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Determining the use of Food, Land & People materials in Iowa's K-12 curricula

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Determining the use of Food, Land & People materials in Iowa's K-12 curricula

by

Jessica Renae Bowser

A thesis submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

Major: Agricultural Education

Program of Study Committee:
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Ames, Iowa
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This is to certify that the master’s thesis of

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has met the thesis requirements of Iowa State University

Signatures have been redacted for privacy
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CHAPTER I. INTRODUCTION

Background & Setting

In 1900, 29,875,000 people, or 39.2% of the United States population, lived on a farm. Since then, the population of the United States has more than tripled, yet the number of individuals living on farms today is six times less (National Agricultural Statistics Service, n.d.).

The demographic shift from a more rural population to an urban population has resulted in fewer students in K-12 classrooms having agricultural knowledge. Some educators pose the question, why do students need to learn about agriculture? The agricultural section of the United States workforce has several different career opportunities. More than 20% of the United States workforce is employed in the agriculture industry (Leising, Igo, Heald, Hubert, & Yamamoto, 1998). Several career options are available in agriculture: business, education, agronomy, sales, marketing, communications, golf course maintenance, horticulture, food science, and animal science. Students might not have the knowledge or experience to explore these options if they are never introduced to agriculture.

In order for children to have an understanding of agriculture, they must either be involved with agriculture first hand or learn about it in school. Without
agricultural education in the schools, children not familiar with agriculture will grow up without an appreciation for it.

"Increasing agricultural literacy is important because it can help citizens make informed choices as voters to support or oppose public policies such as genetically-modified organisms in food production, food safety, and on food security, environmental quality, and land use" (Malecki, Israel, & Toro, 2004, p. 1).

It is important for students to be informed about agricultural issues that affect them. Facilitating Coordination in Agriculture Education (FCAE) is a state-funded project that works to improve the agricultural and environmental awareness in schools throughout Illinois. Agricultural educators in the state worked together to create a CD-ROM with 125 environmental lessons. Jay Runner, coordinator for FCAE, stated that, "Providing students with sound environmental resources curriculum will help to develop future consumers and leaders who can make educated decisions concerning policies that affect the agricultural industry" (Anderson, 2003).

In 1988, the National Research Council (NRC) recommended, "Beginning in kindergarten and continuing through twelfth grade, all students should receive some systematic instruction about agriculture. Much of this instruction could be incorporated into existing courses rather than taught in separate courses (p.10)."
Also in 1988, a coalition of 50 individuals from the disciplines of education, agriculture, and natural resource conservation met in Colorado. The group discussed creating an educational project that would integrate agriculture into teachers' curricula. The Colorado meeting resulted in the creation of a national steering committee for Food, Land & People (FLP) (FLP, 2004, p. v). The FLP task force objectives were to:

- Stimulate students to understand the interdependence of food, land, and people by training educators and providing materials;
- Create opportunities for awareness, critical thinking and skills development;
- Develop responsible behavior;
- Create dynamic instructional materials designed by educators for educators; and
- Develop a broad-based coalition of private and public entities (FLP, 2004, p. v).

The conceptual framework for FLP was created in 1989, and six writing workshops were held throughout the nation. The seven regions of the National Association of Conservation Districts (NACD) were asked to develop teams to create activities for the lesson plans. Two-thirds of the individuals in the NACD teams were educators and one-third were content specialists. Within a year, more than 400 activities were created to go with the lesson plans. Each lesson plan was pilot tested by two teachers at each grade level that the lesson was created for. In 1995, the FLP staff had completed 25 lesson plans and was working on 30 more. After revisions in 1998, the first 55 lessons were printed and called Resources for Learning. Teachers
found that several of the additional resources referenced on the activities were out of
date and needed to be updated. By 2000, revised materials were printed with new
references and additional resources for teachers to use. The Resources for Learning
materials were put on a CD-ROM in 2004 (Chris Williams, personal
communications, September 15, 2005).

Educators have been taking FLP workshops in the United States since 1998.
However, in Iowa 300 educators took the FLP workshops in 1996 for an
implementation trial of the FLP materials (FLP, 2006). Close to 1,300 Iowa educators
have completed the FLP training since 1996, but training does not guarantee that it is
used. Do Iowa teachers attending FLP training workshops integrate FLP and/or
agricultural lessons into their K-12 classrooms?

**Purpose and Objectives of the Study**

The purpose of this study was to describe how Iowa K-12 teachers who have
participated in FLP workshops are using the program in their classroom. Five
objectives were developed to guide the study:

1. Describe the demographic characteristics of teachers participating in FLP
   training workshops.

2. Determine the use of FLP lessons in the Iowa classrooms.
3. Identify barriers preventing teachers who have taken the FLP workshops from using the materials in their classrooms.

4. Determine if demographic characteristics influence teachers' implementation of agriculture into their curricula.

**Significance of the Study**

FLP offers an organized way to present agricultural information in kindergarten through twelfth grade classrooms, and this study will help determine if and how the program is being used by Iowa teachers. This research is a baseline study. It will help identify demographic characteristics of educators taking FLP workshops. Study results could influence the way Iowa FLP staff develops training workshops, and will help facilitators of FLP workshops identify more effective ways to present the FLP lessons. Information gained in the study can help FLP staff target certain grade levels of teachers in the state that have not been in contact with FLP materials. This study will also help identify barriers currently preventing teachers from integrating the materials into their curricula.

It is important to teach students about agriculture. However, agriculture can be viewed by teachers as just another topic to teach and can be left out of the classroom. FLP followed the 1988 NRC recommendations and strived to create
lessons that educators could incorporate into materials they already covered in the classroom. In 1988, the NRC commented on the lack of agriculture in the classroom, “Few systematic educational efforts are made to teach or otherwise develop agricultural literacy in students of any age. Although children are taught something about agriculture the material tends to be fragmented, frequently outdated, usually only farm oriented, and often in a negative or condescending in tone” (p. 9).

**Limitations**

Results of this study cannot be generalized outside the state of Iowa because only Iowa educators were surveyed. The researcher would have liked to have correlated FLP to state-wide educational standards. Iowa is the only state that does not have state-mandated educational standards. Educational standards and benchmarks in Iowa are set by school districts, instead of the state. The other 49 states have state-wide educational standards for core subject areas. Iowa needs to have more rigorous state education standards to help better prepare students for a competitive global economy (Des Moines Register, 2006). By having state-wide educational standards, teachers and parents alike would know what to expect out of students in each grade level and subject area.

Arkansas has recently correlated FLP lessons to the following Arkansas Frameworks: science, math, language, social studies, art, music, dance, theater, physical education, and health. FLP staff in Iowa has correlated FLP materials to
Iowa’s Basic Skills Tests questions, since they do not have state educational standards.

