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Purposes, Activities, and Documentation of Early Field Experience in Agricultural Teacher Education: A National Delphi Study

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The purpose of this Delphi study was to identify the purpose, expected outcomes, and methods of documenting preservice teacher early field experience (EFE) activities in agricultural teacher education programs. A Delphi technique was used to electronically collect data via email and SurveyMonkey®. An expert panel was established and after three rounds of questioning, the panel identified 16 purpose statements, 14 activities and 9 methods of documenting EFE. The findings of this study, as established by a panel of experts who reached consensus, indicated that EFE should be documented via a combination of journaling and portfolio development. The verification of these documents should be completed by the cooperating teacher and through university assessments. Documentation of an EFE experience can be accomplished through journaling, cooperating teacher signature, reflective paper or a review of collective documents. The results of this study can be used to modify and improve EFE by clarifying the purpose, activities and ways of documented activities in agricultural teacher education programs. This study will aid the profession in providing a more congruent EFE experience for preservice teachers.

Keywords: early field experience (EFE), agricultural education, preservice education, teacher education

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Introduction

Early field experience (EFE) is a significant component of any teacher education program. EFE provides a young professional the first opportunity to experience a real classroom from a teacher's perspective and allows a preservice teacher the opportunity to engross themselves into a classroom setting.

EFE is the foundation for teacher education programs. Carter and Anders (1996) indicated teacher education programs should be centered on the ability of the preservice teacher to work in the classroom using knowledge they have acquired and gathered from coursework. EFE provides preservice teachers with a true learning experience, which can take place early in preservice training. The Association of Teacher Educators (ATE) described EFE as a range of school experiences, which occur prior to a student teaching experience in preservice teacher education programs (Guyton & Bryd, 2000). Three purposes for early field experiences were established by Kelleher, Collins, and Williams (1995) and include career exploration, melding theory and practice, and developing teaching skills.

According to National Council for Accreditation of Teacher Education (NCATE, 2008), the purpose of EFE is to apply skills and knowledge in various settings appropriate to the level of a student's program. An EFE allows a preservice teacher an opportunity to choose an appropriate teaching strategy as well as to understand a student's cognitive and social background (Liston & Zeichner, 1991). Accreditation and professional organizations have included EFE as a requirement for

licensure and accreditation and teacher education programs have incorporated it into preservice teacher curriculum.

EFE is common in many professions including medical and business fields. Gehrke (1981) developed six benefits of EFE, which include learning theory, motivation, vocational choice, economy, socio–politics, and institutional revitalization. McIntyre (1983) identified benefits of EFE specific to teacher education programs. The six benefits are a EFE students learn quicker if they enjoy working with children, (b) the EFE program can gauge the student's potential as a teacher, (c) students are able to practice teaching skills, (d) students are able to gain an understanding of a classroom, (e) the experience will allow students to improve communication skills, and (f) the experience allows the student to be able to transition from student to teacher.

EFE is not well received by all. Critics charge that EFE encourages imitation and conformity (Holmes Group, 1986), fosters group management orientations (Lanier & Little, 1986), fosters a status quo attitude (Clary, 1991), and is more procedural than academic (Retallick & Miller, 2007a). Moore's (2003) list of procedural activities included time management, grading papers and classroom management.

A major issue for many EFE programs is the lack of purpose and expectations. Many host teachers are unsure what the college's expectations are for the students when they are sent into the field (McIntyre, 1983; Zeichner, 1987). Similarly, Retallick and Miller (2007b) reported that most documents in agricultural teacher education had little or no reference to the role of those involved in the experience. Without a clear purpose and coordination between EFE cooperating teachers and college courses, a disconnect occurs in the preparation process of a preservice teacher.

Retallick and Miller (2007b) reported a significant relationship when exploration, as a purpose, was compared to three activities (observation, reflection and evaluation). When observation was a means of achieving the purpose of EFE reflection and observations were identified as significant activities. When assisting in the classroom was selected as the purpose of EFE, practice teaching was identified as being significant. Moore (2003) espoused that more focus should be placed on the material taught, how it is taught and what is learned from it.

EFE is an integral part of agricultural education for initial and advanced teacher preparation. Camp and Bailey (1999) stated, "We can see that there is a long–standing and broad advocacy for and acceptance of field–based student teaching apprenticeship as of a paramount importance in an agricultural teacher education" (p. 62). Myers and Dyer (2004) emphasized the importance of an EFE in agricultural teacher education program because it assists students in decision making for the future. Retallick and Miller's (2007a) study concluded that programs have established requirements including a minimum number of EFE contact hours as well as a minimum number of lessons planned and taught. Additionally, EFE offerings are driven by internal and external factors including licensure and state and national accreditation. Having a quality EFE is important for any preservice teacher educators to ensure they are prepared for the profession.

