationships that will lead to successful recruitment efforts. Studies have shown that increasing students' interest in agricultural education will potentially result in more successful recruitment processes and increasing student enrollment (e.g. Esters, 2007). More specifically, a study by Harms and Knobloch (2005) purported that those who

choose a career based on intrinsic interests are more satisfied than those who choose careers based on extrinsic motivates. Intrinsic motivation is most commonly the desire to help others (Harms & Knobloch) and is often based on the goals, beliefs, values and inspirations of an individual that influence their career decision (Fischman, Schutte, Solomon, & Wu Lam, 2001; Vincent, Ball & Anderson, 2009). Therefore, as agricultural educators work to increase student interest in agriculture, they must broaden their programs in order to target new groups of students and foster new relationships.

In addition to the aforementioned level-three recommendations, the following recommendations are provided for this study.

1. Upon implementation of the master plan, the local program should commence with a third phase of the program reform process by evaluating the effectiveness of the program reform and making further improvements through program renewal.

2. This study should be replicated with other agricultural teacher education programs throughout the nation to confirm the effectiveness and practicality of the conceptual model.

3. A relational study should be conducted to look at the impact the key stakeholders identified in the AENLC have on the pre-service teacher's professional preparation and decision to teach. This study should look at the AENLC as a comprehensive preparation system instead of as separate components.

In conclusion, as more demands are placed on secondary educators, it is important that agricultural teacher education programs are vigilant and take the measures to ensure that the program of study does not become outdated or disjointed due to small incremental changes to courses. Those programs that are not responsive and do not have a systematic plan in place will

run the risk of becoming obsolete. It is evident that a teacher education program cannot prepare a pre-service teacher for all the tasks and responsibilities that await him or her (Lytle, 2000). However, just focusing on evaluating the effectiveness of the courses and not looking at the entire program is not enough. As demonstrated through this case study, the Agricultural Education Networked Learning Circle for Teacher Preparation conceptual model is promising as a framework for guiding the systematic process of agricultural teacher education program reform. Furthermore, we contend that this framework can also be used in program renewal efforts.

FIGURES AND TABLES

Figure 2.1 *Number of Newly Qualified Agricultural Teachers per Year (Kantrovich, 2007)*
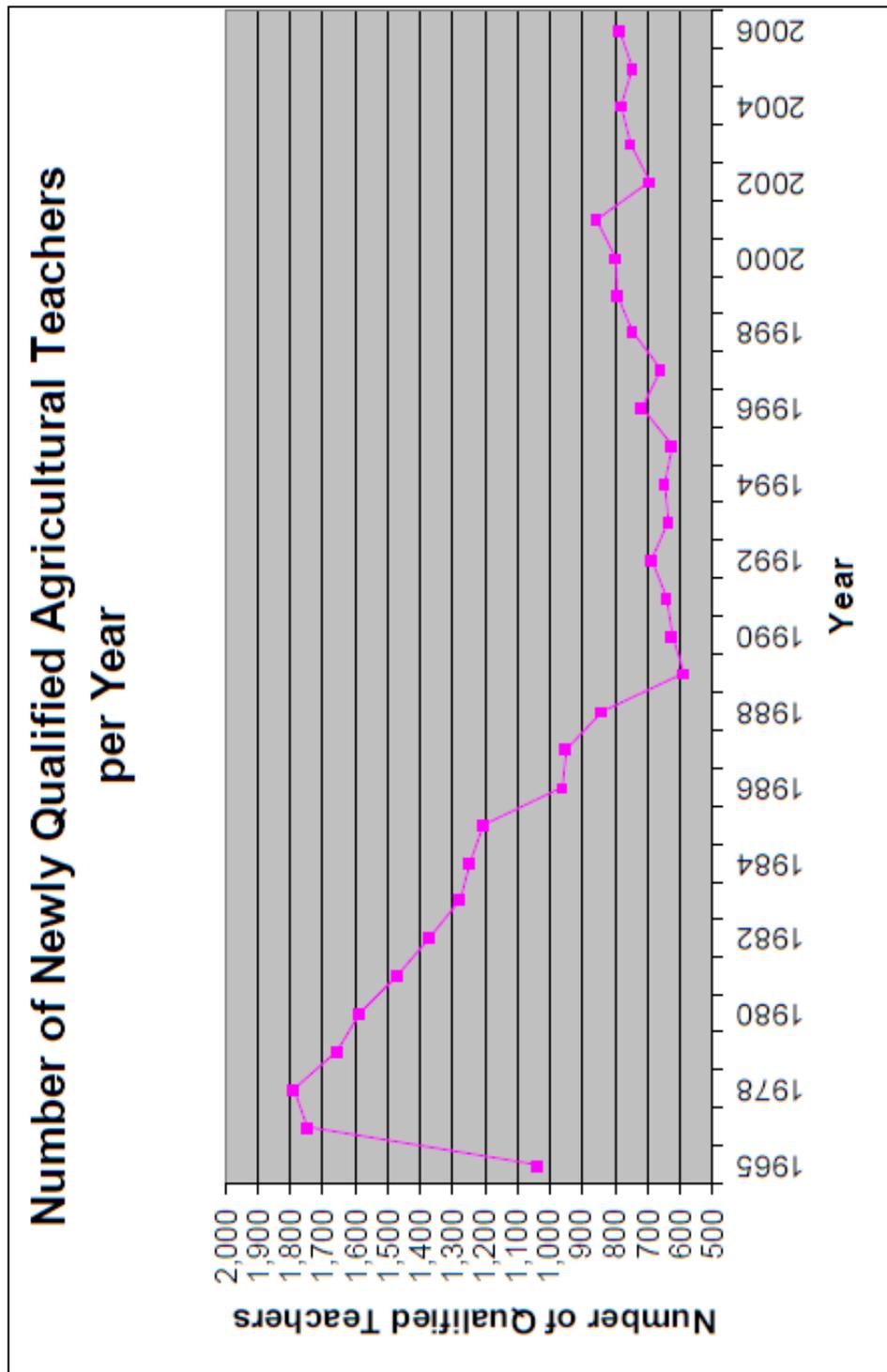
Figure 2.2 *National Agricultural Teacher Education Enrollment 2002-2004 (Food and Agricultural Education Information System, 2008)*
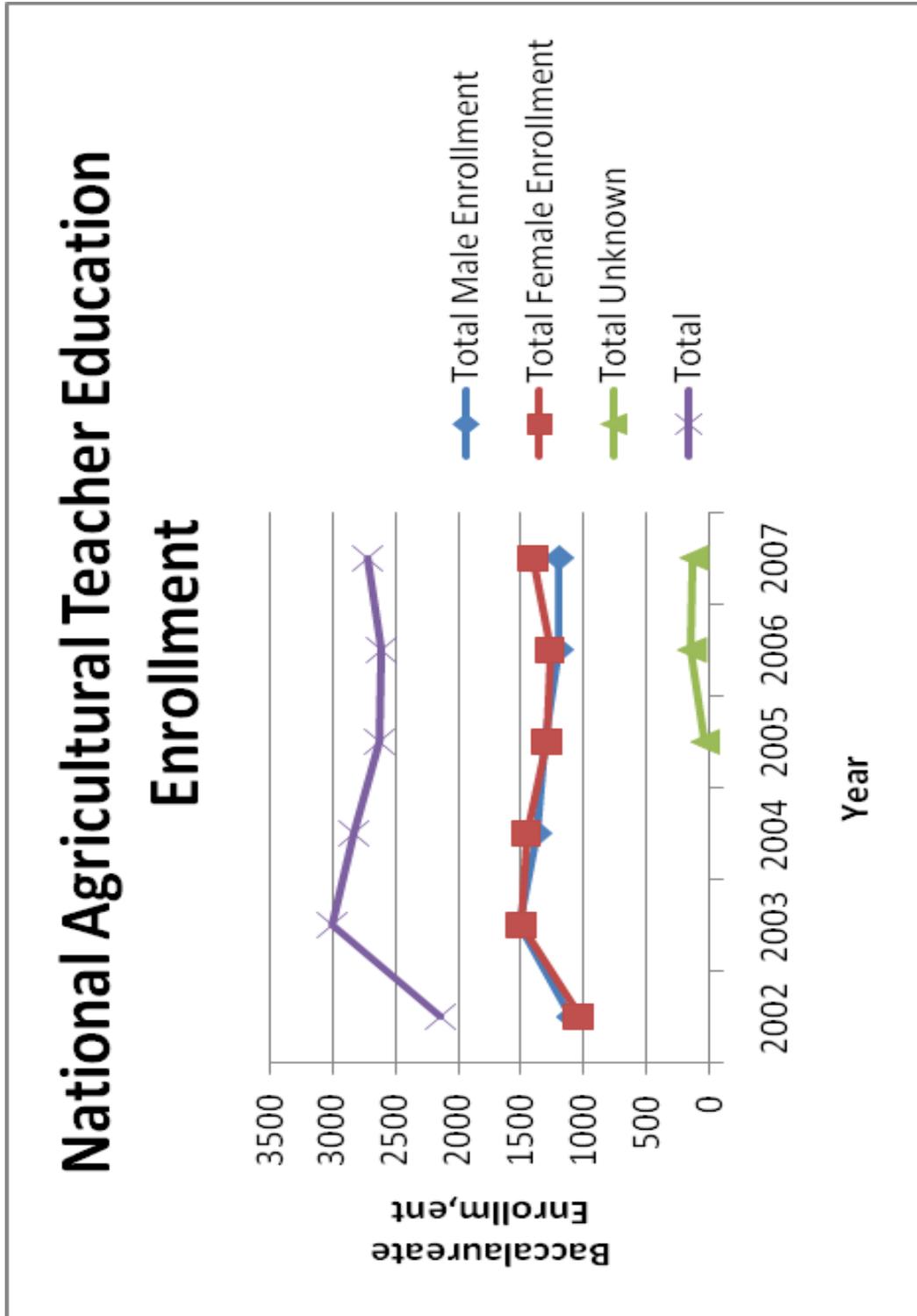
Table 2.1

Overview of Agricultural Education Teaching Positions and Personnel Turbulence in the United States for Selected Years** (Kantrovich, 2007)

	1975	1980	1985	1990	1995	1998	2001	2006
Total positions on Sept. 1	12,107	12,510	11,687	10,355.5	10,164	10,706	11,189	10846.5
Replacements Needed	1,273	824	1,043	979	977	888.9	1,170.5	1218
Moving between schools	*	*	238	351	280	314	372	394
Net demand for replacements	*	*	805	628	697	574.9	798.5	824
Needed, but not available Sept. 1	211	117	8	23	40	69.5	67.0	78
Emergency Certification	607	454	140	110	119	175.5	242.0	185
Departments that will not operate due to lack of qualified teacher	78	55	3	9	41	55	35	40

*   Data not collected for year indicated

**   This figure is not the same as "teachers hired" that will be reported in Table 7. "Replacements Needed" is computed as follows: Teachers Leaving Positions + New Positions + Vacancies Remaining – Positions Lost.