**Definition of Terms**

*Agriculture in the Classroom (AITC)* — The United States Department of Agriculture (USDA) established the grassroots program in 1981. “The goal of the program is to help students gain a greater awareness of the role of agriculture in the economy and society, so that they may become citizens who support wise agricultural policies” (Agriculture in the Classroom, 2006).

*Area Education Agencies (AEA)* — In Iowa the AEAs work as educational partners with public and accredited, private schools. Agency staff members, school staff and families work together to help all children reach their potential (Iowa Area Education Agencies, 2006).

*Agricultural Literacy* — Possessing knowledge and understanding of our food and fiber system (Frick, Kahler, & Miller 1991, p. 52).

*Barriers* — A situation that prevents an educator from using the material.

*Elementary* — Students in kindergarten through fifth grade.

*Food, Land & People (FLP)* — An educational program targeted at pre-kindergarten through twelfth grade that incorporates agriculture into teachers’ lesson plans.
**FLP Facilitator** – Individuals who have taken the required 16 hours of FLP training including completing 10 lessons.

**High School** – Students in ninth through twelfth grade.

**Iowa FLP Staff** – Judy Levings, state FLP co-coordinator and Youth Development Specialist, Janet Anderson, state FLP co-coordinator and Youth Development Specialist, and other Iowa State University Extension 4-H Youth Development program specialists who assist with the FLP program in Iowa.

**Integration** – To incorporate into a larger unit (Webster, 1983).

**Middle School** – Students in sixth through eighth grade.

**National Research Council** – The National Research Council was established in 1916 to associate the broad community of science and technology with the National Academy of Sciences purpose of furthering knowledge and advising the federal government (National Research Council, 1988, p.ii).

**Resources for Learning** – A collection of FLP lessons that are available by CD-ROM or in paper format.
CHAPTER II. REVIEW OF LITERATURE

Integrating Agriculture into K-12 Classrooms

Agriculture has been integral to United States culture, economics, and industry since its founding. Agriculture provides, among other things, the clothes we wear, the food we eat, and fuel for our vehicles. Frick et al. (1991) defined an agriculturally literate person as one who possesses the knowledge and understanding of our food and fiber system and can synthesize, analyze, and communicate basic information about agriculture (p. 52). Students coming from farm backgrounds are declining, but the importance of agriculture must continue to be taught. Fewer than 30% of a sample (n = 2000) of Kansas students could give correct answers to basic agriculture questions (Horn & Vining study as cited in Frick, Harrison, & Machtmes, 1995). Several authors have discovered that schools throughout the nation are lacking in agriculturally literate students (Pense & Leising, 2004; Wright, Stewart, & Birkenhoz, 1994).

Although the National Research Council (NRC) recommends that agriculture should be taught in kindergarten through twelfth grade, Iowa does not have state educational standards that mandate teaching agriculture in the classroom. Agriculture can be integrated into several educational areas (Frick et al., 1991). Schools can incorporate agriculture into their curricula by planting gardens,
constructing butterfly conservatories, taking tours of agricultural farms and businesses, using agricultural topics in the classroom, and other agricultural related activities.

**Integrating Agriculture into Subject Areas**

Elementary teachers who have tried to integrate mathematics with science are often unsure of whether or not the integrated lessons will align with state educational standards (Lehman, 1994). Harris and Birkenholz (1996) studied the agricultural literacy of Missouri secondary school educators and recommended that pre-service teachers should take a course focusing on how to integrate agricultural topics into the classroom. There are several academic topics that agriculture can easily be integrated into such as biology and other science classes. “The challenge for educators in infusing food and fiber systems literacy into core academic subjects is recognizing existing connections” (Hubert, Frank, & Igo, 2000 p. 527). Lesson plans need to be developed for teachers that already have agriculture integrated into core subject areas (Pense & Leising, 2004).

Research conducted by Pense, Leising, Portillo, and Igo (2005) showed that teachers in lower grade levels (K-3) seem to integrate agriculture into their teaching better than teachers in the higher elementary levels (4-6). Knobloch and Martin (2002) recommended that organizations such as Food, Land, & People and
Agriculture in the Classroom should create resources for elementary teachers to help them develop resources for teaching agriculture. Teachers may be interested in teaching agriculture, but may not have the resources to adequately teach the subject (Balschweid, Cole, & Thompson, 1998). Terry et al. (1992) suggested having short in-service workshops for graduate credit to help teachers gain knowledge about how to incorporate agriculture into their curricula.

**Current Ag Literacy Programs**

Throughout the United States there are several agricultural literacy programs. Some of the well-known programs are Agriculture in the Classroom (AITC); Food, Land, & People (FLP); Partners in Active Learning (PALS); Project Learning Tree; Project Wild; and Summer Agriculture Institute (SAI).

AITC is a grassroots organization that was developed by the United States Department of Agriculture in 1981. The organization is present in every state throughout the United States. “Its goal is to help students gain a greater awareness of the role of agriculture in the economy and society, so that they may become citizens who support wise agricultural policies” (AITC, 2006).

Project FLP is a nonprofit organization currently in 29 states. Nationally the project is based out of Chandler, Arizona. Each of the 29 states has an agency or agencies in charge of housing the project. The goal of the project is to make
individuals aware of the interrelationship of agriculture, environment, and people of
the world (FLP, 2006). FLP has 55 educational lessons that teachers can use to
integrate agriculture into their curricula. Currently 20 FLP lessons have been
translated into Spanish.

PALS is an agricultural literacy program coordinated by the National FFA
organization. “PALS is a mentoring program that matches high school agriculture
students with elementary youngsters who have special needs” (FFA, 2006). High
school agriculture students go to elementary schools and conduct agriculture
activities with the students, or help the students with homework or other materials
they are working on.

SAI, “helps educators use Agriculture as a context (or theme) for teaching the
Academic Standards (science, math, social studies, english, etc.)” (Oregon State
University, 2006). The program is administered through Oregon State University,
and is offered to teachers in kindergarten through twelfth grade. It gives teachers
hands-on learning opportunities to learn first hand about agriculture.

Project Learning Tree began in 1976 and is an environmental education
program. The project is a grassroots organization with several volunteers. All 50
states have had workshops in Project Learning Tree. The mission of the organization
is,
To use the forest as a "window" on the world to increase students' understanding of our environment; stimulate students' critical and creative thinking; develop students' ability to make informed decisions on environmental issues; and instill in students the commitment to take responsible action on behalf of the environment (Project Learning Tree, 2006).

Project WILD's mission, "is to provide wildlife-based conservation and environmental education that fosters responsible actions toward wildlife and related natural resources" (Project WILD, 2006). The project was created in 1983 and has educated more than one million teachers. It is administered through the Council for Environmental Education (CEE).

