

EARLY FIELD EXPERIENCE DOCUMENTS IN AGRICULTURAL EDUCATION

Michael S. Retallick, Assistant Professor
Greg Miller, Professor
Iowa State University

Abstract

The purpose of this study was to describe the means by which early field experience (EFE) is implemented within the context of agricultural teacher education. A content analysis using course documents obtained directly from each program's teacher education coordinator was determined to be the most appropriate method to accomplish the purpose and objectives of this study. Thirty-eight of the 82 agricultural teacher education programs responded by providing 57 unique, usable EFE documents. The study found that the most common purposes articulated in these documents were career exploration and observation. Secondary purposes of EFE were instruction and assisting in the classroom. The primary activities to achieve the purposes of EFE were observation, practice teaching, and reflection. A major finding of this study was that over three-fourths of the programs refer to observation as both a purpose and an activity. It is recommended that teacher education programs develop EFE programs that go beyond exploration and, using the established professional EFE standards, require more than non-academic, procedural-based activities. Programs could benefit from the development of EFE programs into a sound educational component focused on the application of professional and pedagogical knowledge and the development of critical reflection and higher-order thinking skills.

Introduction and Conceptual Framework

Early field experience (EFE) includes the range of school experiences that occur prior to student teaching for those students in preservice teacher education (Guyton & Byrd, 2000). A variety of well-developed, early field experiences enable students to immerse themselves into the complex world of teaching and serve as a means for students to begin to think as teachers (Carter & Anders, 1996). The three primary components that impact the effectiveness of a comprehensive EFE program include 1) EFE standards and accreditation, 2) purposes and activities associated with EFE, and 3) interaction of EFE participants.

EFE Standards and Accreditation

Educational reform efforts have caused both accrediting and professional organizations to develop standards that specifically refer to and affect early field-based experience (Hurst, Tan, Meek, & Sellers, 2003). Accreditation and standards

are developed and adopted at the national, state, and institutional levels as well as through professional organizations. Beside specific expectations for those standards, these professional organizations and associations often provide a broad conceptual framework for teacher education and its related components. The framework and standards are the guidelines and structure for teacher education program development and accreditation.

Since 1954, the National Council for Accreditation of Teacher Education (NCATE) has been the primary accrediting agency for teacher education and has provided direction through its standards and framework for the development and evaluation of nearly all teacher education programs (American Association of Colleges for Teacher Education (AACTE), 1999). The development of a conceptual framework provides the underlying theoretical and empirical foundation for the individual teacher education program (NCATE, 2002). The conceptual framework enables the articulation of a shared vision

and serves as a communication piece among all stakeholders.

NCATE (2002) defined field experiences as “a variety of early and ongoing field-based opportunities in which candidates may observe, assist, tutor, instruct, and/or conduct research. Field experiences may occur in off-campus settings such as schools, community centers, or homeless shelters” (p. 53). Standard 3, entitled *Field Experiences and Clinical Practice*, stated that EFE enables teacher education candidates to “develop and demonstrate knowledge, skill, and dispositions necessary to help all students” (p. 25). The standard is met when candidates are able to apply and reflect on their “content, professional and pedagogical knowledge, skill, and dispositions in a variety of settings with students and adults” (p. 26). The standard goes on to state that EFE helps initiate the development of competencies necessary for individuals to begin and continue careers in teaching. EFE development requires accountability, an appropriate environment, and collaboration between teacher education programs and cooperating schools on program design, implementation, and candidate assessment.

More recently, the Teacher Education Accreditation Council (TEAC) has begun to serve as an alternative to NCATE accreditation. TEAC’s goal related to EFE is to “support the preparation of competent, caring, and qualified professional educators” through what is called *Quality Principles and Standards for Capacity* (TEAC, 2002, paragraph 1).

The Association of Teacher Educators (ATE) has developed a set of standards for field experience, which are meant to “correspond with, complement, and extend the NCATE standards” (Guyton & Byrd, 2000, p. 4). ATE standards focus specifically on the context and culture of the field experience; diversity; reflection and analysis; selection, preparation, and assignment of the teacher educators and cooperating teachers; and assessment of the experiences.