*** Due to low response rate which show inaccuracies 2004 data is not shown on Table 2.

33

Figure 2.3 *The Agricultural Education Networked Learning Circle for Teacher Preparation Model*
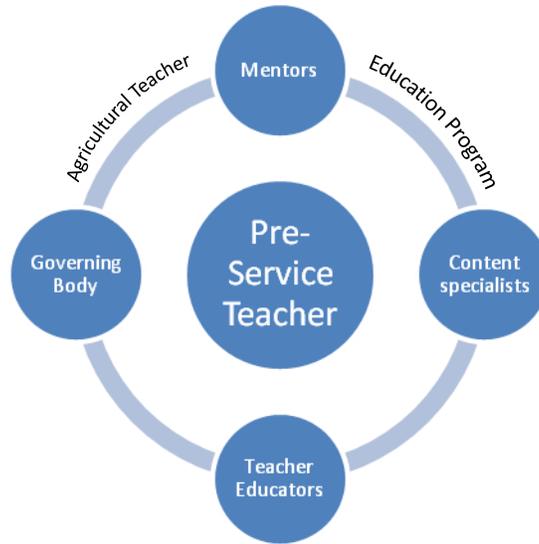
Figure 3.1 *Phase 1 Master Plan for the Local Program*

<div align="center">

University of Illinois Agricultural Education
Strategic Vision

</div>

The vision of the Agricultural Education Program at the University of Illinois is to become the innovative leader in experiential and outreach education for traditional and non-traditional youth and adults in the agricultural, consumer and environmental sciences. We envision the following action steps be taken to become globally preeminent and locally relevant.

1. Educate and train future practitioners, scholars and leaders for success in institutions, organizations and communities. Graduates will be prepared for careers in:
   a. Agricultural Sciences Education
   b. Teacher Education
   c. Instructional Design and Evaluation
   d. Organizational Consulting
   e. Community Development and Outreach

2. Revise the curriculum to reflect the new vision. Revisions should include but are not limited to:
   a. A defined plan of action for teacher certification students to pursue a second endorsement (i.e. science, math, or business education).
   b. Quality internships for leadership education students with the same rigor and relevance as the student teaching internship.
   c. Teacher Certification technical courses that reflect the Illinois career pathways.
      i. Horticulture & Plant Science
      ii. Animal & Food Science
      iii. Natural Resources & Environmental Science
      iv. Technical Systems Management
      v. Agricultural Business Management
   d. Leadership Education technical courses that reflect educational and organizational contexts of the agricultural, consumer and environmental sciences.
      i. Introductory Content (ACE, FSHN, HORT, TSM, ANSC)
      ii. Human Resource Education
      iii. Educational Psychology
   e. Course requirements that reflect current professional standards (e.g., multicultural education, organizational communication, educational technology, community outreach, collaborations, reflection and professional development, and experiential education).
   f. Graduate and undergraduate courses that reflect the body of knowledge in agricultural sciences and leadership education.
      i. Needs Assessments & Evaluation
      ii. Program Development
      iii. Teaching and Training Strategies
      iv. Experiential and Inquiry-based Learning
      v. Human Capital Development
3. Develop an undergraduate fellowship program that will identify high achieving high school students, recruit them into agricultural education, provide substantive financial support toward a degree in agricultural education, and establish a professional development program from matriculation through the first four years of teaching agriculture that focuses on growth and retention.

Figure 3.1 (Cont.)

4. Articulate courses with community colleges and build relationships that help foster a smooth transition for transfer students.

5. Develop a strategic plan to recruit quality students who are diverse in their interests, devoted to life-long learning, and dedicated to educating others about the agricultural, consumer and environmental sciences.

6. Create an advisory committee that meets twice a year to assess the progress and relevance of the program. Stakeholders should represent agriculture, consumer and environmental sciences education, broadly.

7. Provide professional development opportunities for undergraduates that include real-life teaching/training experiences, educational research internships, program development experiences, and collaborations with educational and organizational stakeholders.

8. Deliver high quality academic programs for graduate students interested in experiential and outreach education in the agricultural, consumer and environmental sciences. The graduate programs that shall be offered are:
   a. M.S. in Ag Ed (Thesis or Special Project)
   b. M.S. in Ag Ed (Teacher Certification)
   c. M.S. in Ag Ed (Online)
   d. Ph.D. (To be Developed)

9. Provide continuing education opportunities for practitioners. Special areas of interest are:
   a. Professional Development in content areas
   b. Certifying provisional agriculture teachers
   c. New teacher development and mentoring
   d. National Board Certification in Agricultural Education

10. Promote diversity and international programs and develop new partnerships with underserved populations.

11. Identify and implement administrative, structural, and programmatic changes for the Ag Ed program that will position it as a viable, credible, and relevant program in the College of ACES.

12. Develop a plan of action for tenure-track faculty concerning scholarship, grant acquisition, and promotion and tenure. This plan should be sensitive to the scholarship needs of the agricultural education discipline but rigorous enough to meet the expectations of the university.

13. Utilize academic professionals to facilitate the daily operations of the undergraduate program. Duties would include teaching courses, advising students, providing professional development opportunities for students, and maintaining records and reports for the teacher certification program.

Figure 4.1 *The Phase 1 Focus Group Discussion Form*

University of Illinois at Urbana-Champaign AgEd Curriculum Review and Recommendations

Group 1:

U of I AgEd Program

Suggestions or concerns for Theme 1:

**Figure 4.1 (Cont.)**

Suggestions or concerns for Theme 2:
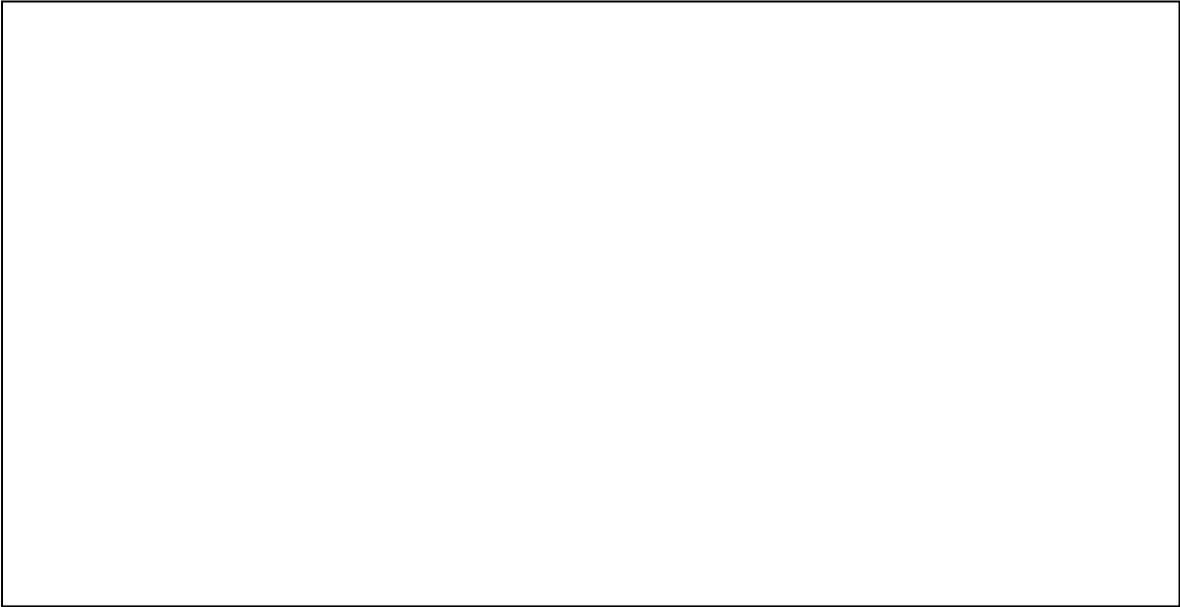
Figure 4.1 (Cont.)

In comparison to Program 1:

Provide suggestions based on Courses, Curriculum, and Requirements
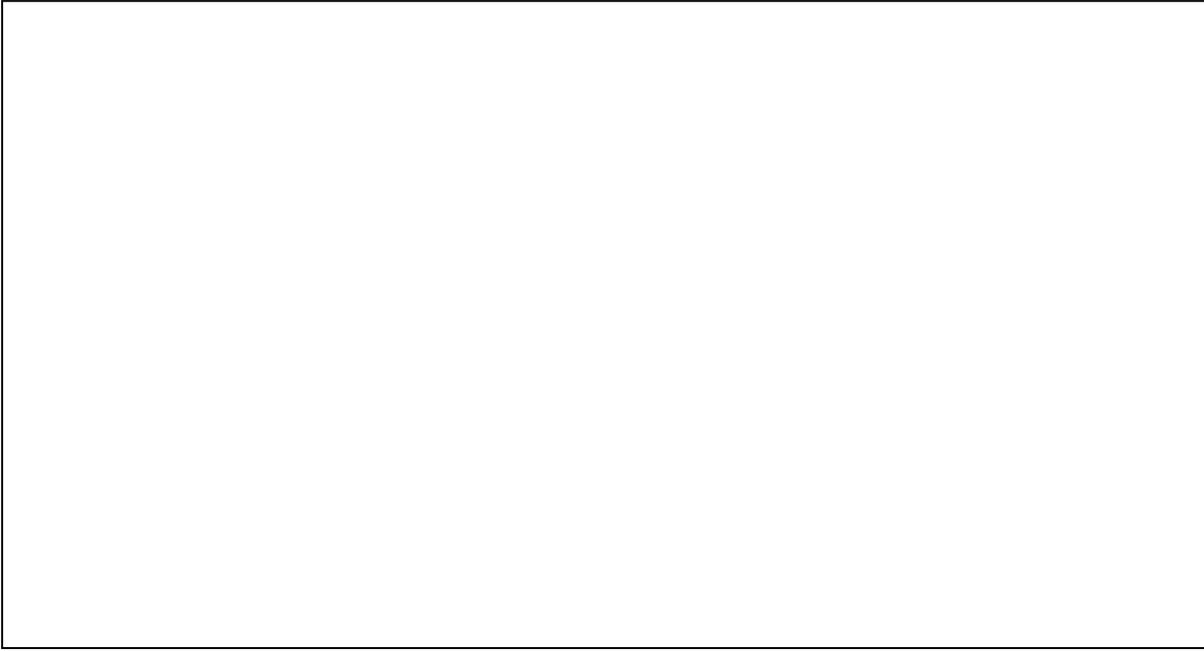
In comparison to Program 2:

Provide suggestions based on Courses, Curriculum, Requirements

Figure 4.1 (Cont.)