**Development of Project Food, Land, & People**

After the NRC recommendations in 1988, a coalition of educators, agriculturalists, environmentalists, and resource conservationists who recognized that students in the United States lacked information about the relationship of food production, land and resource use, and human population, developed the Food, Land & People (FLP) project (FLP, n.d.). From 1989-1998 several educators and technical specialists reviewed FLP lesson plans. Several field tests and evaluations of the lessons were done throughout the United States. In 1998, the first copies of Resources for Learning, a collection of 55 FLP lessons, were printed.

"FLP envisions a future in which all people recognize the interdependence of agriculture, the environment, and human needs and work cooperatively to enhance
sustainable agricultural practices and informed consumer choices” (FLP, 2004, p. vi).

Project FLP has five guiding principles:

- Increases agricultural and environmental awareness, critical-thinking and problem-solving skills, cooperative attitudes, and appreciation for cultural differences;
- Upholds the highest standards in educational materials and educator-training opportunities;
- Develops materials by educators for educators that are designed for a variety of instructional settings and rigorously evaluated for use with students;
- Is objective and technically accurate in its curriculum, and its educational materials produced by FLP are independent of any particular interests or viewpoints of financial contributors and other supporters; and
- Expands upon and complements existing agricultural and environmental education programs (FLP, 2004 p. vi).

Currently there are 27 states that are FLP licensed affiliates. Becoming a licensed affiliate allows states to conduct FLP facilitator and teaching training in their own state. In order to receive FLP materials, educators must attend a workshop conducted by a FLP facilitator. After attending the workshop, educators are given
the FLP resources for learning materials. The materials have lesson plans for students in pre-kindergarten through twelfth grade.

**Barriers in Agricultural Literacy Programs**

FLP is just one of the many agricultural literacy programs in the nation used to teach agriculture in the classroom. The Summer Agriculture Institute (SAI) in Oregon was developed to help K-12 teachers incorporate agriculture into their curricula. Balschweid, Thompson, and Cole (1998) evaluated the SAI program, and identified barriers that prevented teachers from integrating agriculture lessons into their curricula. Results from the study indicated that the two greatest barriers were time spent incorporating agriculture into the lesson plans and access to supplies/materials/information.

Knobloch (1997) discovered that elementary teachers in Iowa want to incorporate agriculture into their lessons, but needed time, education, and support to be able to accomplish that. In 2000, Knobloch and Martin found 97% of teachers agreed that agriculture would enhance the curriculum, 84% agreed that agriculture could be taught in any subject matter, but 85% believed that elementary teachers are not trained to teach about agriculture. Balschweid, Thomspoon, & Cole (1998) also determined that having a, “local resource persons with dependable local information could help to alleviate the time constraint factor” (p. 8).
Demographic Characteristics of Teachers Taking FLP Training Workshops

During every Iowa FLP workshop, FLP staff had participants fill out a pre and post evaluation. Data collected during this process includes participant’s names, addresses, telephone numbers, e-mail addresses, and perceptions about teaching agriculture before and after the workshop. Currently, there is no data on what grade levels participants who take the FLP training workshop teach. However, there is data on what academic subjects participants are using with FLP materials. The two most popular subjects for integrating FLP lessons were science and social studies, while the least used subjects were seminar, special education, physical education, geography, and computer science (Levings, 2004).

FLP in Iowa

Since 1996, more than 1,300 Iowa educators participated in the FLP training workshop. Judy Levings, state FLP co-coordinator and Youth Development Specialist, conducted unpublished research on FLP teachers in the state of Iowa for a REAP Conservation Education Program grant in 2004. The study found that close to 70% of the teachers who attended the workshop learned about it from Area Education Agencies’ (AEA) catalogs and fliers or from a brochure at their school. Teachers were asked to list two things that they learned from the workshop. Fifty-seven percent listed that they learned new information and activities about the
environment, soil, water, and food. Another 44% of teachers mentioned that they learned new activities that could be integrated with a specific topic of interest or curriculum. Overall, the survey results showed that before taking the FLP training workshop, participants were not very interested or confident about teaching agriculture. After attending the workshop participants were more confident about teaching agricultural concepts (Levings, 2004).
CHAPTER III. METHODOLOGY

This study used descriptive survey research techniques to gather information about the participants and their use of FLP materials. Surveys allow researchers to summarize the characteristics of different groups, or to measure their attitudes and opinions towards some issue (Ary, Jacobs, Razavieh, & Soresen, 2006). A web-based survey was used in this study. One of the limitations of web-based surveys is that only those individuals with technology can respond to the survey (Ary et al.). Roos (2005) reported that, more than 90% of school buildings in Iowa have high-speed Internet access and nearly half have access to a wireless network. For this reason, a web-based survey was deemed appropriate for this research study.

Population

The target population for this study was K-12 educators who had taken Iowa FLP training workshops from 2000-2004. A list of workshop attendees was obtained from registration information collected by Iowa State University Extension 4-H Youth Development staff at FLP workshops in Iowa. All participants who were educators and had a valid e-mail address were included in the study, \( n = 149 \). Other workshop participants such as graduate students and 4-H leaders were removed from the list because the researcher wanted to look exclusively at how FLP materials were being using in Iowa’s K-12 curricula. Since the researcher had access
to all 149 e-mail addresses, a census study was conducted. To ensure accuracy, the researcher checked all e-mail addresses by looking up the educator’s school and making sure the participants had the same school e-mail address. The researcher double checked all addresses to make sure they were current, active, and not duplicated.

Instrumentation

This study used descriptive survey techniques to compile information about teachers in Iowa who had attended FLP training workshops, and the extent to which these teachers were using FLP materials in their classrooms. The research instrument used in this study was a four-part, descriptive survey modified from a survey created by Balschweid, et al. (1998) to describe the effectiveness of a summer agricultural literacy program at integrating agriculture into the classroom. The SAI survey addressed objectives similar to this study and was based upon agricultural literacy concepts identified by Frick et. al (1992) (Balschweid, et al., p. 4).

The SAI survey was a mailed survey. For this study, a web-based survey was developed using the SurveyMonkey® program. Questions were changed in the survey to reflect FLP workshops instead of SAI questions. In the SAI survey an example of a question would read, “as a result of attending a SAI the amount of agriculture you currently teach has increased, decreased, or stayed the same”
changed question would read, “as a result of attending a FLP workshop the amount of agriculture you currently teach has increased, decreased, or stayed the same”.

One additional section was added to Balschweid et al.‘s survey in order to determine the extent of use of individual FLP lessons by teachers. The FLP survey consisted of four sections and 39 questions.

Section one looked at teacher’s perceptions of barriers to implementing agriculture into existing lessons, implementing agriculture into their curriculum, and a need for teaching/learning about agriculture. This section had 13 statements educators ranked on a 5-point, Likert-type scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree). The Likert-type scale had scores ranging from: SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree.