The American Association for Agricultural Education (AAAE) is an example of a subject-based organization that has incorporated EFE into its standards. The

National Standards for Teacher Education in Agriculture provides a conceptual framework for high-quality field experiences in agricultural teacher education (AAAE, 2001). AAAE standards suggest that teacher education programs in agriculture should be “grounded in experience-based knowledge developed with input from stakeholders” (Standard 1) and provided by an agricultural education faculty who encourage the “development of reflection, higher-order thinking, and professional disposition of teacher candidates” (Standard 4b). AAAE recommends early field experiences that are well planned, sequential, of high quality, and consistent with the profession’s conceptual framework. AAAE standards recommend that field experiences should be planned and delivered in a diverse school-based agricultural education program where preservice teachers can observe, keep a journal, and reflect on the interrelationship of the tripartite approach to agricultural education (i.e., instruction, FFA, and SAE). AAAE goes on to recommend an early field experience designed and implemented in concert with schools, cooperating teachers, and agencies, which would require at least 40 hours of student contact.

Purpose and Activities Associated with EFE

A review of the literature identified a variety of purposes and activities related to EFE. They include the melding of theory into practice (Kelleher, Collins, & Williams, 1995; NCATE, 2002; Staffo, Baird, Clavelli, & Green, 2002); applying knowledge (NCATE; Pierce, 1996); developing teaching skills (NCATE; Kelleher et al.; Liston & Zeichner, 1991; McIntyre, 1983); transitioning from student to teacher (NCATE; Liston & Zeichner; McIntyre); and exploring teaching as a career (Kelleher et al.; McIntyre). In agricultural education, another reason for EFE is to explore and be a part of the interrelationship among the three components of agricultural education (classroom, FFA, and SAE) (AAAE, 2001).

NCATE (2002) specifically listed five activities that could be used to fulfill the purpose of EFE: observing, assisting the cooperating teacher, tutoring students,

providing instruction, and conducting applied research. EFE provides students with authentic learning, which should take place early and often (Pierce, 1996). However, McIntyre, Byrd, and Foxx (1996) posit that increased practice without reflection and analysis does not lead to professional growth.

Interaction of EFE Participants

Interaction with peers, the cooperating teacher, and the teacher educator (the triad) are vital if the student is to learn from the EFE experience and develop a deeper understanding about the profession (McIntyre et al., 1996). Close cooperation among the triad ensures that an appropriate school environment and supportive supervising practices are provided, and that they are conducive to fostering the optimal levels of personal and professional growth.

Early field experience supervision is irregular at best, especially by campus-based supervisors (Carter & Anders, 1996). There seems to be a natural conflict among the university supervisor, preservice students, and cooperating teachers. University supervisors seem to be the least understood component in the triad and generally receive the most criticism (McIntyre et al.). Their level of influence may vary depending upon their degree of involvement, how they communicate, their ability to define and articulate program goals, and their broader perspective and approach to teaching (Carter & Anders).

The influences of the cooperating teacher on a preservice student are great (McIntyre et al., 1996). In order for EFE to be successful and beneficial, classroom teachers must be able to shift to the role of teacher educator (Chastko, 1993). Too often, preservice students fail to appropriately interact with cooperating teachers. Because it is difficult for cooperating teachers to make such a shift, communication is generally brief and impersonal and substantive discussions and conflict are generally avoided (Killian & McIntyre, 1983).

An often overlooked and undervalued component of EFE is peer interaction. Because students participating in EFE have limited experiences, the challenge is to find

ways for them to understand and find applicable meaning in those experiences (Knowles & Cole, 1996). McIntyre et al. (1996) recommended that cohort groups be formed, which allow students the opportunity to explore various meanings and contexts and provide a communal perspective to break down the personal barriers associated with teaching. Discussions and individual conferences where students can dialogue with other students, as well as converse with cooperating teachers and university faculty, play significant roles in the development of beginning teachers (Carter & Anders, 1996).