Illinois Career Pathway:

After reviewing the courses that make up this specific career pathway, what additional classes, units or topics do our students need to prepare to teach these subjects at the high school level?

Figure 4.1 (Cont.)

PLAN OF ACTION:

Steps include:

Table 4.1

Suggestions or Concerns Identified by Focus Groups Based on Assigned Themes

Theme	Suggestion or Concern
Local Program Development	• Teach program and community evaluation skills for needs assessment of that program and the community needs. • Provide instruction and practical ways for teachers and community members to identify the resources in the school and community. • Teach the how to's of how to conduct a needs assessment of the program. • Focus on early observation on a variety of programs. • More structured early field experience that better prepares them to see good programs that offer a wide variety of • what programs include. • Early field experience and student teaching should be in a variety of programs – not identical programs. • Structured internships/job shadowing for students to experience. • Provide opportunities for current teachers and agricultural education students to learn the most current curriculum and methods in agriculture. • Utilize feedback and input from current teachers to collaborate the "best" practices that work in the classroom. • 1 or 2 week courses in the summer that provide continuing education in specific content areas: horticulture, animal science, ag mechanics, vet tech, biotechnology, biofuels, ag business. • Online experiences as well…masters gardener, EZ record course were both great online courses that could easily be incorporated into the classroom.
Appeal to Diverse **Populations**	• Exposure to diverse students and diverse school settings and populations, through structured observations, practice teaching and job shadowing and truly experiencing the diversity of this state from North to South, East to West. • Expose all students to metro and rural schools equally and effectively.

Table 4.1 (Cont.)

Program Image	• Your image of a premiere program is earned. • Respect of faculty by the teachers in the state through various methods getting out in front of teachers. • Balance between research driven and practical application. • Taking leadership roles in the state to provide professional training for experienced teachers. Direct connection to the field. • Good connection between student and advisor to sit down and discuss opportunities • Personalize the university (size) and take advantage of the reputation of ACES (small, family like, you are know, open door policy, staff knows you)
Outside Partnership	• Internships developed for students in the different Agricultural education pathways to gain experience in areas in which are different from their past experience (or to build upon). • Perhaps take the internship and develop it into an SAE so that they have experience and understand how to use the record book. • Helping outside groups understand the value of participating even if it does not produce an employee; it could produce a teacher that would produce several employees. • Using university connections (career service) and alumni to help develop the connection inside and outside the curriculum. Integrate these business partners into the classroom experience. Using research partners to help understand future developments/current technology. Use not only large business partners, but local successes which will build relationships even for the future of the program. • Setup a priority schedule at the university so there is a block of time available for practical experience (ag related job, working with a professor in the greenhouse or south farms, etc.) • Currently student organizations fill the role of these experiences.

Table 4.1 (Cont.)

Teacher Training	• Strategies for Teacher Training—Agricultural education students serving as teaching assistants to content area courses throughout the College of ACES. • Further emphasis on practical application teaching methods and the philosophy behind those methods • Evaluation of Instructional Strategies used at the university level. • Earlier exposure to effective teaching strategies
Supervision of Student **Teaching**	• Key component is cooperating teacher placement to match personality and teaching philosophy • Cooperating teacher training with graduate credit • Ensure that cooperating teachers are constantly evaluating student teacher • Open communication between cooperating teacher—continuous
Curriculum	• A concern was expressed that the AGED 220 course is not serving its purpose in that some students take it too late and that the content does not cover the agricultural education principles that are prescribed for articulation with other institutions' programs. • Ways to increase "scholarship" and academic rigor in our program and build the reputation of the program. • A modified cohort or cohort might be something to look at…even if it's just requiring one course per semester for each graduating class of agricultural education students.
Content Knowledge	• Examine the use of internships to build content knowledge in Agricultural education Students…especially if the students can get course credit for these internships. • Look at ways to develop courses in content Disciplines that focus on teaching the content areas – Teaching ag mechanics, teaching animal sciences, teaching crop sciences, teaching horticulture, teaching agribusiness. A retired or "master" teacher could be brought in as an independent contractor to teach these courses for the University. • Intro to Hort and Greenhouse management should definitely be kept.

Table 4.1 (Cont.)

For/About Faculty	- Reassess the emphasis of credit on qualitative versus quantitative research for gaining tenure - Recruiting and maintaining faculty that are qualified to sustain the program - Faculty members from diverse Universities - Maintain a strong connection between students and University…approachability - Prior teaching experience in an education setting - Strong interaction of partnerships with other ACES faculty, industry, IAVAT, FFA, Council of Teacher Education, UI Agricultural education alumni, FCAE - Dynamic communication skills for Agricultural education recruitment and retention of students - Annual self-evaluation of program and open to advisory council suggestions
For/About Academic **Professionals**	- Maintain a strong connection between students and University professionals - Foster student professional organizations - Strive for department Vision and maintain department communication - High School teaching knowledge, experience - Hold diverse skill set - Flexibility to identify voids and connect the program - Build relationships with current Agricultural education programs - Dynamic communication skills for Agricultural education recruitment and retention of students

Table 4.2

Suggestions Identified by Focus Groups based on Assigned Program of Study

School	Suggestions based on Courses, Curriculum, and Requirements
University of Missouri	- Overall University Requirements: Missouri 40 hours versus UI 49 to 63 hours (note triple credits) - Overall CTE Requirement: Missouri: 13 hours versus UI 18-19 credits - Overall Agricultural education Requirement: Missouri: 30 hours versus UI 20 credits - Overall Content Knowledge: Missouri: 30 hours versus UI 34 credits - Suggestions: UI AGRICULTURAL EDUCATION Requirement (Rural Soc 110, Why requirement?, Need not addressed in class) - Content Requirement: ACE 161 (NO need), Missouri's focus applies better to the teaching field , whereas UI is overall generic requirement (MEATS, Ag Bus, Ansci),UI has stronger HORT teaching application, UI has no Food Sci or Leadership requirement - To lessen the Gen Ed and CTE load, Agricultural education/ACES could offer courses in leadership, advanced Ansci/food Sci/Crop course that meet the Speech Com/Comp requirement, life Science,
Western Illinois University	- Overall Ed: Western, 120 versus UI 126 hours - Content Knowledge: Western similar to UI in hours required, yet Western offers student selection of a variety of required courses instead of UI required list of classes
Purdue University	- Purdue has an SAE Course – This might be good to add in here. - Fewer credit hours are given for field experience and student teaching at Purdue – this would appear to free up time for content area experience. - We feel our field experience needs more structure. - Possibly the content of an SAE course could be taught in our two field experience courses more in depth. - Our hort preparation courses at UofI seem to be stronger than Purdue or SIUC - Uof I requires more Agricultural education hours - We are intrigued by the multiculturalism course at Purdue. We are concerned that the Rural Sociology

Table 4.2 (Cont.)

	course may not hold value for our rural students. We would like to possibly see a mix of sociology courses that deal with rural environments for students of urban backgrounds and urban environments for students of rural backgrounds. • More choices are offered for courses at Purdue than at UofI
Southern Illinois University	• Uof I requires more Agricultural education hours • Our horticulture preparation hours at Uof I seem to be stronger than Purdue or SIUC • SIUC has 6 hours of vaguely described agricultural education courses • SIUC has fewer general education requirements • SIUC has more Council on Teacher Education (education) courses • SIUC seems to have more elective choices than U of I
University of Minnesota	• Liked the Coordination of SAE Programs-Worked Based Learning & Strategies for Managing and Advising the FFA Organization courses. Students are instructed in the three components of an Agricultural Education Program but we don't appropriately model these components in the Agricultural educationucation Curriculum. • Technology for Teaching and Learning—could this one replace ACE 161 • Another area lacking in instruction is addressing the issues faced by teachers regarding Drugs and Alcohol.
Texas A & M	• Understanding Special Populations sounds like a better course within the special ed department. We need the course work to work with special needs students, but the courses currently required are mainly focused on elementary education, and students need more focus on high school populations. • We liked the idea of AGED 425 Lerner centered Instruction in Ag Science. We are hoping that the class has a foci on lab-based instruction.
University of Florida	• Number of electives is greater and more attractive to students. Fewer general education requirements. • Fewer CTE (Council for Teacher education) requirements (1/2) Can some of the CTE courses be combined. • Need more flexibility. • Covers a wider array of the agriculture spectrum (classes). If university cannot offer some classes, then can you team up with another entity who may?

Table 4.2 (Cont.)

	(community college or online or other university)
	• Instructional technology class – good idea.
Ohio State University	• Greater number of electives and fewer general education requirements.
	• Fewer CTE courses required

Table 4.3

Suggestions for Improvement Identified by Focus Groups based on Assigned Illinois Career Pathway

Illinois Career Pathway	Suggestions for Improvement
Agricultural Business and Management	• Courses this team views as missing components: • Ag Sales, Ag marketing, Ag Management • Ad Ed 101 – course for first year students on campus that offers a view of all programs areas taught by teachers who model excellent teaching. That focuses on evaluating effective teaching methods and teaching students to look for the characteristics that make effective teachers • Offer methods course for practitioners about content areas. • Environmental courses that cover – a course similar to the Envirothon practicum of soils, forestry, wildlife management, aquatic management, current environmental issues topic • Methods courses on the current student populations as they continue to evolve. • Advanced technology – video editing, smartbd, youtube that can easily be incorporated into the classroom – replace ACE 161 word class • Replace NRES 201 with NRES general course
Natural Resources and Conservation Management	• Currently, if you are a student and this was your area of focus, then you would have a choice of one class (Soils) that relates to Environmental Science. Other areas/classes that should be part environmental science, conservation, forestry, wildlife, renewable energy, etc. • Could you incorporate some of the above areas into another class and have two classes in one or different • title, same class. • In order to take the other classes, we need to free up some time to be able to accomplish. Seems to be a lot of overlap between the Council on Teacher Ed classes and Agricultural education class requirements. Can we combine so that we free up hours for additional Ag content classes. More flexibility can be built in if you have some Agricultural education professors teach the CTE classes – it can be more specific to Agricultural education. • Build in flexibility in Gen Ed courses. For example, if

Table 4.3 (Cont.)

	you require Foreign Language, how about conversational class or something practical. If you require 4 years at high school level, then it is taking students out of ag class at that level.
	• Can we build in some overlap in other areas where a science class could be environmental class that might count as science class and environmental class.
	• Incorporate, how do you teach labs or facility management? (what do you keep or throw away, how do you budget, etc)
	• Need to take classes: "Intro to Everything" relative to each of the pathways. (several classes)
	• Is it necessary to teach computer course if students are receiving it at the secondary level?
	• Develop internships related to this area (learn by doing). Perhaps have an "internship class" where a student could spend a week or two at several different businesses gaining experience at each one. Credit could be given for this class.
Agricultural Science	• Shortfalls—Curriculum offerings in Ag Biotech, Food Science Tech, Environmental Science, Aquaculture Science, Veterinary Tech, & BSAA
	• Depending upon which courses students select to take as content are electives, some of these courses could be covered.
Horticulture	• We feel good about our horticulture preparation courses in comparison to the Horticulture Career pathway.
	• We are intrigued with opportunities for students to gain credit toward science certification through various courses (including horticulture) in the College of ACES.
	• We definitely feel that because over 70% of our schools have greenhouses, that greenhouse management is an important component of the curriculum.
Agricultural Mechanics and Technology	• Need for lab methods course with respect to PSAA/BSAA similar to the prior group discussion suggestion of a TA/class set up with lab development as a final project (another option: could be student teaching seminar to meet this need)
	• UI content in the Mech pathway is missing small engine content, a machinery repair focus, Ag Mech technology (GPS, Electronics, Calibration, Surveying,), a building focus with a sacrifice to a welding focus

Table 4.3 (Cont.)