This study of EFE is grounded in experiential learning. Mentkowski and Associates (2000) indicated experiential learning provides students with experiences, which will lead to transfer of information. The transfer of information is the starting point of a reflective educator (Mentkowski & Associates, 2000). Kolb (1984) defined experiential learning as a "means for examining and strengthening the critical linkages among education, work and personal development" (p. 4). Dewey (1938) defined a learning experience as "every experience both takes up something from those which have gone before and modified in some way the quality of those which come after" (p. 35). Rogers (1969) espoused that experiential learning happens continuously from meaningless to significant learning. Rogers (1969) identified five elements present in experiential learning: (a) direct, personal involvement, (b) learner initiation, (c) pervasiveness, (d) learner evaluation, and (e) essence is meaning. Just as experiential learning provides students with experiences, an EFE will do the same for students who are interested in the agricultural education profession.

Conceptual Framework

The conceptual framework of this EFE study is based on Retallick's (2005) structure and content model of EFE, which represents three major components of EFE: the foundation, organization, and implementation of EFE. The foundation of the model includes the teacher education standards and a conceptual framework, which provides a basis for the evolution of EFE. Education standards include professional, state, institutional and national standards, which drive the program. Building upon the foundation of the model is the organization of EFE. In organizing EFE, teacher education programs must document experiences in providing students syllabi, forms and handbooks. The organization of the EFE experience also needs to provide students experiences, which are embedded or stand–alone experience and provide placements for students. The organization of EFE is made up of documents, placement and experiences, which leads into the implementation stage of EFE.

The implementation stage of the model includes four elements: (a) interaction among the EFE participants, university supervisors, cooperating teachers and peers; (b) the orientation to the outcomes and learning strategies; (c) the outcomes; and (d) the learning strategies necessary to accomplish the outcomes. This entire implementation stage is critical to ensure students have a successful EFE experience. The learning strategies within this implementation stage include exploration and teacher development. The student outcomes associated with the learning strategies allow students to gain skills through exploration, skill development, application of knowledge, melding theory and transition. Although Retallick (2005) provided examples of the learning outcomes and strategies from the literature, no research has been conducted to identify the purpose, expected outcomes, and methods of documenting preservice teacher EFE activities in the implementation stage of agricultural teacher education programs.

Purpose and Objectives

The purpose of this Delphi study was to identify the purpose, expected outcomes, and methods of documenting preservice teacher EFE activities in agricultural teacher education programs.

To achieve the purposes of this study, three research objectives were developed.

1. Identify the purpose of EFE in agricultural teacher education programs.
2. Identify the activities for an EFE in agricultural teacher education programs.
3. Establish a list of methods for documenting EFE activities in agricultural teacher education programs.

Methods and Procedures

The Delphi survey research technique was determined to be the most appropriate method to address the purpose of this study. The Delphi technique was implemented to more accurately gather and interpret the perceptions of the population. Delp, Thesen, Motiwalla, and Seshadri (1977) described the Delphi technique as a group process to solicit, collate, and direct expert responses toward reaching consensus on a topic or issue. Helmer (1966) described the Delphi technique as a method of refining group opinions and computing consensus for a majority opinion. The technique uses sequential questionnaires developed through summarized information and feedback of opinions from earlier responses (Delbeq, Van de Ven, & Gustafson, 1975).

The selection of the panel of experts followed Jairath and Weinsten's (1994) recommendation that the study participants be experts who are knowledgeable about the field of study. Five agricultural education department chairs from research intensive/doctoral–granting institutions were asked to identify ten university agricultural education faculty members who they viewed as experts in the field of agriculture teacher education. From the nominated individuals, the 20 teacher educators who received the most nominations were selected for this study and invited via a personal phone call to participate in this national Delphi study. All selected participants are agricultural teacher educators at research intensive/doctoral–granting institutions. Dalkey (1969) stated the reliability of the study is greater than .80 when Delphi group responses numbered greater than 13.

Three rounds of questioning were conducted with the expert panel. In round one, respondents

were asked to answer three open–ended questions, which were as follows:

1. What is the purpose of an early field experience in an agricultural teacher education program?
2. What are the activities of an early field experience in agricultural teacher education?
3. What methods are used in documenting preservice teacher activities for EFE in agricultural teacher education programs?