The largest problem with EFE is the lack of interaction between the institution and cooperating site (McIntyre et al., 1996). Preservice teachers tend to neither appropriately interact with cooperating teachers, nor come to an agreement on the responsibility of each participant. Often the relationship between the university and the cooperating school is one of congenial tolerance instead of cooperation (McIntyre et al.). Another problem is the differences in expectations among the student, cooperating teacher, and teacher educator (Applegate, 1985; Kelleher et al., 1995). The differences in expectations create confusion and further complicate measuring the educational value of EFE (Kelleher et al.).

In this section, the conceptual framework for EFE was presented. The conceptual framework included the standards associated with NCATE, ATE, and AAEE; the purpose and activities associated with EFE; and the role and interaction among the triad and peers. In the next section, the theoretical framework of EFE is presented.

Theoretical Framework of EFE

In agricultural teacher education, early field experiences are grounded in experiential learning (AAEE, 2001). Knowles and Cole (1996) believed teacher education is a “lifelong process of continuing growth with preservice programs, including field experiences, providing the context for the formal beginnings of career long development” (p. 650). Using the works of John Dewey

(1916; 1938) and David Kolb (1984) as their basis, Knowles and Cole (1994; 1996) applied experiential learning philosophies to field experiences in teacher education.

Knowles and Cole (1994) proposed a cyclical yet spiral framework for experiential learning, which includes preservice field experience. The model's foundation for growth is grounded in experience with individual learning and enrichment occurring through the experiential learning process. Knowles and Cole believed this process occurs in four stages as students develop, grow, and move on to new experiences. The first stage is personal experience and practice. The second stage is information (internal and external) gathering and documentation followed by a third stage of reflection, analysis, and development of personal theories. The final stage is the movement of the student toward informed action.

Early field experiences are the first formal practical experiences for students aspiring to become teachers. These experiences engage students, promote learning, and provide a context for learning, which Fink (2003) purports leads to significant learning experiences. The real-world setting and the context for learning validate and solidify the curriculum (Mentkowski & Associates, 2000) for preservice teachers. EFE provides the initial exposure and a springboard for the students to develop critical thinking and lifelong learning that can be applied as they develop professionally. Preservice teachers learn from these experiences and are able to transfer what is learned to new contexts (National Research Council, 2000).

Knowles and Cole (1994) promoted this through their experiential learning cycle/spiral. Professional organizations have developed standards to improve all aspects of teacher education including experiential learning components like EFE. However, Connors & Mundt (2001) stated that these standards do not outline the specific requirements to be completed, nor do they provide the technical information on what students are to complete as part of EFE. Furthermore, within agricultural teacher education, there is no documentation of the explained purposes of EFE or the

means by which the purposes are to be achieved. In addition, there is no literature regarding the intended interactions to accomplish these purposes. Such observations caused McLean and Camp (2000) to recommend further study to determine the commonalities among agricultural teacher education programs and to question what type of experiences preservice teachers encounter in EFE (Swartzel, 1999).

Purpose and Objectives

The purpose of this study was to describe how early field experience (EFE) is implemented within the context of agricultural teacher education. The study focused on four research objectives.

1. Describe the purposes of EFE programs as articulated in course syllabi and related documents.
2. Describe the means by which the purposes of EFE are achieved.
3. Explore the relationship between the explained purposes of EFE and the means by which the purposes are achieved.
4. Determine if interaction among the teacher education triad is expected and/or defined.

Methods

Existing sources were at the heart of the material being analyzed (Hodson, 1999). Therefore, content analysis was determined to be the most appropriate method to accomplish the purpose and objectives of this study.

Documents for this study were requested as part of a national survey on EFE within agricultural teacher education (Retallick & Miller, 2007). Using Dillman's (2000) survey implementation plan of four contacts and an additional "special" contact, 73 of the 82 programs responded for a response rate of 89%. The question on the survey stated: "As a primary source for further study, we are asking that you provide EFE handbook(s), bulletin(s), syllabi or other documents used for your required early field experience program." Respondents were

provided with three methods by which to provide the materials: 1) hard copy sent via U.S. Postal Service (a mailing label was provided); 2) electronic copy e-mailed (e-mail address provided); or 3) material available via the World Wide Web (respondents were asked to provide the URL).