	• Lack of Leadership preparation for pathway need • Lack of BSAA/PSAA preparation for pathway need • Lack of SAE preparation for pathway need

Table 4.4

Summary of High-Leverage Strengths and Areas of Growth as Identified by Focus Groups

Strengths	Areas of Growth
- Strong, quality introduction to horticulture coursework - Student and advisor relationship - Student organizations offer practical experience - Connection with educational governing body and mentoring programs	- Internships that build on content knowledge - Connection between in-service teachers and faculty - Courses exposing students to SAEs - Offer an agricultural mechanics and tech course for teaching content - Offer special education courses focusing on secondary education - Offer BSAA courses - Require only necessary coursework - Offer more options for required courses - Expose students to adequate multiculturalism - Increase the opportunity for practical experience - Recruit and Maintain faculty - Increase the number of continuing education courses - Improve program perceptions

Table 4.5

Focus Group Recommendations for the Local Program

Theme	Recommendations
Faculty Recruitment and Retention	• Identify "master" or retired teachers that can be utilized in teaching content and Agricultural education courses • Establish pre-determined needs for adding faculty members • Recruit faculty members from diverse universities with teaching experience • Maintain strong connections between mentoring groups and governing bodies • Implement an annual self-evaluation program • Maintain a strong connection between students and faculty as well as in-service teachers
Courses and Curriculum	• Add SAE and FFA Course • Implement collegiate SAE project • Add Lab Methods course • Add Ag Sales, Ag Marketing and Ag management courses • Provide an advanced technology course to replace microcomputer course • Implement courses that focus on teaching the agricultural content • Require the introduction to agriculture education course for freshman and ensure that it is aligned to the state articulated introduction course • Consider eliminating rural sociology and microcomputer courses • Make room for more electives • Consider offering students course choices for required coursework • Create connections to integrate business partners into the classroom experience • Other courses should be available as part of the career pathways • Work to build in courses that count for general education requirements • Utilize feedback from current educators on best practices • Offer 1-2 week summer courses for continuing education in agricultural content • Offer online continuing education courses • Require courses that expose students to diverse cultures • Incorporate methods of instruction and evaluation of instructional strategies earlier in curriculum
Certification Options	• Work with State Board of Education to count more agricultural content courses for other secondary endorsements • Identify courses that count towards additional certifications • Introduce certification options at the graduate level and for

Table 4.5 (Cont.)

	provisional teachers
Student Professional Development	• Provide more structure for internships and field experiences • Develop course to prepare cooperative teachers for student teachers • Set up a priority schedule with university making time available for practical experience at university farms • Internships developed for students within the different career pathways to gain experience in areas that are different from their past experiences. • Provide opportunities for students to TA in content areas • Match teacher placement with cooperating teacher based on personality and teaching philosophy • Using university connections (career services) and alumni to help develop the connection inside and outside the curriculum
Student Recruitment	• Foster program recruitment of high school/collegiate students • Make connections with teachers throughout the state • Target underrepresented populations • Balance between research driven and practical application • Personalize the university (size) and take advantage of the reputation of college (small, family like, you are know, open door policy, staff knows you)

Table 4.6

Recommendations for the Local Program based on the National View of Agricultural Education

Theme	Recommendations
Student Recruitment	• Take a look at the scholarship program. Target students in the state with the greatest promise.
	• Use the College student officers as ambassadors.
	• Identify students in the state who were juniors or seniors in high school and provide opportunities for them to develop a relationship with the college and Ag Ed program. Develop a website for teaching recruitment and show the opportunities for teaching. Put information on the website from the community colleges and the colleges.
	• Build relationships for recruiting. Be visible. Make the students feel comfortable on your campus. They want to go somewhere where they can feel like they belong.
	• Develop big city projects that involve talking to students in the urban areas.
	• Some community colleges have been successful at doing short summer programs at colleges.
	• A minor can be a way to recruit students. Sell the minor as adding a human dimension to a technical program. It is a good recruiting tool. The minor can focus on program planning and methods. An internship program can be a part of that too.
	• Let students know that we want them to be part of our family. Make the students feel comfortable and let them know that our campus is a comfortable place no so very different from their own community.
	• Building relationships with students in the urban areas and with minority populations is important. In those areas you need to deal with the parents. The parents need to be informed. Let the entire family experience a positive campus environment.
	• Long term solutions require innovative approaches. Train teachers from nontraditional backgrounds who can then teach in urban areas and work with underrepresented populations. If they work with nontraditional students in the high school, they become recruiters for your program. They become a link to your program.
	• There is a direct relationship between students who are brought to campus for programs and then chose to

55

Table 4.6 (**Cont**.)

	attend that university. • Students need to connect with someone they feel is just like them. They don't need to look just like them, but there must be a connection. This can be background, socioeconomic background. Students have to feel they are understood. Students must feel they are respected. It is important to work hard to become part of the community. • There is a gold mine of people and resources out there. A lot of younger people have the desire and interest to have an impact. We want to attract students with a social consciousness.
Graduate Program	• Beyond the Master's, the PhD is desirable. The PhD will only be as good as the Master's Program. Consider course sharing via online offerings. • If there is an advantage to online programs, it is when we find partners. Theoretically it is about access to an audience of students that you wouldn't otherwise reach. If you can do a collaborative effort that allows faculty growth and development, the institution benefits.
Leadership Concentration	• What does it mean when students leave with a degree? What does that prepare them to do?
Multidisciplinary Leadership **Minor**	• UIUC is considering a minor for students who want to go into business, industry, in youth or adult program leadership. The term needs to be defined beyond what Ag Ed is usually known.

Figure 4.2 *Envisioning the Future of Agricultural Education Focus Group 1*
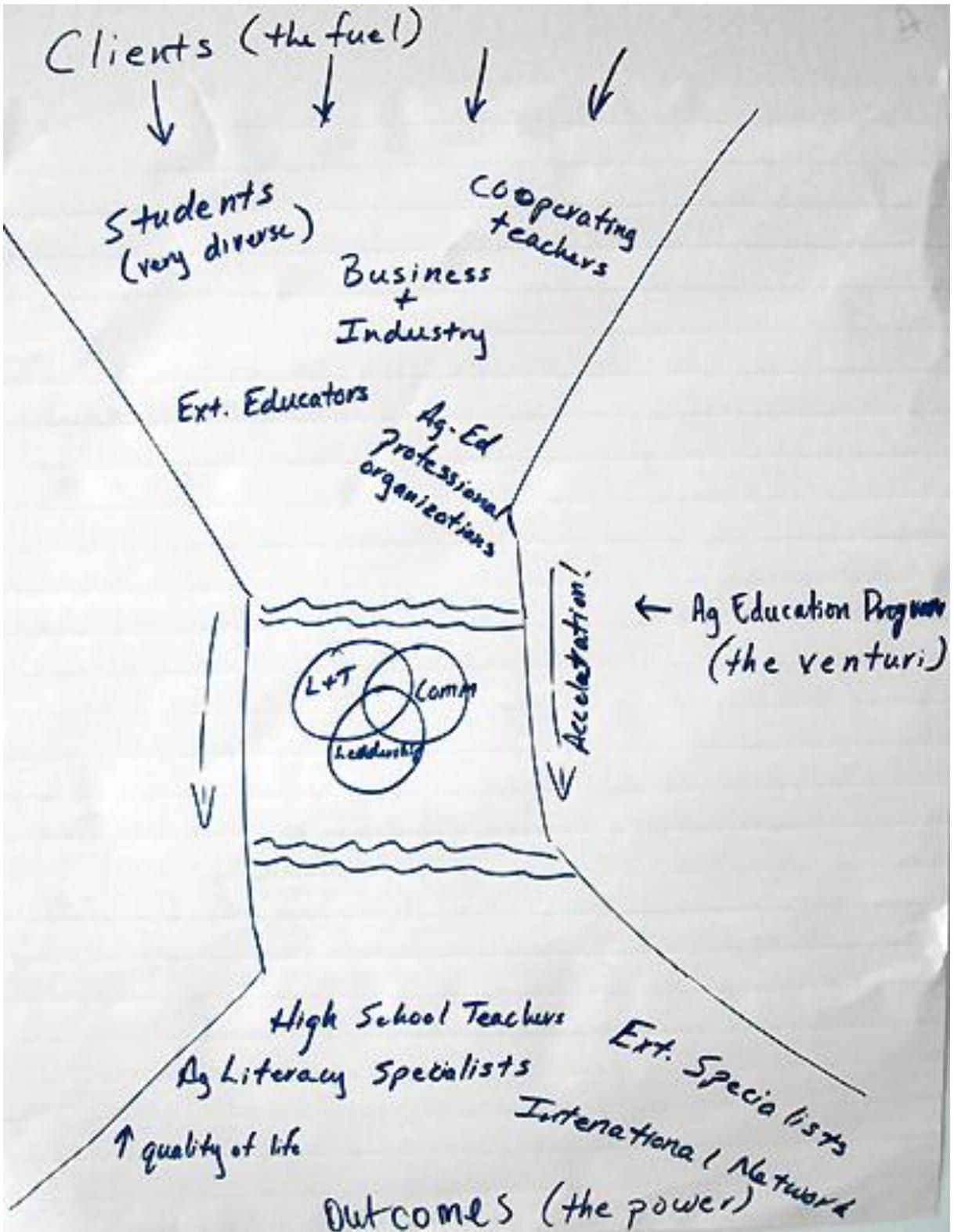
**Figure 4.3** *Envisioning the Future of Agricultural Education Focus Group 2*

Vision for Ag Ed

- Balloon Effect: Development and growth.

- Voice: Cultural enlightment.

- Global Understanding: Transition from local understanding to global knowledge.

- Collaborations: Bridging the gaps among research, education, urban and rural society.