The questions were used to generate an array of responses, which were categorized and grouped into logical categories (Strauss, 1987). The second round was comprised of a list of statements generated from the first round. Participants were asked to respond to each statement using a five point Likert–type scale. A third round was used to reach group consensus. Each round was conducted using electronic media. The electronic questionnaires were distributed to 20 participants in the first round through Survey–Monkey (2010), which was used to track respondents and non–respondents.

In round one, responses to the questions were grouped into themes and served as items/statements for the second round. In the first round, question one received 96 responses regarding the purpose of EFE, which were grouped into 16 statements; question two received 90 responses regarding the activities of EFE, which were categorized into 14 statements and question three received 67 responses regarding the documentation of EFE, which were organized into 9 statements. Sixteen participants responded during round one yielding an 80% response rate.

In round two, the survey was only sent to the participants who responded to the open–ended question in round one. Participants were asked to rate each of the statements identified in the first round using a five point Likert–type scale (1 = Strongly Disagree, 2 = Disagree, 3 = Uncertain, 4 = Agree, 5 = Strongly Agree). Respondents were allowed to provide comments to clarify their responses (Trexler, Parr, & Khanna, 2006). All participants (100%) who responded in round one (n = 16) completed the second round.

Data collected from round two were analyzed using standard deviation and mean scores. It was determined *a priori* that consensus was met for each statement if the mean score was greater than 3.5 and standard deviation was equal to or less than one, which indicated a strong consensus for inclusion (Trexler, et al., 2006). The statements with a standard deviation of less than or equal to 1.0 were considered to have met consensus as suggested by Shinn (1998). All statements not meeting these thresholds were dropped after round two. Three statements did exceed the 1.0 standard deviation in round three after participants adjusted their final ratings. The three statements were kept and reported in the findings section.

In the third and final round, participants were provided with their initial ratings, group means and standard deviations of statements. The participants were asked if they agreed with their initial ratings and, if not, to adjust their rating accordingly. All 16 participants who responded in round two also completed round three yielding a 100% response rate for round three. All data were analyzed using descriptive statistics and reported using mean and standard deviations.

Findings

The purpose of this Delphi study was to identify the purpose, expected outcomes, and methods of documenting preservice teacher EFE activities in agricultural teacher education programs. Twenty teacher education experts as identified by five agricultural education department chairs from research intensive/doctoral–granting institutions were asked to serve as the expert panel for this Delphi study. Sixteen (80%) of the experts completed all three rounds of the study. In comparing the findings of this study to the literature, it was discovered that the statements that reached consensus could be organized within the context of existing EFE literature. Therefore, for organizational and communicative purposes, the statements were organized and reported accordingly.

Objective one of the study was to identify the purpose of EFE. Sixteen statements for the purpose of EFE met consensus with a ranged in means from 4.00 – 4.87 on a five–point Likert–type scale and standard deviations ranged from 0.34 – 0.88. These statements could be organized within the five general EFE purposes found in the literature: exploration, application of knowledge, melding theory into practice, skill development, and transition from student to

teacher (Table 1). The statements that garnered the greatest consensus regarding the purpose of EFE represented four of the five general purposes and included the identification of the roles of a professional educator, observation of classroom instruction, affirmation of the desire for becoming an agricultural educator, and development of an understanding of a complete agricultural education program (i.e., classroom/laboratory, FFA, SAE). While still meeting consensus, the two statements that focused on the transition of the preservice teacher from student to teacher were agreed least by the panel.

Table 1
Expert Consensus as to the Purpose of EFE

Outcomes of EFE (n = 16)	Mean	SD
Exploration		
Affirm the desire for becoming an agricultural educator.	4.87	0.34
Have a positive experience.	4.37	0.88
Application Knowledge		
Identify the roles of a professional educator.	4.87	0.34
Identify cooperating teacher behavior/s that influences student behavior.	4.50	0.63
Recognize awareness of student behavior.	4.43	0.62
Define and describe characteristics of effective teacher.	4.31	0.47
Recognize a successful classroom and laboratory management strategy.	4.31	0.79
Meld Theory		
Develop understanding of a complete Agricultural Education Program (i.e., classroom/laboratory, FFA, SAE)	4.87	0.34
Develop understanding of what is involved in being an agricultural teacher.	4.68	0.79
Educate preservice teacher about what it means to learn to teach as they reflect on why, whom and how they will teach.	4.56	0.62
Recognize awareness of student engagement.	4.56	0.62
Skill Development		
Observe classroom instruction.	4.87	0.34
Identify skill development (classroom instruction/management, program planning) of a teacher.	4.56	0.51
Develop observational skills and techniques.	4.31	0.87
Transition		
Recognize a successful teaching strategy.	4.18	0.75
Interact with community members, school staff and administration.	4.00	0.63

Note. Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Uncertain, 4 = Agree, 5 = Strongly Agree.