Of the 73 programs that responded to the larger study, 38 programs provided 57 unique, usable EFE documents. Although a request for materials was made to all agricultural teacher education programs, only the materials provided by the coordinators via the request were included in the study. The documents that were analyzed were not limited to those courses offered by agricultural education program faculty and staff. This inclusion was in light of McLean and Camp (2000), who suggested all documents inside and outside of agricultural education should be included in future studies. Based upon their experiences, they argued that including the general education courses allowed for a more complete picture of the agricultural teacher education program.

A comparison of early and late respondents (Lindner, Murphy, & Briers, 2001), in which the first half of the respondents were considered early responders and the last half were late responders, was made on all 34 variables involved in this study. The 34 variables were part of four constructs: demographics (seven variables), explained purposes (eight variables), means of achieving the purposes (13 variables), and interaction (six variables). Using chi-square, no statistically significant differences between early and late respondents were found with 31 of the 34 variables. There was a significant difference between early and late respondents related to written objectives ($p = .03$), placement restrictions ($p = .03$), and journaling ($p = .04$). Late respondents were more likely to have written objectives and require journaling, while early respondents were more likely to have placement restrictions. The results of the study can be generalized to the larger agricultural teacher education population for 31 of the 34 variables; however, the reader is cautioned to only generalize to those programs in this

study for three variables: written objectives, placement restrictions, and journaling. Data from the coding documents were entered into SPSS Version 13.0. Descriptive statistics of the frequencies were reported for each of the 34 variables in the study. To explore the relationship between the purposes and activities associated with EFE, phi-correlations were calculated and analyzed.

Establishing the authenticity of the coding document and the validity of its contents is a research issue with content analysis (Ary, Jacobs, & Razavieh, 2002). This study used course materials that included course syllabi, course packets, assignments, and/or handbooks. The materials were obtained directly from each program's teacher education coordinator. This method of securing the documents ensured authenticity and validity of the documents analyzed.

Two types of reliability, stability and reproducibility, were addressed (Krippendorff, 1980). Following the suggestion by Krippendorff, the test-retest method was the reliability design used to ensure stability. A random sample of the documents from 10 (26.3%) programs were recoded and compared to the original coding to determine the consistency of the process. Intra-observer reliability was calculated to be .95.

The process of ensuring reproducibility began with the development of the coding instrument (Hodson, 1999). A complete, comprehensive coding instrument was initially developed based upon a review of the literature and the purpose and objectives of the study. A review of the documents to be coded was also made to ensure that an all-inclusive coding instrument was developed (Neuendorf, 2002). The preliminary review of documents revealed that many programs report an activity as a purpose of EFE. As a result, observation was included as a purpose on the coding instrument.

Special effort was made in developing the coding document to prevent the coder from making inferences while coding, which would erode reliability (Hodson, 1999). Supplemental coding protocol was developed and reviewed regularly as

suggested by Hodson. The coding document was reviewed by a panel of teacher educators for face validity.

The reliability design used to address inter-observer reliability was the test-test design. One teacher education professional familiar with EFE coded the documents of 10 (26.3%) randomly selected programs. Reproducibility reliability of the first teacher educators coding was found to be .75. The reliability coding was calculated prior to resolving any coding disagreements (Weber, 1990). The intercoding process exposed a common threat to validity: inadequate coder training (Neuendorf, 2002). Therefore, initial coding disagreements were addressed and improvements were made to the coding instrument. Care was taken to limit the amount of assumptions made while coding the documents. After making changes, a second teacher educator coded a set of 10 (26.3%) documents from randomly selected programs. The changes improved the reliability coefficient to .83. The principal investigator was responsible for coding all data. The reproducibility

coefficient for this study was reported to ensure the coding scheme did not reflect the subjectivity of only one individual (Neuendorf).