Figure 4.4 *Envisioning the Future of Agricultural Education Focus Group 3*
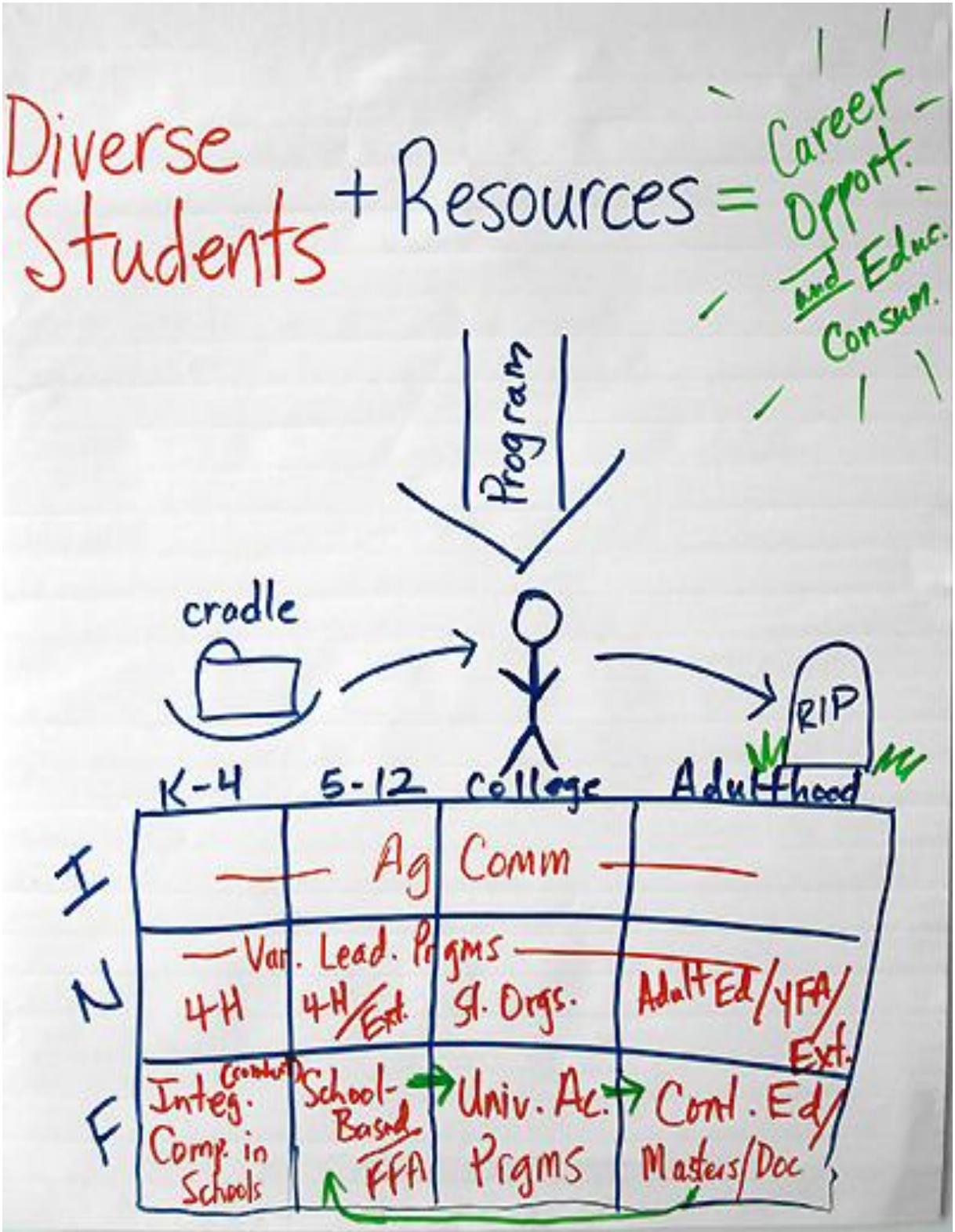
Figure 4.5 *Envisioning the Future of Agricultural Education Focus Group 4*
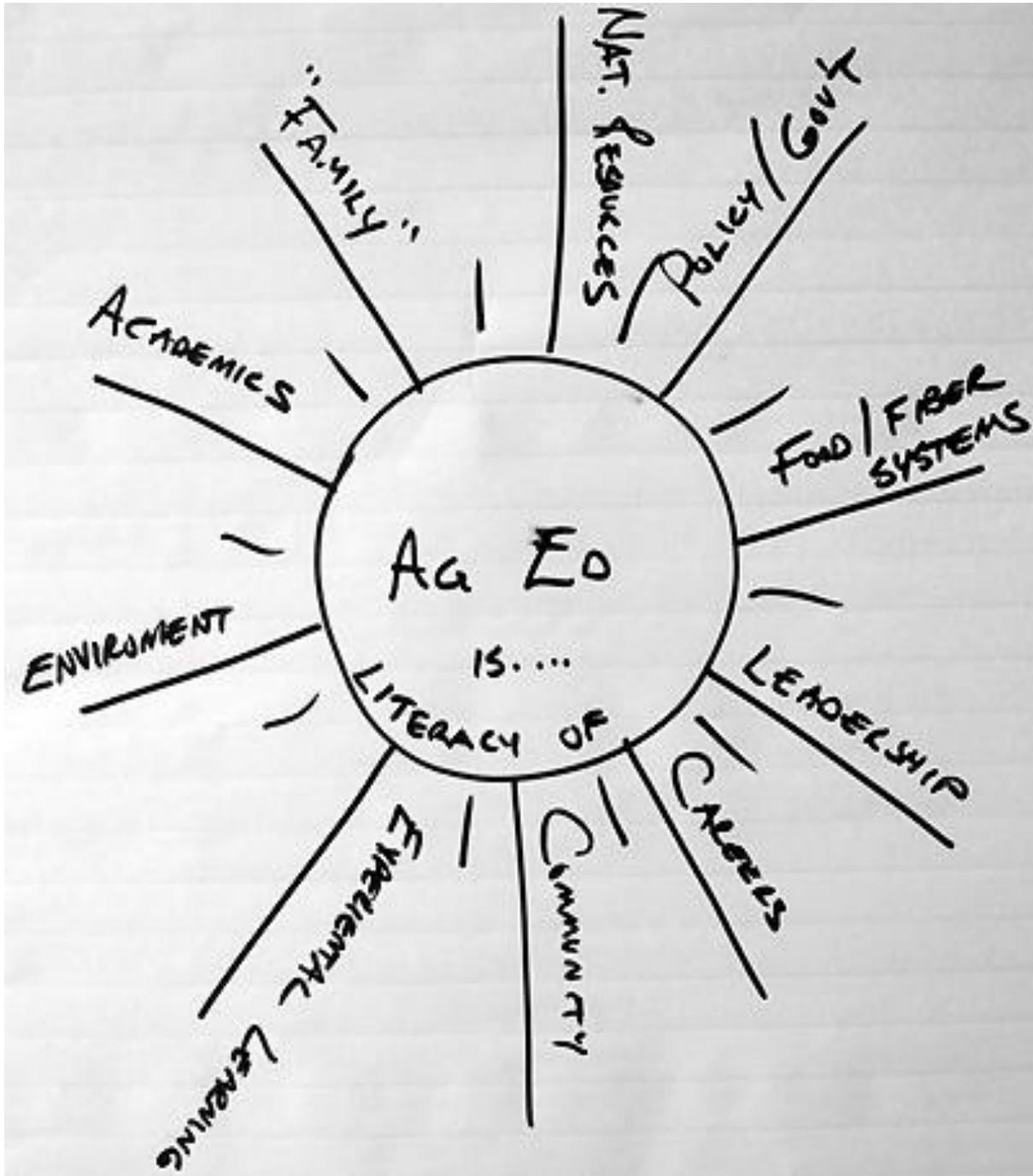
Figure 4.6 *Envisioning the Future of Agricultural Education Focus Group 5*
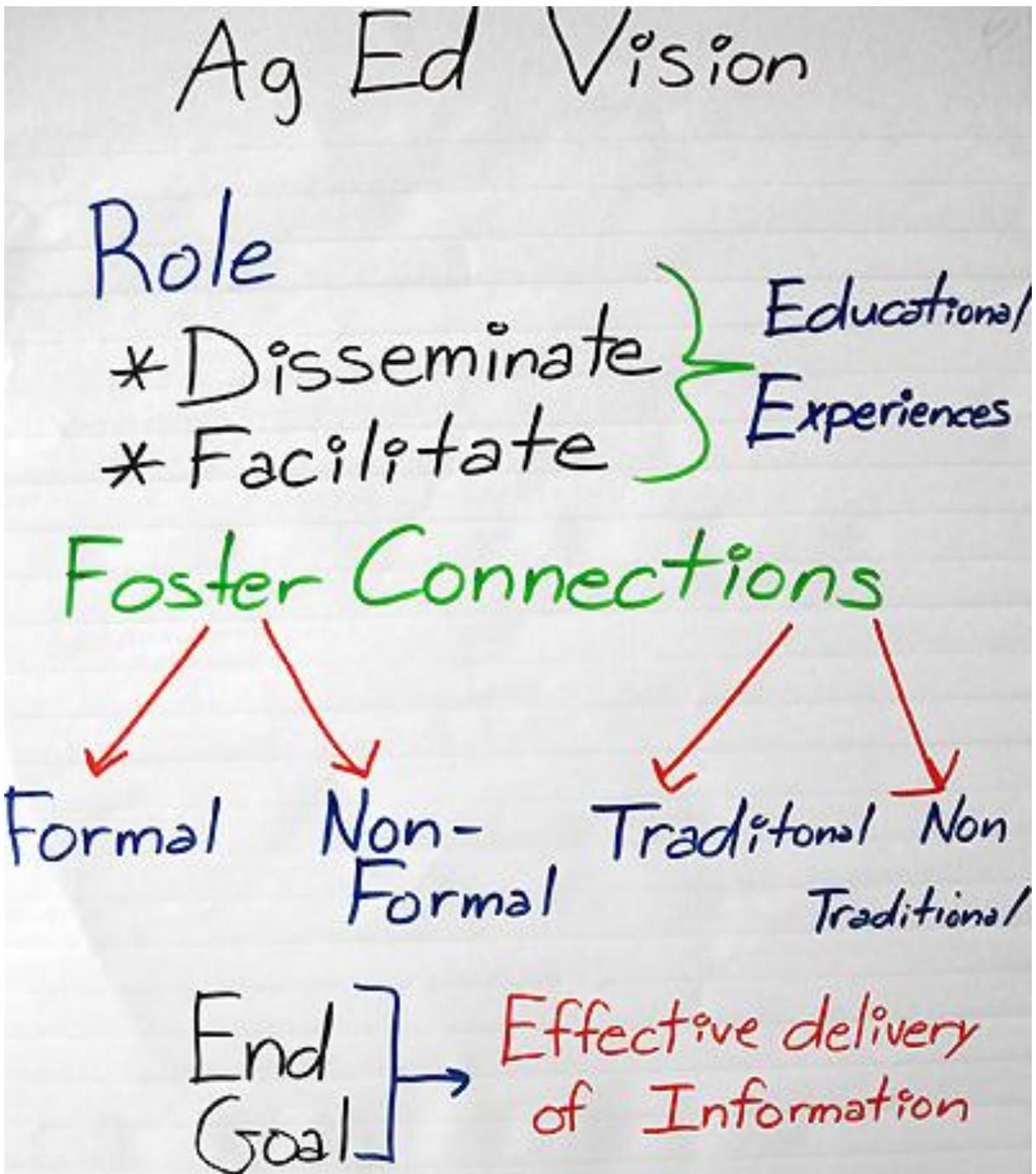
Figure 4.7 *Trends and National Movement in Agricultural Education Focus Group 1*