In section two, the use of FLP lessons in the classroom was explored. The section contained a list of all 55 FLP lessons, and educators were asked to check a box if they had used the lesson. This would help the researcher identify lessons that are used the most frequently, and the lessons that are rarely used.

Section three looked at how agriculture had been implemented in the classroom after the educator had taken the FLP workshop. This section contained five multiple choice and six fill-in-the-blank questions. These questions asked if FLP
lessons had led to critical 4-H life skills of communication, leadership, and
citizenships and community service. This section also asked respondents what they
liked and disliked about the FLP workshop, and how often they integrated
agriculture and FLP into their lessons.

Section four contained questions regarding respondent’s demographic
characteristics. Respondents were asked to answer fill in the blank and multiple
choice questions regarding their teaching and agriculture experience, grade levels
and subjects taught, years lived in Iowa, population of town lived in, relatives living
or working on a farm, members of 4-H or FFA, highest educational degree, and
college major and minor.

Pilot Study

Face validity was determined by a panel of experts. The panel of experts was:
Judy Levings, state FLP co-coordinator and 4-H Youth Development Specialist, Janet
Anderson, state FLP co-coordinator and 4-H Youth Development Specialist, and Dr.
W. Wade Miller, professor of Agricultural Education and Studies and Curriculum
and Instruction at Iowa State University. Suggestions made by the panel of experts
were incorporated into the survey. The suggestions made by the panel were to add
questions asking participants whether or not the FLP materials led to key 4-H life
skills of leadership, community service and citizenship, and communication.
The SAI survey was pilot tested by 13 participants in a summer agricultural literacy program. However, to ensure that the survey was valid for FLP study purposes, the survey was pilot tested by five participants who took the FLP workshop in 2005. None of the responses collected in the pilot study were used in the study because respondents were not in the target population of 2000-2004. The reliability coefficient was measured on all scalable questions, and had a Cronbach’s Alpha of .771. Balschweid et al. (1998) also found the instrument to be reliable and valid.

Data Collection

The Iowa State University Institutional Review Board (IRB) approved this study on March 15, 2006, IRB ID # 06-137 (Appendix A). Dillman’s (2000) Tailored Design Method was used to guide contact with the research participants. The first correspondence with participants was an introductory e-mail sent by the researcher to each educator on March 22, 2006. On March 27, 2006, a link to the survey was e-mailed along with a note explaining the importance of participating in the study. Reminder e-mails, each containing a link to the survey, were sent on April 3, April 10, and April 19, 2006. On April 29, 2006, a hard copy of the survey was mailed to all nonrespondents in a final attempt to reach those who had not completed the survey. After respondents completed the web-based survey, they were forwarded to a Web
Data Analysis

Survey Monkey® automatically compiled survey data, and SPSS version 14 was used for further data analysis. Descriptive statistics included frequencies, percentages, means, and standard deviations. Inferential statistics used included Pearson product-moment correlation, independent t-test, Scheffe' post-hoc comparison, and one-way Analysis of Variance (ANOVA).

For objective one, frequencies, percentages, means, standard deviations, were used to analyze and report demographic information of FLP participants. For objective two, frequencies, percentages, means, and standard deviations were used to describe the extent to which educators were using FLP materials. Objective three was analyzed using means and standard deviations. For objective four, Pearson product-moment correlations, one-way ANOVA tables, and Scheffe' post-hoc comparisons were used to determine if demographic characteristics influence teachers' implementation of agriculture into their curricula. Davis' (1971) scale was used to describe the degree of correlation in the relationship: .70 and higher very
strong relationship, .50 – .69 substantial relationship, .30 – .49 moderate relationship, 
.10 – .29 low relationship, and .01 – .09 negligible relationship.

**Response Rate**

A link to the web-based survey was e-mailed to 149 educators who had taken an Iowa FLP training workshop between 2000 and 2004. Eleven participants declined to participate in the study resulting in an accessible population of 138 educators. Ninety-eight educators returned the survey for a 71% response rate. However, only 90 surveys had complete data, resulting in a 65% usable response rate.

The first invitation to participate in the survey was e-mailed on March 27, 2006, and within one week 25 educators had responded. On April 3, 2006, a reminder e-mail was sent, and 24 additional educators completed the survey. On April 10, 2006, another reminder was e-mailed, and 19 more educators completed the survey. A final e-mail was sent to educators on April 19, 2006, and 21 returned the survey. To attempt to reach nonrespondents, the researcher sent a paper copy of the survey through U.S. postal mail on April 29, 2006, to the 56 educators who had not responded, and asked them to either mail the survey back, or to fill it out online. The researcher received seven surveys back in the mail and one online. Table 1 shows the percent of response over a five week period.
Table 1. Response Rate of Survey Participants (n = 138)

<table>
<thead>
<tr>
<th>Week</th>
<th>Surveys Returned</th>
<th>Percent</th>
<th>Cumulative Percent</th>
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<tbody>
<tr>
<td>1</td>
<td>26</td>
<td>19%</td>
<td>19%</td>
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<tr>
<td>2</td>
<td>24</td>
<td>17%</td>
<td>36%</td>
</tr>
<tr>
<td>3</td>
<td>19</td>
<td>14%</td>
<td>50%</td>
</tr>
<tr>
<td>4</td>
<td>21</td>
<td>15%</td>
<td>65%</td>
</tr>
<tr>
<td>5</td>
<td>8</td>
<td>6%</td>
<td>71%</td>
</tr>
</tbody>
</table>

Fifty-six respondents had not completed the survey by April 29, 2006. On May 12, 2006, the researcher stopped receiving mailed and online surveys. Of the 56 nonrespondents, eight had returned the survey by the May 12 deadline. Independent t-tests were used to compare responses of respondents and the May 12 respondents on questions relating to implementing agriculture into the classroom. Only one question regarding implementing agriculture into the classroom, “Young people should have a solid understanding of agriculture” had a statistically significant (p < .05) difference p = .025. Therefore, it was concluded that all respondents were similar; therefore all responses were combined and used.
CHAPTER IV. FINDINGS

The purpose of this study was to describe how Iowa K-12 teachers who have participated in FLP workshops are using the FLP materials in their classroom. Four objectives guided the study:

1. Describe the demographic characteristics of teachers participating in FLP training workshops.

2. Determine the use of FLP lessons in the Iowa classrooms.

3. Identify barriers that are preventing teachers who have taken the FLP workshops from using the materials in their classrooms.

4. Determine if demographic characteristics influence teachers' implementation of agriculture into their curricula.

Throughout this chapter, the results are reported using the following categories: use of FLP materials, barriers to implementing FLP, demographic information of respondents, and determining if demographic characteristics influence teachers' implementation of agriculture into their curricula.