Objective two was to identify the activities for an EFE in agricultural education. Of the 14 activities identified in the first round of the Delphi, 11 met consensus as EFE activities in agricultural teacher education and could be organized into three categories from the literature: experience, observation, and reflection (Table 2).

Three statements within the observation category were the most agreed upon by the panel. The panel agreed least that an activity for EFE is to review case studies in a university setting and student–led discussion by preservice teacher both found within the reflection and experience categories, respectively.

Table 2
Expert Consensus as to the Appropriate Activities of EFE

Learning Strategies (n = 16)	Mean	SD
Experience		
Orientation from university faculty on the expectations of EFE.	4.81	0.40
Interviewing middle/high school students, cooperating teacher, school counselor, principal, etc.	4.56	0.62
Preservice teacher teaching a lesson.	3.62	1.25
Review case studies in a university setting.	3.56	1.20
Student–led discussion by preservice teacher.	3.56	0.89
Observation		
Preservice teacher observation of cooperating teacher.	4.93	0.25
Note taking of observations while on EFE.	4.68	0.47
Observation of student's learning by preservice teacher.	4.68	0.47
Observation of student's behavior by preservice teacher.	4.62	0.50
Observing the supervision of students FFA projects and activities.	4.37	0.71
Observing the supervision of students SAE projects and activities.	4.31	0.70
Reflection		
Develop reflection papers throughout experience (micro–reflections).	4.62	0.61
Develop written portfolio documentation of experience.	4.50	0.73
Compile list of information regarding the EFE– program visited.	4.43	1.09

Note: Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Uncertain, 4 = Agree, 5 = Strongly Agree.

Objective three of the study was to establish a list of teaching strategies for documenting preservice teacher EFE activities. Of the nine statements identified in the first round of the Delphi, eight of statements met consensus as ways to document EFE activities in agricultural teacher education and could be organized into three categories: documentation, student development document, and student development activity (Table 3).

Two statements within the student development–document, journaling and completing reflective papers, and one statement within documentation category, signature or verification of cooperating teacher, were the most agreed upon by the panel. While still meeting consensus, the panel agreed least with a way of documenting EFE activity through the development of a portfolio which is found within the student development–document category.

Table 3
Expert Consensus of the Ways to Document EFE Activities

Assessment (n = 16)	Mean	SD
Student Development–Document		
Journaling on EFE experience	4.75	0.44
Preservice student completing a reflective paper on experience.	4.68	0.60
Collection of key resources and documents.	4.31	0.70
Development of a Portfolio	4.12	0.61
Student Development–Activity		
Seminar for EFE students to discuss and compare experiences as a group	4.43	0.51
Preservice student completing an observation of the visited agricultural education program (reviewing: teaching resources, curriculum, facilities, budget, etc.).	4.31	0.60
Documentation		
Cooperating Teacher – verification/signature	4.68	0.47
University Supervisor Review of Documents	4.62	0.50

Note: 1 = Strongly Disagree, 2 = Disagree, 3 = Uncertain, 4 = Agree, 5 = Strongly Agree.

Conclusions/Recommendations/Implications

This study helped to solidify the purposes, expected outcomes, and methods of documenting preservice teacher EFE activities in agricultural teacher education programs. Twenty teacher education experts as identified by five agricultural education department chairs from research intensive/doctoral–granting institutions were asked to serve as the expert panel for this Delphi study.

There are several purposes of EFE. Agriculture teacher education experts in this study have identified sixteen purposes of EFE in agricultural education as categorized in Table 1. These purposes are consistent with previous literature (Jaquith, 1995; Knowles & Cole, 1996) and recommendations made by the National Council for Accreditation of Teacher Education (NCATE, 2008). NCATE recommends EFE opportunities that include observing, assisting cooperating teacher and tutoring students. An EFE provides the student an opportunity to begin thinking and experiencing the role of a teacher in their career field (NCATE, 2008).