- ENVironmental INterest iN Students
- CoNtinue to move to Active Learning + Teaching
- Need to CoNNect to Diverse PopulatioNs
- Restructure while Serving the Needs of Ag. INdustry
- Food connection to education Garden → cook – eat Ag Literacy   Organic Sector movement

Figure 4.8 *Trends and National Movement in Agricultural Education Focus Group 2*

Figure 4.9 *Trends and National Movement in Agricultural Education Focus Group 3*

Figure 4.10 *Trends and National Movement in Agricultural Education Focus Group 4*
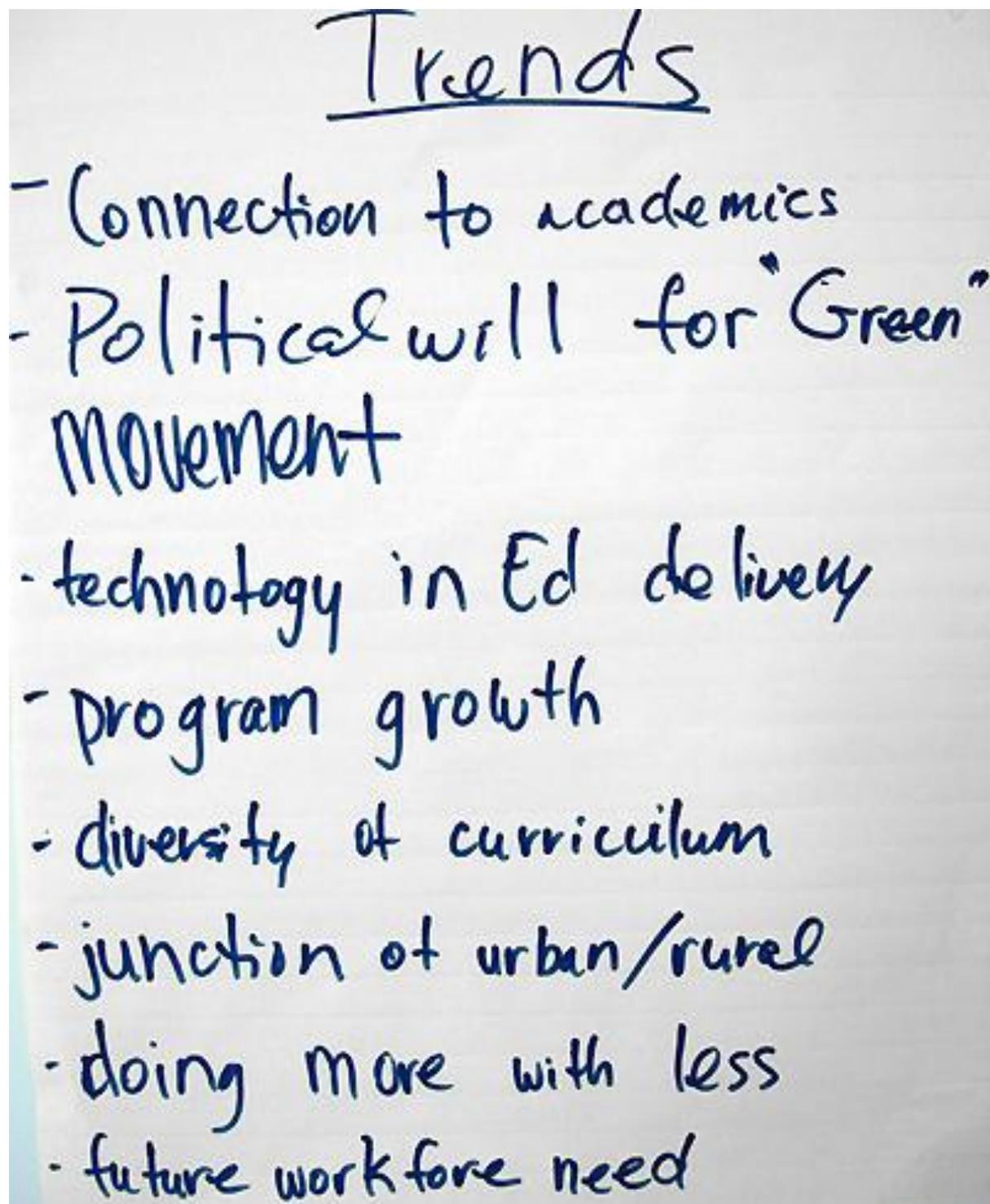
Trends

- Connection to academics
- Political will for "Green" Movement
- technology in Ed delivery
- program growth
- diversity of curriculum
- junction of urban/rural
- doing more with less
- future workforce need

Figure 4.11 *The Premier Post-Secondary Agricultural Education Program Focus Group 1*

- Based on formal and non-forma[l] educ. career choices (tracks, opts, e[r]
- Lab school model
- Premier, diverse faculty (understan[d] imp. d serv[...])
- Strong Internship Program
  - w/ local supervisors (qualified)
- Strong pathways to Grad. Program
  - w/ research opp. for UG
- Strong scholarship base (research)
- Connect./Collab. w/ other "units"
  - int/ext. to univ.
- Balance frameworks/theory w/ mechani[...]
- Mechanisms to bring in div. studen[t]
- Internationalization — send out + recruit in

Figure 4.12 *The Premier Post-Secondary Agricultural Education Program Focus Group 2*
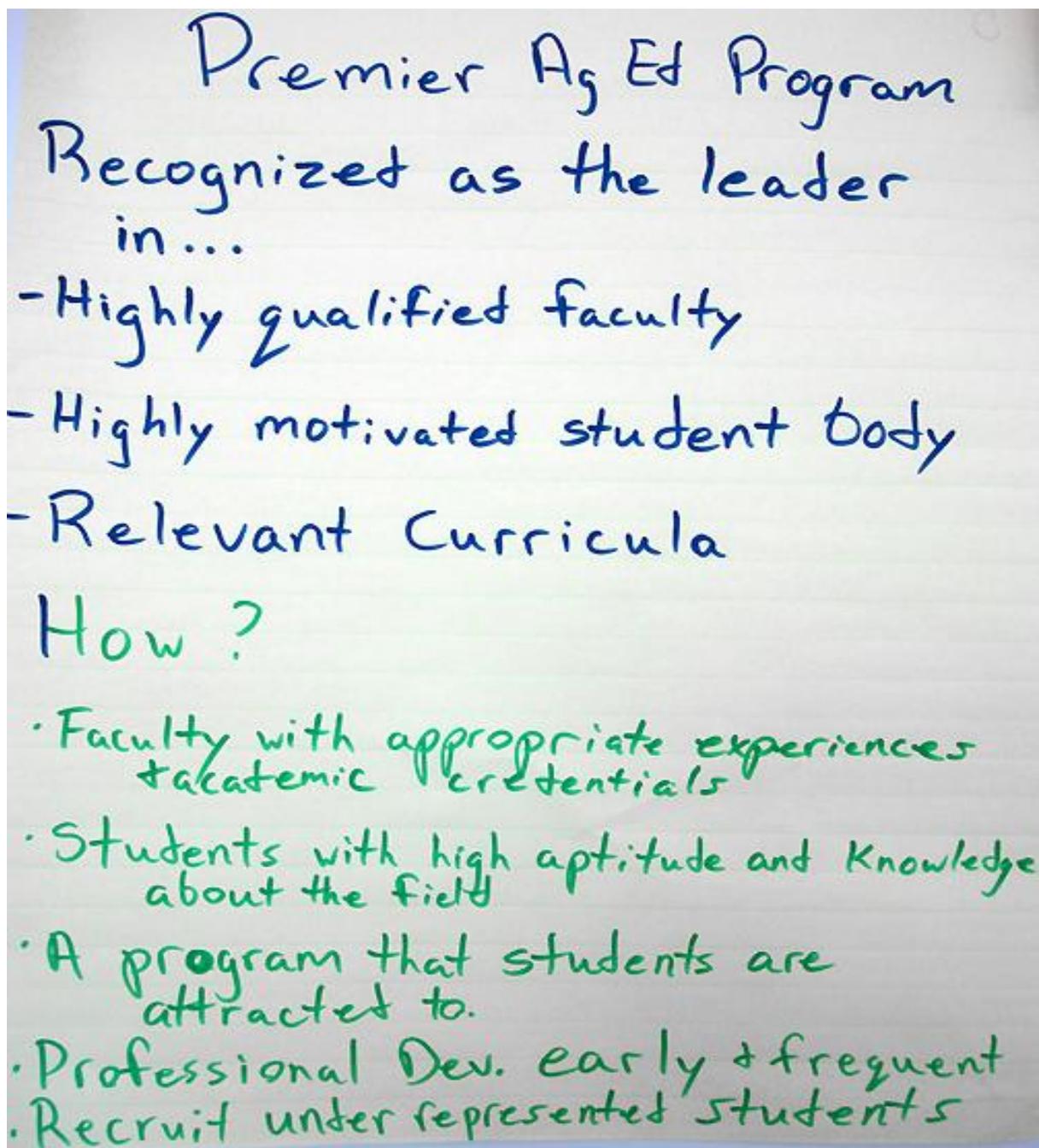
Figure 4.13 *The Premier Post-Secondary Agricultural Education Program Focus Group 3*
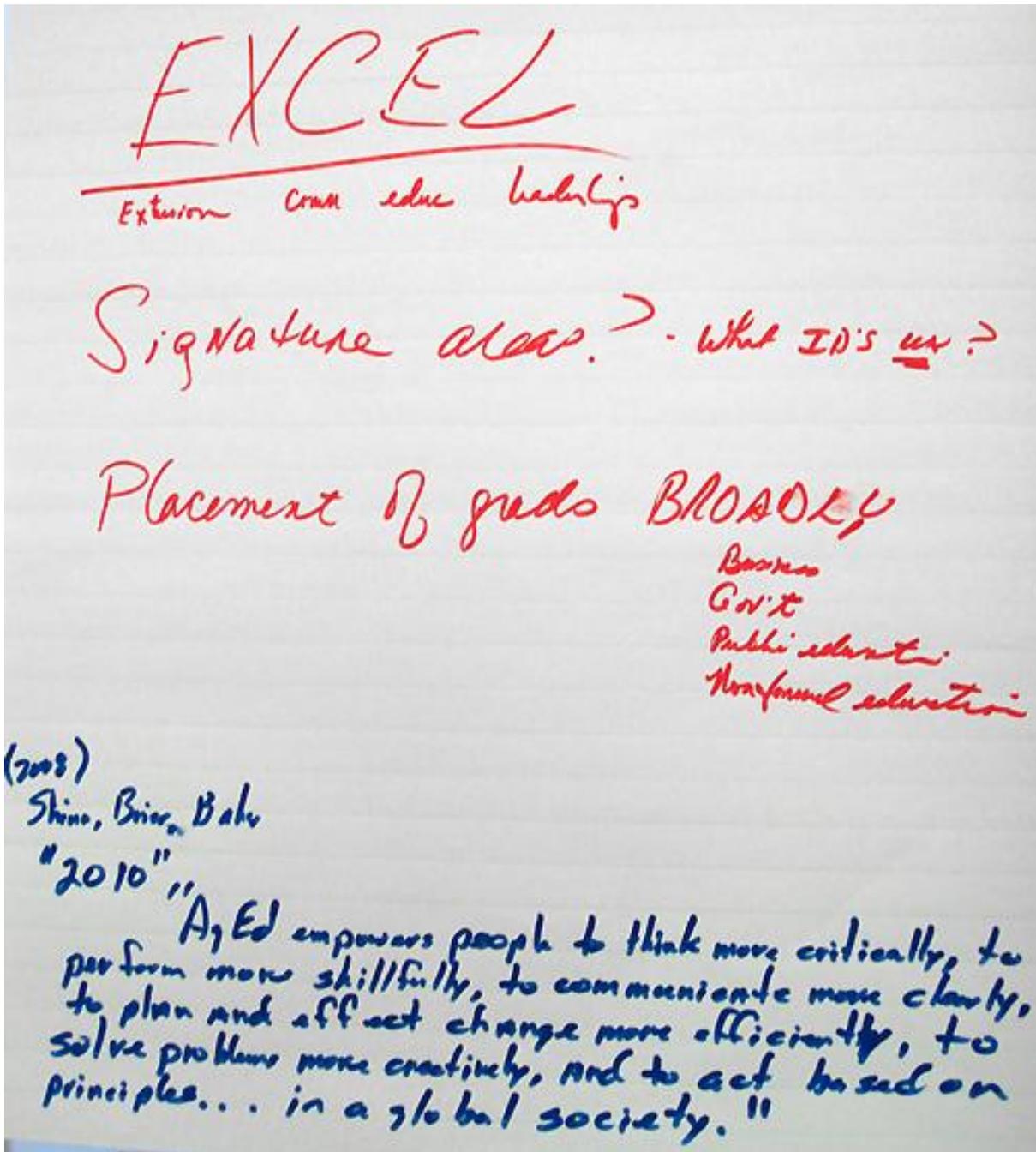
Figure 4.14 *The Premier Post-Secondary Agricultural Education Program Focus Group 4*