Objective 1: Demographic Characteristics of FLP Workshop Participants

Since 1996, the FLP workshops have been organized by Iowa State University Extension's 4-H Youth Development Program. FLP staff had collected pre and post workshop information from FLP respondents, but had not recorded or analyzed
demographic characteristics of educators taking the FLP workshop. The first objective for this study was to determine the demographic characteristics of educators taking the FLP workshops.

Participants ranged in age from 30 to 62 and had an average age of 48. A majority of respondents had lived in Iowa their entire life (M = 40). Eighty percent of educators who took FLP workshops were female (Figure 1). The mean years of teaching experience was 21 years, with a range from 7 to 38 years.

Educators who taught high school represented the largest group (38%) of respondents. Educational levels that teacher taught were segmented as follows: elementary (K-5), middle (6-8), and high school (9-12) (Table 2). Teachers who taught grade levels 8-12 or 7-12, were put in the high school category of educators because a majority of students they teach are at the high school level.

The 55 FLP lessons cover all grade levels with 26 lessons for elementary to high school, 19 lessons for elementary to middle school, and 10 lessons for middle to high school students. The top three subjects taught by respondents were: math (n = 28), science (n = 26), and reading (n = 16). Physical education, business education, and industrial technology had only one respondent (Table 3).
Figure 1. Gender of Respondents Attending the FLP Training Workshops (n = 84)

Table 2. Grade Level Taught by Respondents (n = 84)

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>n</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary (K-5)</td>
<td>28</td>
<td>33%</td>
<td>33%</td>
</tr>
<tr>
<td>Middle (6-8)</td>
<td>21</td>
<td>25%</td>
<td>58%</td>
</tr>
<tr>
<td>High School (9-12)</td>
<td>32</td>
<td>38%</td>
<td>96%</td>
</tr>
<tr>
<td>All Grades (K-12)</td>
<td>3</td>
<td>4%</td>
<td>100%</td>
</tr>
<tr>
<td>Cumulative Percent</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3. Subjects Taught by Respondents (n = 83)

<table>
<thead>
<tr>
<th>Subject</th>
<th>f</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math</td>
<td>28</td>
</tr>
<tr>
<td>Science</td>
<td>26</td>
</tr>
<tr>
<td>Reading</td>
<td>16</td>
</tr>
<tr>
<td>Social Science</td>
<td>14</td>
</tr>
<tr>
<td>Language Arts</td>
<td>12</td>
</tr>
<tr>
<td>All Subjects</td>
<td>10</td>
</tr>
<tr>
<td>Family &amp; Consumer Science</td>
<td>9</td>
</tr>
<tr>
<td>Spelling</td>
<td>6</td>
</tr>
</tbody>
</table>
Table 3. (Continued)

<table>
<thead>
<tr>
<th>Subject</th>
<th>( f )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>6</td>
</tr>
<tr>
<td>Special Education</td>
<td>6</td>
</tr>
<tr>
<td>English</td>
<td>5</td>
</tr>
<tr>
<td>Media</td>
<td>3</td>
</tr>
<tr>
<td>Writing</td>
<td>3</td>
</tr>
<tr>
<td>Spanish</td>
<td>3</td>
</tr>
<tr>
<td>Computers</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>3</td>
</tr>
<tr>
<td>Agricultural Education</td>
<td>2</td>
</tr>
<tr>
<td>Careers</td>
<td>2</td>
</tr>
<tr>
<td>Art</td>
<td>2</td>
</tr>
<tr>
<td>Industrial Technology</td>
<td>1</td>
</tr>
<tr>
<td>Physical Education</td>
<td>1</td>
</tr>
<tr>
<td>Business Education</td>
<td>1</td>
</tr>
</tbody>
</table>

Note. *Respondents could select more than one subject

Nearly 30% of educators live in a community in Iowa with a population of 2,501 to 10,000 (Table 4). Overall, educators were evenly distributed across all sizes of communities. The only exceptions were communities ranging from: 10,001 to 25,000 (9%) and more than 100,000 (6%). The other four community sizes all had percentages of 17 and above.

Seventy-eight percent of educators have relatives who live or work on a farm (Figure 2). However, only 13% of the educators took agricultural courses in high
school or college (Figure 3). Educators were not heavily involved with FFA, only 6% had been members of the organization. More than 40% of the educators had been members of 4-H at some point of their life (Figure 4).

The highest educational degree that any respondent holds is a master's degree plus 30 hours (24%) (Table 5). None of the respondents had an educational specialist or doctorate degree.

Table 4. Size of Community Respondents Live In (n = 83)

<table>
<thead>
<tr>
<th>Population</th>
<th>n</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 1,000</td>
<td>14</td>
<td>17%</td>
<td>17%</td>
</tr>
<tr>
<td>1,000-2,500</td>
<td>16</td>
<td>19%</td>
<td>36%</td>
</tr>
<tr>
<td>2,501-10,000</td>
<td>22</td>
<td>27%</td>
<td>63%</td>
</tr>
<tr>
<td>10,001-25,000</td>
<td>8</td>
<td>9%</td>
<td>72%</td>
</tr>
<tr>
<td>25,001-100,000</td>
<td>18</td>
<td>22%</td>
<td>94%</td>
</tr>
<tr>
<td>More than 100,000</td>
<td>5</td>
<td>6%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Figure 2. Respondents Who Have Relatives That Live or Work on Farms (n = 85)
Figure 3. Respondents Who Have Taken Agricultural Courses (n = 84)

Figure 4. Respondents’ Participation in FFA and 4-H (n = 85)

Table 5. Highest Educational Degree of Respondents (n = 85)

<table>
<thead>
<tr>
<th>Educational Degree</th>
<th>n</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor’s</td>
<td>9</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>Bachelor’s + 15</td>
<td>15</td>
<td>18%</td>
<td>28%</td>
</tr>
<tr>
<td>Bachelor’s + 30</td>
<td>18</td>
<td>21%</td>
<td>49%</td>
</tr>
<tr>
<td>Master’s</td>
<td>10</td>
<td>12%</td>
<td>61%</td>
</tr>
<tr>
<td>Master’s + 15</td>
<td>13</td>
<td>15%</td>
<td>76%</td>
</tr>
<tr>
<td>Master’s + 30</td>
<td>20</td>
<td>24%</td>
<td>100%</td>
</tr>
<tr>
<td>Educational Specialist</td>
<td>0</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>Doctorate</td>
<td>0</td>
<td>0%</td>
<td>100%</td>
</tr>
</tbody>
</table>
Objective 2: Use of FLP Lessons in Iowa Classrooms

In section two of the survey, respondents were asked which FLP lessons they used, how many FLP lessons they had integrated into their curriculum, whether or not the number of agriculture lessons they teach has increased, what some of the most positive things were about the FLP workshop, what their purpose was for attending the FLP workshop, how they found out about the workshop, and whether the FLP lessons led to community service, citizenship, communication, leadership, or knowledge gained in students.