Findings

Documents related to early field experiences were collected from 38 agricultural teacher education programs. These programs represented 1862 land-grant institutions ($n = 25$, 65.8%), 1890 land-grant institutions ($n = 2$, 5.3%), and state institutions ($n = 11$, 28.9%). The 38 teacher education programs in this study provided a total of 57 usable documents. The combination of documents that represents each program is found in Table 1. The largest proportion of programs either provided an EFE handbook ($n = 10$, 26.3%), or one or more syllabi ($n = 14$, 36.8%). Seven programs (18.4%) only provided their EFE forms. Six programs (15.8%) provided their EFE handbook and syllabus, and one program (2.6%) provided a syllabus and related forms.

Table 1
Documents Provided by Each Agricultural Teacher Education Program

Documents	<i>n</i>	%
Syllabus or syllabi	14	36.8
Handbook only	10	26.3
Forms only	7	18.4
Handbook and syllabus	6	15.8
Syllabus and forms	1	2.6

It was determined from the documents that 25 (65.8%) agricultural education programs offered EFE, while six (15.8%) programs received their EFE programming from outside agricultural teacher education. The documents of the remaining seven (18.4%) programs did not provide sufficient information to determine whether they offered EFE within or outside of the agricultural education program. Only nine of the 38 programs (23.7%) referred to the institution's conceptual framework for teacher education.

Explained Purposes of EFE Programs

Three-quarters ($n = 28, 75.7\%$) of the programs provided a purpose statement for the early field experience offered through their teacher education program. More than half (55.3%) of the programs provided written objectives for the EFE. A single

purpose for the EFE was identified in five (13.2%) programs, while no EFE purpose statement was identified in the documents of five (13.2%) programs. The remaining programs ($n = 28, 73.7\%$) listed multiple purposes for EFE.

Table 2 provides the frequencies and percentages for each of the explained purposes of EFE. The most common purpose was career exploration ($n = 22, 57.9\%$). Less than one-half of the programs identified instruction ($n = 17, 44.7\%$) and assistance in the classroom ($n = 14, 36.8\%$) as a purpose for EFE. Only six (15.8%) programs identified tutoring as a purpose for EFE. No programs referred to conducting applied research as a purpose of EFE. Nearly three-fourths ($n = 29, 76.3\%$) of the programs actually identified the activity of observation as a purpose for EFE.

Table 2
Explained Purpose of EFE (n = 38 programs)

Purpose	<i>n</i>	%
Observation (activity)	29	76.3
Career exploration	22	57.9
Instruction (teaching lessons)	17	44.7
Assistance in the classroom	14	36.8
Tutoring	6	15.8
Conducting research	0	0.0

Means by Which the EFE Purposes Are Achieved

It was discovered that less than one-half ($n = 16, 42.1\%$) of the programs in the study offered multiple field experiences. An on-campus component tied to the EFE was incorporated into 18 (47.4%) of the EFE programs. Only 13 (34.2%) programs restricted the placement of their students who planned to participate in EFE. Four (10.5%) programs had no restrictions and the remaining programs ($n = 19, 50\%$) did

not disclose whether there were restrictions on the placement of their students.

Seven potential activities were identified to achieve the intended purposes of the EFE (Table 3). Four (10.5%) programs identified a single activity as the means to achieve their purpose(s). Three (7.9%) programs did not identify any activities within their documents, and the remaining 31 (81.6%) programs identified multiple activities to achieve the purpose(s) of their EFES. Fifteen (39.5%) programs required a

portfolio as part of their EFE. A direct connection between the field experience and

coursework on campus was identified in half ($n = 19, 50.0\%$) of the programs.