Figure 4.15 *Revitalizing UIUC Agricultural Education Program Focus Group 1*

Figure 4.16 *Revitalizing UIUC Agricultural Education Program Focus Group 2*

Figure 4.17 *Revitalizing UIUC Agricultural Education Program Focus Group 3*
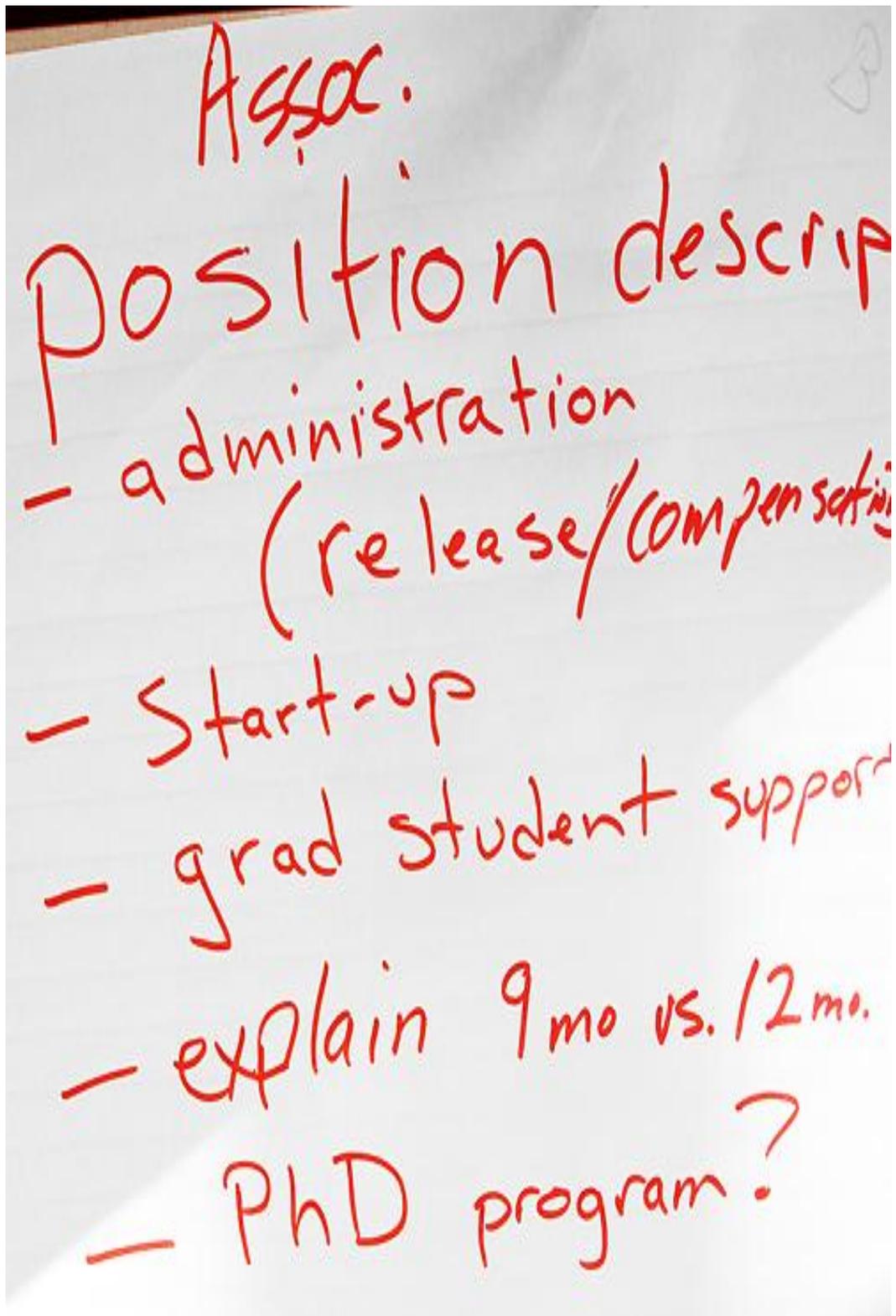
Figure 4.18 *Revitalizing UIUC Agricultural Education Program Focus Group 4*
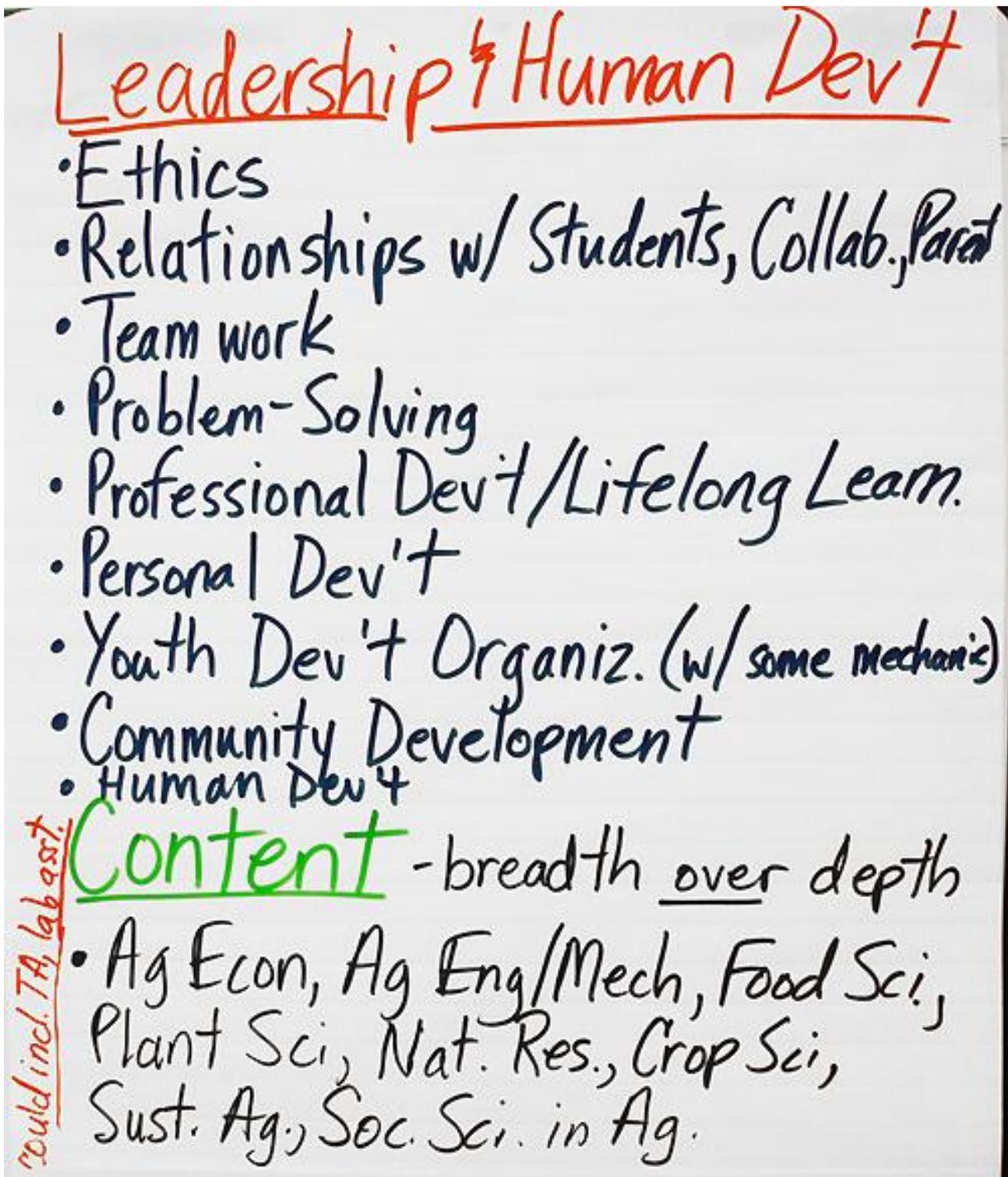
Figure 4.19 *Revitalizing UIUC Agricultural Education Program Focus Group 5*