Eleven activities were identified to achieve the purposes of EFE and were presented in three categorizes from the literature. These activities are consistent with the activities identified by Retallick (2005) as part of his literature review and model describing EFE and Dobbins and Camp's (2003) comprehensive list of tasks for the student teaching experience. Dobbins and Camp, who surveyed agricultural education teachers and secondary school administrators, identified 60 EFE tasks that were organized into three themes, which were time, planning and cooperation. All groups involved in Dobbins and Camp's (2003) study believed planning and cooperation should occur before EFE, which is consistent with the experiential learning cycle. As the profession looks to the future, continuous dialogue in the teacher education profession needs to occur to ensure we are enhancing the activities that need to be part of an EFE.

The findings of this study, as established by a panel of expert who reached consensus, suggest EFE should be documented via a combination of journaling and portfolio development. The verification of these documents should be completed by the cooperating teacher and through university–based assessments. All of the activities conducted during an EFE should be documented in some manner. The documenting and journaling experience provides EFE students the opportunity to reflect on their experiences. All of the learning strategies identified were grouped as engagement, experience, observation and reflection/written activities.

Documentation of an EFE experience can be accomplished through journaling, cooperating teacher signature, reflective paper or review of collective documents. All EFE activities need to be documented so the preservice teachers are able to reflect and grow from the experience. No matter what form of documentation is used; it must be an appropriate method for the experience. Depending on the goal of the experience, the type of documentation may vary. Documentation is especially important because it helps a preservice teacher document the extent to which they meet specific teaching standards. Every EFE is different and needs to be a building experience prior to entering the teaching profession.

Retallick's (2005) structure and content model of EFE represents three major components of EFE: the foundation, organization, and implementation of EFE. The findings from this study can be incorporated into the implementation stage of this model. The implementation stage of the model includes: (a) interaction among the EFE participants, university supervisors, cooperating teachers and peers, and (b) the orientation to the outcomes and learning strategies. This study adds to the depth and substance of EFE research by defining the purpose, activities and various documentation methods for the agricultural teacher education profession.

This study has implications for agriculture teacher education programs planning to evaluate their current programs or preparing to revamp their EFE programs. The results of this study can be used to modify and improve the EFE experience by clarifying the purpose, activities and ways of documenting activities in agricultural teacher education programs. By having consistency among all programs, a more educative experience for all students involved in an EFE is provided, which assists in accomplishing the goals of EFE. This study provides a refined list of EFE purposes, list of activities and methods for documenting EFE for the agricultural teacher education profession.

The findings of this study provides teacher educators who coordinate EFE a list of purposes, activities, and methods for documenting EFE, which had been agreed upon by a panel of experts within the field of agriculture teacher educators. The results of this study may be used by EFE coordinators to ensure the purpose, activities and ways of documenting EFE are being implemented in their programs and the highest level of EFE is provided.

Further research is needed to determine how often EFE is being evaluated by agriculture teacher education programs. Little information is known about whom, if anyone is reviewing the EFE programs, whether or not reviews are necessary, how program recommendations are handled and how EFE changes are implemented/incorporated into individual agriculture teacher education programs.

References

Camp, W. G., & Bailey, B. F. (1999). Student teaching in agricultural education. *Proceedings of the 26th Annual Southern Agricultural Education Research Conference*. Memphis, TN, *26*, 62–74.

Carter, K., & Anders, D. (1996). Program Pedagogy. In Murray, F.B. (Ed.), *The teacher educator's handbook: Building a knowledge base for the preparation of teachers* (pp.557–592). San Francisco, CA: Jossey–Bass.

Clary, E., Jr. (1991). A model for early field experiences based on the taxonomy of professional knowledge. In D. Jones & E. Bernal (Eds.), *Quality laboratory experiences and the real world of practice* (pp. 123–134). Muncie, IN: *NCA/AACTE Workshop.*

Dalkey, N. C. (1969). *The Delphi method: An experimental study of group opinion*. Santa Monica, CA: The Rand Corporation.

Delbeq, A., Van de Ven, A., & Gustafson, D. (1975). *Group techniques for program planning: A guide to nominal group and Delphi processes*. Glenview, IL: Scott, Foresman and Company.

Delp, P., Thesen, A., Motiwalla, J., & Seshadri, N. (1977). *Delphi: System tools for project planning.* Columbus, Ohio: National Center for Research in Vocational Education.

Dewey, J. (1938). *Experience and education*. New York, NY: Collier Books.