Table 3
Activities Used as a Means of Achieving the Purpose of EFE (n = 38 programs)

Activities	<i>n</i>	%
Observation	35	92.1
Practice teaching	25	65.8
Reflection	23	60.5
Interviewing	14	36.8
Collecting materials	13	34.2
Journaling	12	31.6
Evaluation	9	23.7

Nearly all ($n = 35, 92.1\%$) programs used observation as an activity within EFE. More than one-half of the programs used practice teaching ($n = 25, 65.8\%$) and reflection ($n = 23, 60.5\%$) as activities. Less than one-half of the programs identified interviewing ($n = 14, 36.8\%$) and journaling ($n = 12, 31.6\%$) as EFE activities. Less than one-quarter ($n = 9, 23.7\%$) of the programs asked students to conduct any form of evaluation or assessment as an EFE activity.

Relationship between EFE Purposes and Activities

Phi-coefficients were calculated to compare the relationship between each of the six explained purposes and the seven

potential activities identified to achieve the purposes (Table 4). Cohen (1988) labels effect size coefficients as small ($\phi = .10$), medium ($\phi = .30$) and large ($\phi = .50$).

When the purpose was exploration, three activities (observation, reflection, and evaluation) were statistically significant. Observation and reflection were the two statistically significant activities when observation was the purpose. When assisting in the classroom was the purpose, the only statistically significant relationship was with practice teaching. Journaling was the only statistically significant activity when tutoring was the purpose. The only activity that was significantly related to the purpose of instruction was practice teaching.

Table 4
Phi Correlations Between EFE Purposes and EFE Activities

Activity	Purpose				
	Exploration	Observation	Assisting	Tutoring	Instruction
Observation	.343*	.567**	.244	.127	.263
Collecting Materials	.166	.236	.254	.144	.021
Interviewing	.099	.261	.208	-.031	.191
Practice Teaching	.171	.172	.436*	.312	.537**
Journaling	.121	.073	.185	.327*	.293
Reflection	.511*	.507*	.170	.054	.246
Evaluation	.350*	.288	.088	.089	.186

* Correlation is significant at the 0.05 level (2-tailed).
 ** Correlation is significant at the 0.01 level (2-tailed).

Intended Interactions within EFE

Using the documents provided by each program, effort was made to determine whether the documents actually defined the role of each individual involved in the triad. Nearly three-fourths ($n = 28, 73.7\%$) of the programs defined the role of the preservice teacher within the EFE experience. Less than a quarter ($n = 9, 23.7\%$) of the programs described the role of the cooperating teacher, and only four (10.5%) programs provided a description of the expected role of the teacher educator within the experience.

Just as important in the developmental process as defining the role of the triad was the articulation of the expected interactions among the preservice student and their peers, the cooperating teacher, and the university supervisor. Less than one-half ($n = 16, 42.1\%$) of the programs provided any documentation as to the expected interaction between the cooperating teacher and the preservice student. Nine (23.7%) programs incorporated interaction with peers into the EFE. Only eight (21.1%) programs provided indication that any interaction was to take place between the university supervisor and the preservice teacher.

Conclusions and Recommendations

This study begins to answer Swortzel's (1999) question regarding the types of experiences preservice teachers encounter in EFE. Generally, EFE is offered within agricultural education programs, but less than one-half of the programs require multiple early field experiences. Only three-fourths of the programs provided a statement articulating the purpose of EFE. Even fewer (approximately one-half) programs provided written objectives for the EFE. The purpose of EFE seems to fall into one of the two categories: 1) career exploration with classroom observation and 2) teacher development with students providing instruction, classroom assistance, and tutoring. Although the literature identifies action research as a purpose of EFE, it was not identified as a purpose in any of the documents. Interestingly, over three-fourths of the programs describe observation as the purpose for EFE even though observation is actually a means of achieving several purposes of EFE.

There were differences in the type of activities programs used to achieve the purposes of EFE. Although all seven activities identified in the literature were

utilized by at least one program, the most commonly required activities were observation (exploration) followed by instruction and reflection (teacher development). In addition, few programs placed stipulations on where students could complete their EFE and less than one-half attempted to link the experience back to experiences on campus.