Sixty-five educators marked at least one FLP lesson that they had used in their classroom (n = 82). The FLP lesson that was used the most was Fruits and Veggies (n = 28). Not far behind the Fruits and Veggies lesson was the Germ Busters lesson (n = 27) (Table 6). Rounding out the top four FLP lessons was What Is the Shape of Your Diet (n = 19) and Six Billion and Still Growing (n = 19). Only two lessons, Trading Favorites and Perc Through the Pores, were not used by any of the educators.
Table 6. Use of FLP Lessons by Educators $^a$

<table>
<thead>
<tr>
<th>FLP Lesson</th>
<th>$f$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruits and Veggies</td>
<td>28</td>
</tr>
<tr>
<td>Germ Busters</td>
<td>27</td>
</tr>
<tr>
<td>Six billion and still growing</td>
<td>19</td>
</tr>
<tr>
<td>What's the shape of your diet?</td>
<td>19</td>
</tr>
<tr>
<td>Tomatoes to Ketchup, Chickens to Omelettes</td>
<td>18</td>
</tr>
<tr>
<td>Tree-mendous</td>
<td>18</td>
</tr>
<tr>
<td>Seed Surprises</td>
<td>17</td>
</tr>
<tr>
<td>Be Label Abel</td>
<td>17</td>
</tr>
<tr>
<td>Breads Around the World</td>
<td>15</td>
</tr>
<tr>
<td>Lunchtime Favorites</td>
<td>15</td>
</tr>
<tr>
<td>Trash Bashing</td>
<td>15</td>
</tr>
<tr>
<td>Chewsy Choices</td>
<td>14</td>
</tr>
<tr>
<td>Let's Celebrate!</td>
<td>14</td>
</tr>
<tr>
<td>Piecing Together the Population Patterns</td>
<td>14</td>
</tr>
<tr>
<td>From Apple Core to Healthy Soil</td>
<td>14</td>
</tr>
<tr>
<td>Calorie Counting</td>
<td>14</td>
</tr>
<tr>
<td>Investing Insects</td>
<td>12</td>
</tr>
<tr>
<td>Global Grocery Bags</td>
<td>12</td>
</tr>
<tr>
<td>What Will the Land Support</td>
<td>12</td>
</tr>
<tr>
<td>The Plan and Me</td>
<td>11</td>
</tr>
<tr>
<td>Season Through the Year</td>
<td>11</td>
</tr>
<tr>
<td>We're Into Pumpkins</td>
<td>11</td>
</tr>
<tr>
<td>School Ground Caretakers</td>
<td>10</td>
</tr>
<tr>
<td>Cows or Condos?</td>
<td>10</td>
</tr>
<tr>
<td>Don't Use It All Up!</td>
<td>9</td>
</tr>
<tr>
<td>Loca for Cocoa</td>
<td>8</td>
</tr>
<tr>
<td>What Piece of the Pie?</td>
<td>8</td>
</tr>
<tr>
<td>Why I Buy</td>
<td>8</td>
</tr>
<tr>
<td>Soil Is Not Trivial</td>
<td>8</td>
</tr>
<tr>
<td>Less Elbowroom</td>
<td>8</td>
</tr>
<tr>
<td>From Fiber to Fashion</td>
<td>7</td>
</tr>
</tbody>
</table>
Table 6. (Continued)

<table>
<thead>
<tr>
<th>FLP Lesson</th>
<th>f</th>
</tr>
</thead>
<tbody>
<tr>
<td>Root, Root for Life</td>
<td>7</td>
</tr>
<tr>
<td>Step by Step</td>
<td>6</td>
</tr>
<tr>
<td>Buzzy, Buzzy, Bee</td>
<td>6</td>
</tr>
<tr>
<td>It All Starts with A</td>
<td>5</td>
</tr>
<tr>
<td>Your School Ground Through New Eyes</td>
<td>5</td>
</tr>
<tr>
<td>Banking on Seeds</td>
<td>5</td>
</tr>
<tr>
<td>Could It be Something They Ate?</td>
<td>5</td>
</tr>
<tr>
<td>Gifts from the Sun</td>
<td>5</td>
</tr>
<tr>
<td>Feed the Need</td>
<td>4</td>
</tr>
<tr>
<td>Managing Pest</td>
<td>4</td>
</tr>
<tr>
<td>GO, GO H2O</td>
<td>3</td>
</tr>
<tr>
<td>From Sea to Shining Sea</td>
<td>3</td>
</tr>
<tr>
<td>Till We or Won’t We</td>
<td>3</td>
</tr>
<tr>
<td>Amazing Grazing</td>
<td>3</td>
</tr>
<tr>
<td>Gala Fiesta Jamboree</td>
<td>2</td>
</tr>
<tr>
<td>Expression Connection</td>
<td>2</td>
</tr>
<tr>
<td>In Harmony</td>
<td>2</td>
</tr>
<tr>
<td>To Whom It May Concern</td>
<td>2</td>
</tr>
<tr>
<td>Cleared for Takeoff</td>
<td>2</td>
</tr>
<tr>
<td>Nail by Nail, Board by Board</td>
<td>2</td>
</tr>
<tr>
<td>Mighty Macros</td>
<td>1</td>
</tr>
<tr>
<td>By the Way</td>
<td>1</td>
</tr>
<tr>
<td>Trading Favorites</td>
<td>0</td>
</tr>
<tr>
<td>Perc Through the Pores</td>
<td>0</td>
</tr>
</tbody>
</table>

Note. * Could select more than one FLP lesson.
On average, educators that have taken the FLP training workshops have implemented four FLP lessons into their curricula \((n = 79)\). Sixty-five percent of educators indicated that since attending a FLP workshop the number of lessons they teach that integrate agriculture has increased (Figure 5).

Eighty-three percent of educators indicated that they did not use leadership activities with FLP lessons, and 78% indicated not having community service and citizenship activities in conjunction with FLP lessons (Table 7). However, 41% of educators had used communication activities in the classroom after attending the FLP workshop. Close to 90% of educators indicated that FLP had led to knowledge being gained by students. Educators’ responses to open-ended questions about FLP lessons leading or not leading to leadership, community service and citizenship, communication, and knowledge gained in students are shown in Tables 8-11.