Dobbins, T. R., & Camp W. G. (2003). Clinical experiences for agricultural teacher education programs in North Carolina, South Carolina and Virginia. *Journal of Agricultural Education, 44*(4), 11–21. doi: 10.5032/jae.2003.04011

Gehrke, N. (1981). *Rationales for field experience in the profession*. Reston, VA: National Center for Research on Teacher Learning. (ERIC Document Reproduction Service No. EJ205482)

Guyton, E., & Byrd, D. (Eds.). (2000). *Standards for field experience in teacher education.* Reston, VA: Association of Teacher Educators.

Helmer, O. (1966). *Social technology*. New York, NY: Basic Books.

Holmes Group. (1986). *Tomorrow's teachers.* East Landing, MI: Author

Jaquith, C. E. (1995). Organizing and managing field experience programs. In. G. A. Slick (Ed.), *Preparing new teachers: Operating successful field experience programs* (pp. 13–28). Thousand Oaks, CA: Corwin Press.

Jairath, N., & Weinsten, J. (1994). The Delphi methodology: a useful administrative approach. *Canadian Journal of Nursing Administration,* 7, 29–42.

Kelleher, R. R., Collins, A. M., & Williams, L. A. (1995). Understanding role and goal problems in early field–experience programs. *The Teacher Educator, 30*(Spring), 37–46.

Kolb, D. A. (1984). *Experiential learning*. Englewood Cliffs, NJ: Prentice–Hall.

Knowles, J. G., & Cole, A. L. (1996). Developing practice through field experiences. In F. B. Murray (Ed.), *The teacher educator's handbook: Building a knowledge base for the preparation of teachers* (pp. 648–688). San Francisco, CA: Jossey–Bass.

Lanier, J., & Little, J. (1986). Research on teacher education. In M. C. Wittrock (Ed.), *Handbook on Research on Teaching*. New York, NY: MacMillan.

Liston, D. P., & Zeichner K. M. (1991). *Teacher education and the social conditions of schooling.* New York, NY: Routledge.

McIntyre, D. J. (1983). *Field experience in teacher education: From student to teacher*. Washington D.C.: Foundations for Excellence in Teacher Education.

Mentkowski, M., & Associates. (2000). *Learning that lasts: Integrating learning, development, and performance in college and beyond.* San Francisco, CA: Jossey–Bass.

Meyers, B. E., & Dyer, J. E. (2004). Agricultural teacher education programs: A synthesis of the literature. *Journal of Agricultural Education, 45*(3), 44–52. doi: 10.5032/jae.2004.03044

Moore, R. (2003). Reexamining the field of experiences of preservice teachers. *Journal of Teacher Education, 54*(1), 31–42.

National Council for Accreditation of Teacher Education (NCATE). (2008). *Professional Standards for the accreditation of schools, college, and departments of education. Washington, DC: Author.*

Retallick, M. S. (2005). *Early field experience in agricultural education.* (Doctorial Dissertation, Iowa State University, 2005). Dissertation Abstracts International, 66, 1249.

Retallick, M. S., & Miller, G. (2007a). Early Field Experience in Agricultural Education: A National Descriptive Study. *Journal of Agricultural Education, 48(1),* 127–138. doi: 10.5032/jae.2007.01127

Retallick, M. S., & Miller, G. (2007b). Early Field Experience Documents in Agricultural Education. *Journal of Agricultural Education, 48(4),* 20–31. doi: 10.5032/jae.2007.04020

Rogers, C. R. (1969). *Freedom to learn*. Columbus, OH: Charles E. Merrill Publishing.

Shinn, C. G. (1998). Transforming agricultural mechanics curriculum through expert opinion to model technologies in foods environmental and natural resource systems, *Proceedings of the 25th Annual National Agricultural Education Research Meeting, New Orleans*, LA, 25, 270–282.

Strauss, A. N. (1987). *Qualitative analysis for social scientists.* Cambridge, UK: Cambridge University Press.

SurveyMonkey. (2010). www.surveymonkey.com.

Trexler, C. J., Parr, D. M. & Khanna, N. (2006). A Delphi Study of Agricultural Practitioners' opinions: Necessary experiences for inclusion in an undergraduate sustainable agricultural major. *Journal of Agricultural Education, 47*(4), 15–25. doi: 10.5032/jae.2006.04015

Zeichner, K. (1987). Toward an understanding of the role of field experiences in teacher development. *Advances in Teacher Education. 3,* 94–117.

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