Related to the intended interaction among those who should be involved in EFE, generally only the role of the preservice teacher was defined. In most documents, little or no reference was made to the role or expected interactions among the preservice teacher and cooperating teacher, supervising teacher, and other preservice students. These findings support McIntyre et al., (1996) who espouse that the largest problem with field experiences is the lack of such communication.

Most EFE programs seemed to be more focused on procedural, non-academic activities and less on the development of the student into a critically reflective teacher, which brings into question whether EFE programs currently meet the intent of the established field experience standards. In many cases, EFE is documented as a requirement that must be met rather than an introductory learning experience that provides exploratory and teacher development experiences. Therefore, it is recommended that teacher education programs strive to meet the established EFE standards and work toward the development of an EFE program that incorporates learning strategies that allow preservice teachers the opportunity to apply their professional and pedagogical knowledge, as well as develop both critical reflection and higher-order thinking skills. With less than 25% of programs referring to their institution's conceptual framework, there is a need for agricultural teacher education programs to better articulate and communicate their conceptual framework and build an educationally sound EFE program within the framework.

The purposes and activities expected of EFE students, as documented in the literature, must also be considered when developing EFE programs and articulating expectations within EFE documents.

Whether it is in the form of a handbook or a course syllabus, the role of each individual in the triad, as well as the expected interactions, should be in writing. There is a need for consistency within the documents and expectations of EFE, which should be developed based upon sound research findings and agreed-upon principles. With that said, the authors do caution teacher education programs to retain some degree of program flexibility. Keheller et al. (1995) suggested that EFE should be well-defined and well-developed, yet maintain enough flexibility to meet the individual differences and needs of the students.

Further research should be conducted to establish a list of recommended purposes for EFE in agricultural teacher education. Once the purposes have been determined, additional research should be conducted to generate an appropriate list of activities for each purpose. A model that provides the structure of EFE and aids in the development of educationally sound EFE programs would be beneficial.

EFE should be approached with the same level of importance as other aspects of the teacher education program. EFE should not be limited to only non-academic, procedural-based activities as it is an excellent opportunity to initiate and/or continue the development of lifelong learning skills. Teacher education programs should more closely examine the EFE component as a means of continuous program improvement.

References

American Association for Agricultural Education (AAAE). (2001). *National standards for teacher education in agriculture*. Retrieved October 3, 2003, from <http://www.aaaeonline.org>

American Association of Colleges for Teacher Education (AACTE). (1999). *Comparison of NCATE and TEAC processes for accreditation of teacher education*. Retrieved October 31, 2004, from http://www.aacte.org/Programs/Accreditation_Issues/ncateteacchart.pdf

- Applegate, H. (1985). Early field experiences: Recurring dilemma. *Journal of Teacher Education*, 36(2), 60-64.
- Ary, D., Jacobs, L. C., & Razavieh, A. (2002). *Introduction to research in education* (6th ed.). Belmont, CA: Wadsworth/Thomson.
- Carter, K., & Anders, D. (1996). Program pedagogy. In F. B. Murray (Ed.), *The teacher educator's handbook: Building a knowledge base for the preparation of teachers*. (pp. 557-592). San Francisco: Jossey-Bass.
- Chastko, A. M. (1993). Field experiences in secondary teacher education qualitative differences and curriculum change. *Teacher & Teacher Education*, 9(2), 169-181.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Earlbaum Associates.
- Connors, J. J., & Mundt, J. P. (2001). *Characteristics of preservice teacher education programs in agricultural education in the United States*. Proceedings of the National Agricultural Education Research Conference, 28, 109-118.
- Dewey, J. (1916). *Democracy and Education*. New York: The Free Press.
- Dewey, J. (1938). *Experience and Education*. New York: Collier.
- Dillman, D. A. (2000). *Mail and telephone surveys: The total design method*. New York: Wiley and Sons.
- Fink, L. D. (2003). *Creating significant learning experiences: An integrated approach to designing college courses*. San Francisco: Jossey-Bass.
- Guyton, E., & Byrd, D. (Eds.). (2000). *Standards for field experience in teacher education*. Reston, VA: Association of Teacher Educators.
- Hodson, R. (1999). *Analyzing documentary accounts*. Sage University Paper Series on quantitative applications in the social sciences, 07-128. Thousand Oaks, CA: Sage.
- Kelleher, R. R., Collins, A. M., & Williams, L. A. (1995, Spring). Understanding role and goal problems in early field-experience programs. *The Teacher Educator*, 30, 37-46.
- Killian, J. E., & McIntyre, D. J. (1983). Quality in the early field experiences: A product of grade level and cooperating teachers' training. *Teaching and Teacher Education*, 2(4), 367-376.
- 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: Jossey-Bass.
- Knowles, J. G., & Cole, A. L. (1994). *Through preservice teachers' eyes: Exploring field experience through narrative and inquiry*. New York: Macmillan College.
- Kolb, D. A. (1984). *Experiential learning*. Englewood Cliffs, NJ: Prentice-Hall.
- Krippendorff, K. (1980). *Content analysis*. Newbury Park, CA: Sage.
- Lindner, J. R., Murphy, T. H., & Briers, G. E. (2001). Handling nonresponse in social science research. *Journal of Agricultural Education*, 42(4), 43-53.
- Liston, D. P. & Zeichner K. M. (1991). *Teacher education and the social conditions of schooling*. New York: Routledge.
- McIntyre, D. J. (1983). *Field experience in teacher education: From student to teacher*. Washington, D.C.: Foundation for Excellence in Teacher Education.
- McIntyre, D. J., Byrd, D. M., & Foxx, S. M. (1996). Field laboratory experiences. In