![Pie chart showing data](image)

*Figure 5. Amount of Agricultural Lessons Taught After Attending an FLP Training Workshop \((n = 84)\)*
Table 7. Percentages of Educators Who Thought that FLP Led to Other Activities in the Classroom

<table>
<thead>
<tr>
<th>Activity</th>
<th>n</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>82</td>
<td>17%</td>
<td>83%</td>
</tr>
<tr>
<td>Community Service and Citizenship</td>
<td>82</td>
<td>22%</td>
<td>78%</td>
</tr>
<tr>
<td>Communication</td>
<td>79</td>
<td>41%</td>
<td>59%</td>
</tr>
<tr>
<td>Knowledge Gained in Students</td>
<td>81</td>
<td>86%</td>
<td>14%</td>
</tr>
</tbody>
</table>

Table 8. Educators’ Responses to Question#24, “Did the FLP Lessons Lead to Leadership Activities”

Comments

Don’t know. Not where I have seen in the classroom.

Small group work and presentations.

Students had responsibilities within the lessons, and someone was usually called upon to be the leader of the activity or a portion of the activity.

May term projects.

The students contacted outside sources for help.

Yes, somewhat.

Our students connected with our local community gardening organization.
Table 9. Responses to Question #22, “Did the FLP Lessons Lead to Community Service or Citizenship Activities”

Comments

YES...several students went out on Earth day and helped with cleanup of the area and did some recycling.

Just don't have the time to set it all up.

We clean the school yard and plant flowers for school.

Caring for our environment is a responsibility.

We planted flowers for a habitat for humanity house in town.

Random Acts of Kindness class activities.

Tree Program Participation.

Time limits.

No time.

No, as stated above different position.

The students would on a garden project, growing plants, planting.

They haven't, but I realize they could. Hopefully, in future years, this will occur.

Earth Day focus and clean up around school. Awareness to activities they could be involved in.

Students helped beautify our school grounds using concepts learned in the lessons.

Planted trees. Developed summer activities.

The ones I used fit in with my normal curriculum.

I was already involved with some.

Planted 2 trees in front of school.
Table 10. Educators' Responses to Question #23, "Did the FLP Lessons Lead to Communication Activities"

<table>
<thead>
<tr>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students shared information with parents.</td>
</tr>
<tr>
<td>We were doing an advertising unit and Why I Buy fit in very well. We also did some other part of a lesson but I am not sure which one at this time.</td>
</tr>
<tr>
<td>Students used FLP lessons to create speeches for the required speech class.</td>
</tr>
<tr>
<td>Small group work and presentations.</td>
</tr>
<tr>
<td>Students must communicate with each other within the lesson structure.</td>
</tr>
<tr>
<td>Within the classroom and with their families.</td>
</tr>
<tr>
<td>Lots of writing activities were incorporated.</td>
</tr>
<tr>
<td>Yes because when I did the gift from the sun activity, I had the students write a story about the water's journey through the water cycle which is communicating to me their understanding and their communications skills.</td>
</tr>
<tr>
<td>Small group and class discussion.</td>
</tr>
<tr>
<td>Shared some lessons with fellow teachers.</td>
</tr>
<tr>
<td>I did not follow up as much as I might have.</td>
</tr>
<tr>
<td>Discussion.</td>
</tr>
<tr>
<td>Students are sharing comments, which gives others ideas of what the Agriculture industry is about.</td>
</tr>
<tr>
<td>No, for me it didn't, but many of the lessons certainly would do that.</td>
</tr>
<tr>
<td>Sometimes required writing assignments to assess.</td>
</tr>
<tr>
<td>Students shared their results with others.</td>
</tr>
</tbody>
</table>
Table 10. (Continued)

- Comments
  - Students have written letters for inclusion in our newsletter dealing with some of the lessons.

  - With colleagues in school building.

  - Leads to discussion in the classroom.

  - Student written activities included information sent home on what was learned.

  - Overpopulation is a stimulating topic for discussion.

Table 11. Educators’ Responses to Question 25, “Did the FLP Lessons Lead to Knowledge Gained in Students”

- Comments
  - Most of my students live in town and had no idea about many ag related things.

  - It fit with the content of lessons.

  - Use math to look at statistics.

  - Gave them ag info they would not have gotten otherwise.

  - Observations.

  - They really liked the activities.

  - Material was covered that they were not aware of.

  - Added to our regular plant curriculum.

  - Students love the activities so they learn from them.

  - I never did a formal assessment, but kids were excited and could follow-through with the lessons.
Educators were asked to rate their responses to four statements about implementing agriculture into their curriculum after attending an FLP workshop. Using a Likert-type scale ranging from 1 – strongly disagree to 5 – strongly agree. After attending an FLP workshop, educators had a mean score of 4.04 for, “Felt prepared to implement agriculture into my lesson” and a mean score of 4.12 for, “Lessons the FLP facilitator went over during the workshop were useful to helping implement agriculture.” “FLP materials have been useful in implementing agriculture into the curriculum” and “Other teachers in my school have implemented agriculture into their curriculum as a result of me attending a FLP workshop” had lower mean scores (Table 12).
Table 12. Educators’ Responses to Statements Regarding Implementing Agriculture into Their Curriculum

<table>
<thead>
<tr>
<th>Statement</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lessons the FLP facilitator went over were useful to helping implement agriculture.</td>
<td>90</td>
<td>4.04</td>
<td>.87</td>
</tr>
<tr>
<td>Felt prepared to implement agriculture into my lessons.</td>
<td>90</td>
<td>4.12</td>
<td>1.00</td>
</tr>
<tr>
<td>FLP materials have been useful in implementing agriculture into the curriculum.</td>
<td>90</td>
<td>3.77</td>
<td>1.15</td>
</tr>
<tr>
<td>Other teachers in my school have implemented agriculture into their curriculum as a result of me attending a FLP workshop.</td>
<td>90</td>
<td>2.63</td>
<td>1.18</td>
</tr>
</tbody>
</table>

Note. Mean Scale = 1 – strongly disagree, 2 – disagree, 3 – neutral, 4 – agree, 5 – strongly agree

Educators were asked to rate their beliefs about the effectiveness and appropriateness of FLP materials presented at the workshop using a Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). Mean scores ranged from 4.22 for “Appropriate for my grade level and subject area” to 4.61 for “At the appropriate level for my understanding” (Table 13).

Table 13. Educators’ Agreement with Statement Regarding the Effectiveness and Appropriateness of Materials Presented at the FLP Workshop

<table>
<thead>
<tr>
<th>FLP Material Presented was:</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>At the appropriate level for my understanding</td>
<td>89</td>
<td>4.61</td>
<td>.51</td>
</tr>
<tr>
<td>Effective</td>
<td>89</td>
<td>4.43</td>
<td>.58</td>
</tr>
<tr>
<td>Appropriate for my grade level and subject area</td>
<td>88</td>
<td>4.22</td>
<td>.86</td>
</tr>
</tbody>
</table>

Note. Mean Scale = 1 – strongly disagree, 2 – disagree, 3 – neutral, 4 – agree, 5 – strongly agree
Educators ranked the importance of statements regarding teaching and learning about agriculture using a Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). All statements had mean scores above 4.00 and ranged from 4.03 for, “There is a need for teachers to attend FLP workshops to update themselves about agriculture” to 4.31, “Young people should have a solid understanding of agriculture” (Table 14).