Figure 4.20 *Revitalizing UIUC Agricultural Education Program Focus Group 6*
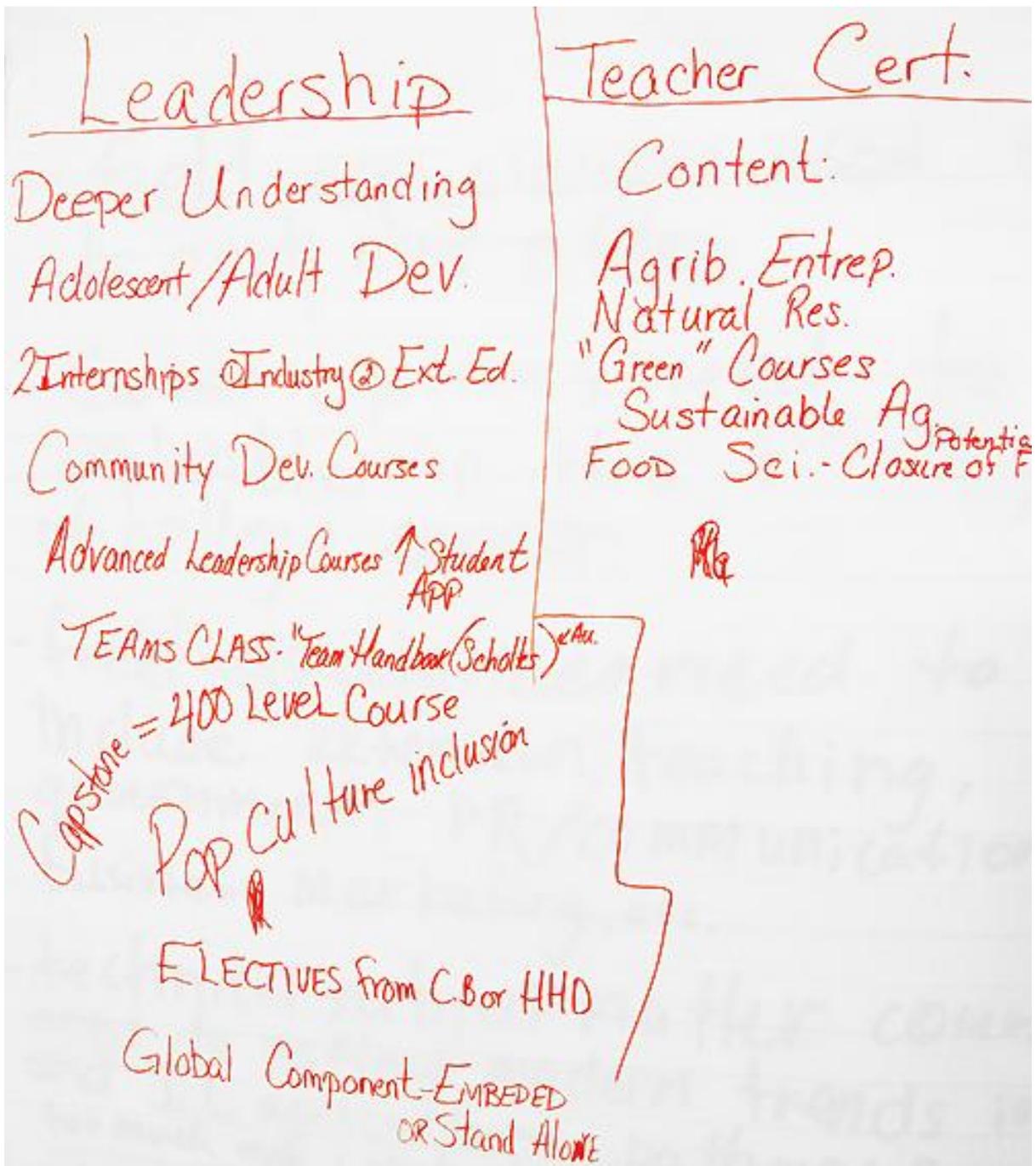
Figure 4.21 *Revitalizing UIUC Agricultural Education Program Focus Group 7*

- field experiences need to be early and often.

- Career options need to be explorable in the 1st 2 yrs of college career.

- field experiences need to include extension, teaching, government, PR/communication, business marketing, etc.

- technical subject matter courses need to reflect modern trends in ag and IL agriculture pathways
  too much rec. + plant science

- What is purpose of grad program online? on campus? in service?

REFERENCES

Ag in the Classroom. (2005). *Growing a Nation: The Story of American Agriculture.* USDA, Utah State University and LetterPress SoftwareInc. Retrieved from http://www.agclassroom.org/gan/index.htm

Alliance for Excellent Education (2005). *Teacher attrition: A costly loss to the nation and to the states (Issue Brief).* Retrieved from http://www.all4ed.org/files/archive/publications/TeacherAttrition.pdf.

Barnett, J. M. (2002). *Focus groups tips for beginners: TCALL occasional research paper No.1.* Texas Center for the Advancement of Literacy & Learning. Retrieved from http://www-tcall.tamu.edu/orp/orp1.htm.

Darling-Hammond, L., Chung, R., & Frelow, F. (2002). Variation in teacher preparation: How well do different pathways prepare teachers to teach? *Journal of Teacher Education, 53(4)*, 286-302. doi: 10.1177/0024871020530040002.

Duran, M., Brunvand, S., & Fossum, P. R. (2002). Preparing science teachers to teach with technology: exploring a K-16 networked learning community approach. *The Turkish Online Journal of Educational Technology, 8* (4), 21-42.

Esters, L. T. (2007). Factors influencing postsecondary education enrollment behaviors of urban agricultural education students. *Career and Technical Education Research*, 32(2), 79-98.

Fern, E. F. (2001). *Advanced focus group research*. Thousand Oaks, CA.: Sage Publications, Inc.

Fischman, W., Schutte, D. A., Solomon, B., & Wu Lam, G. (2001). The development of an enduring commitment to service work. *New Directions for Child and Adolescent Development, 93,* 33-44.

Fullen, M. (2000). The three stories of education reform. *The Phi Delta Kappan, 81(8)*, 581-584.

Fullen, M. (2005). *The meaning of educational change: A quarter of a century of Learning.* Netherlands: Springer. doi: 10.1007/1-4020-4451-8_12.

Goodlad, J. I. (2004). *A Place Called Schools*. New York City: McGraw-Hill.

Graham, J. C. & Garton, B. L. (2003). Certification measures: Are they predictive of secondary agriculture teacher performance? *Journal of Agricultural Education, 44(3)*, 54-65. doi: 202.198.141.77.

Guarino, C. M., Santibanez, L., & Daley, G. A. (2006). Teacher recruitment and retention: A review of the recent empirical literature. *Review of Educational Research, 76(2)*, 173-208. doi: 10.3102/00346543076002173.

Harms, B. M. & Knobloch, N. A. (2005). Pre-service Teachers' Motivation and Leadership Behaviors Related to Career Choice. *Career and Technical Education Research, 30*(2), 101-124.

Hillison, J. (1996). The Origins Of Agriscience: Or Where Did All that Scientific Agriculture Come From? *Journal of Agricultural Education, 37* (4), 8-13.

Kantrovich, A. J. (2007). A national study of the supply and demand for teachers of Agricultural Education from 2004-2006. *Michigan State University Extension, Ottawa County*. Retrieved from http://aaaeonline.org/files/supplydemand07.pdf

Kitzinger, J. (1995). Introducing focus groups. *British Medical Journal, 311*(7000), 299-302.

Lawver, R.G. (2009). *Factors influencing agricultural education students' choice to teach.* (Doctoral dissertation, University of Missouri, 2009. Retrieved from http://edt.missouri.edu/Spring2009/Dissertation/LawverR-050509-D1012/research.pdf

Loudenslager, D. (2006). A strategic plan for agricultural education an invitation for dialogue. *Action Agenda-Work in Progress.* Retrieved from http://www.agedhq.org/actionagenda.htm

Lynch, R. L. (1997). *Designing vocational and technical teacher education for the 21st century: Implications from the reform literature.* Columbus, OH: Center on Education and Training for Employment.

Lytle, J. H. (2000). Teacher education at the millennium: A view from the cafeteria. *Journal of Teacher Education, 51*(3), 174-179.

McLean, R. C. & Camp W. G. (2000). An examination of selected pre-service agricultural teacher education programs in the United States. *Journal of Agricultural Education,* 41(2), 25-35.

McGhee, M. B. & Cheek, J. G. (1993). Assessment of the preparation and career patterns of agricultural education graduates, 1975-1985. *Journal of Agricultural Education,* 31 (2), 17-22.

Myers, B. E. & Dyer, J. E. (2004). Agriculture teacher education programs: A synthesis of the literature. *Journal of Agricultural Education, 45*(3), 44-52.

National Academy of Science, Committee on Agricultural Education in the Secondary Schools. (1998). *Understanding agriculture: New directions for education.* Washington, D.C.: National Academy Press.

National Commission on Teaching and America's Future (1996). *What matters most: Teaching: for America's future.* New York: Teacher's College, Columbia University.

Patton, M. Q. (2002). *Qualitative research & evaluation methods.* Thousand Oaks, CA: Sage Publications, Inc.

Ridley, D. S., Hurwitz, S., Davis-Hackett, M., & Knutson-Miller, K. (2005). Comparing PDS and campus-based pre-service teacher preparation: Is PDS-based preparation really better? *Journal of Teacher Education, 56(1),* 46-56. doi: 10.1177/0022487104272098.

Rojewski, J. W. (2009). A conceptual framework for technical and vocational education and training. *International handbook of education for the changing world of work.* Springer Science & Business Media B. V.

Swortzel, K. A. (1999). Current status of pre-service teacher education programs in agriculture. *NACTA Journal*, 43(1), 37-43.

Team Agricultural Education. (2006). *Unmistakable potential: 2005-2006 annual report on agricultural education*. Alexandria, VA: Agricultural Education Headquarters.

United States Department of Labor.(1991). *What work requires of schools: A SCANS report for America 2000.* Washington, D.C.: United States Department of Labor.

Vincent, S. K., Ball, A. L., & Anderson, J. C. (2009). *The meaning students ascribe to college major choice: Toward a model for minority student recruitment.* Proceedings from American Association for Agricultural Education in Lincoln, NE.

Weiner, L. (2000). Research in the 90s: Implications for urban teacher preparation. *Review of Education Research, 70(3)*, 369-406. doi: 10.3102/00346543070003369.