J. P. Sikula, T. J. Buttery, & E. Guyton (Eds.), *Handbook of research on teacher education* (2nd ed.). New York: Macmillan.

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

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

National Council for Accreditation of Teacher Education (NCATE). (2002). *Professional standards for the accreditation of schools, colleges, and departments of education*. Washington, D.C.: Author.

National Research Council. (2000). *How students learn: Brain, mind, experience, and school*. J. D. Bransford and A. L. Brown (Eds.) Washington, D.C.: The National Academies Press.

Neuendorf, K. A. (2002). *The content analysis guidebook*. Thousand Oaks, CA: Sage.

Pierce, D. R. (1996, Winter). Early field experience and teacher preparation: Authentic learning. *The Teacher Educator*, 31, 217-225.

Retallick, M. S. & Miller, G. (2007). Early field experience in agricultural education: A national descriptive study. *Journal of Agricultural Education*, 48(1), 127-138.

Staffo, M. J., Baird, D., Clavelli, E. R., & Green, M. D. (2002). Online resources for teacher education early field experience courses: A case study. *Journal of Interactive Online Learning*, 1(1).

Swortzel, K. A. (1999). The current status of preservice teacher education programs in agriculture. *NCATA Journal*, 43(1), 37-43.

Teacher Education Accreditation Council (TEAC). (2002). *TEAC accreditation process: Summary outline of the TEAC accreditation framework*. Retrieved October 31, 2004, from <http://www.teac.org/accreditation/summaryoutline.asp>

Hurst, D., Tan, A., Meek, A., & Sellers, J. (2003). *Overview and inventory of state education reforms: 1990 to 2000* (NCES publication No. 2003-020). Washington, D.C.: U.S. Department of Education National Center for Educational Statistics

Weber, R. P. (1990). *Basic content analysis* (2nd ed.). Sage University Paper Series on quantitative applications in the social sciences, 07-049. Newbury Park, CA: Sage.

MICHAEL S. RETALLICK is an Assistant Professor in the Department of Agricultural Education and Studies at Iowa State University, 206 Curtiss Hall, Ames, IA 50011. E-mail: msr@iastate.edu.

GREG MILLER is a Professor in the Department of Agricultural Education and Studies at Iowa State University, 201 Curtiss Hall, Ames, IA 50011. E-mail: gsmiller@iastate.edu.

This paper is a product of the Iowa Agriculture and Home Economics Experiment Station, Ames, Iowa, Project No. 3613, and sponsored by the Hatch Act and State of Iowa.