**Table 14. Educator’s Responses to Statements Regarding the Need to Teach Agriculture and the Need for Students to Learn about Agriculture**

<table>
<thead>
<tr>
<th>Need for teaching/learning about agriculture</th>
<th>$n$</th>
<th>$M$</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young people should have a solid understanding of agriculture.</td>
<td>88</td>
<td>4.31</td>
<td>.55</td>
</tr>
<tr>
<td>Implementing agriculture into my curriculum gives students real-life connections to the subject matter.</td>
<td>88</td>
<td>4.13</td>
<td>.93</td>
</tr>
<tr>
<td>FLP provides a foundation in agriculture knowledge that is useful in implementing agricultural concepts into my curriculum.</td>
<td>88</td>
<td>4.06</td>
<td>.85</td>
</tr>
<tr>
<td>There is a need for teachers to attend FLP workshops to update themselves about agriculture.</td>
<td>88</td>
<td>4.03</td>
<td>.69</td>
</tr>
</tbody>
</table>

*Note. Mean Scale = 1 – strongly disagree, 2 – disagree, 3 – neutral, 4 – agree, 5 – strongly agree*

Educators were also asked to respond to several open-ended questions about their FLP workshop experiences. Educators reported finding out about the FLP workshop through a flyer or pamphlet that was sent to them or was posted in the teachers lounge ($n = 36$), through other teachers, friends, and past participants
Thirty-seven educators reported participating in the FLP workshop to gain credits for teacher recertification or for graduate credit. Twenty-one stated that they took the workshop to get new teaching materials and lessons to use in their classroom. Thirteen wanted to learn how to teach agriculture in the classroom. When asked to recall the most positive things about FLP workshops, 37 educators said that they enjoyed the FLP lessons, the ease of use and getting to use them in the workshop, 9 enjoyed the good facilitator/presenters, and 8 liked hearing ideas from other teachers in their profession. Appendix B contains a list of all responses, responses to that question can be found on page 92, question 13.

**Objective 3: Barriers to Implementing FLP**

The third objective of the study was to determine any barriers that educators faced regarding implementation of agriculture and/or FLP into their curricula's. Educators were asked to rate the extent to which they agreed that the six items were barriers to implementing agriculture and/or FLP in the classroom (Table 15). A Likert-type scale was used ranging from 1 (strongly agree) to 5 (strongly disagree). The mean scores ranged from 2.00 “Time” to 3.82 for, “Lack of interest on my part”. In a related open-ended question, 12 educators mentioned No Child Left Behind (NCLB) legislation and aligning curriculum with state and local benchmarks and standards as barriers (Table 16).
Table 15. Barriers of Implementing Agriculture and/or FLP into the Classroom.

<table>
<thead>
<tr>
<th>Barriers</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>85</td>
<td>2.00</td>
<td>1.00</td>
</tr>
<tr>
<td>A change in the subject area that I teach</td>
<td>88</td>
<td>2.93</td>
<td>1.18</td>
</tr>
<tr>
<td>A change in teaching appointment</td>
<td>87</td>
<td>3.03</td>
<td>1.20</td>
</tr>
<tr>
<td>Lack of follow-up from FLP workshop facilitator</td>
<td>86</td>
<td>3.60</td>
<td>0.88</td>
</tr>
<tr>
<td>Lack of student interest</td>
<td>86</td>
<td>3.64</td>
<td>0.89</td>
</tr>
<tr>
<td>Lack of interest on my part</td>
<td>87</td>
<td>3.82</td>
<td>0.90</td>
</tr>
</tbody>
</table>

*Note.* Mean Score = 1 – strongly agree, 2 – agree, 3 – neutral, 4 – disagree, 5 – strongly disagree

Table 16. Educators’ Responses to Question #13, “Other Barriers to Including Agriculture and/or FLP in the Classroom.”

**Responses**

NCLB... This legislation has made the use of materials from any workshops difficult to implement into curriculum as districts are focusing more on meeting testing scores in core areas the NCLB mandates.

I used Why I Buy when I taught eight grade communications. I also gave copies of a few programs to family consumer science teacher. I have not been at that grade level for the last three years. I recently looked through the notebook because I am required to teach a mini course to K-5th graders. I couldn’t find anything that I thought would work for that age range in a short one time lesson of forty minutes.

I have switched districts and I am now a reading specialist rather than a classroom teacher.

I am an AEA consultant and am not in the classroom.

Current local curriculum.

I am a naturalist and not a classroom teacher. So most of the subjects I teach about are not ag related.

Too much curriculum already.

We are held accountable for standards and benchmarks in our district. It would be necessary to fit the FLP lessons into existing units of study and align with standards and benchmarks.
**Table 16. (Continued)**

<table>
<thead>
<tr>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time and resources are the main barriers.</td>
</tr>
<tr>
<td>Fitting it in with current curriculum areas.</td>
</tr>
<tr>
<td>District and State assessments, other mandated materials that have taken away available time.</td>
</tr>
<tr>
<td>Demands made by curriculum already in place. Increased pressure for high test scores, so less time to do the extra.</td>
</tr>
<tr>
<td>Lack of math applications.</td>
</tr>
<tr>
<td>My first grade objectives do not match up with the FLP curriculum except in our plant unit and a bit in our animal unit. Some of the activities were great for my grade level but science is not a big part of our day and I don't have time for a lot of 'extra' lessons. We struggle just to get through our basic curriculum.</td>
</tr>
<tr>
<td>The largest barrier I face is the materials are in English and some in Spanish. My problem is that I also work with students of other languages. I find it very difficult for all of my students to get to the 'meat' of the lessons with the language barriers. This is a great program!! Thanks!</td>
</tr>
<tr>
<td>I only teach 1 foods related course and we are in an articulation agreement with Kirkwood. Sometimes it's hard to do much from FLP curriculum as I'd like.</td>
</tr>
<tr>
<td>I am a resource teacher, so more and more I am simply supporting what occurs in the regular classroom. Because of NCLB, I don't teach as much of my own curriculum as I used to.</td>
</tr>
<tr>
<td>Huge pressure for Standards and Benchmarks and an emphasis on Reading, Math, and Science curriculum.</td>
</tr>
<tr>
<td>The class was to address all grade levels and disciplines. After I had enrolled in the class, I found that there was not much material for me, a high school math teacher.</td>
</tr>
</tbody>
</table>
Objective 4: Determine if Demographic Characteristics Influence Teachers' Implementation of Agriculture into Their Curricula

The last objective of the study compared three selected demographic characteristics to educators' responses to implementing agriculture into the classroom questions. Correlations, one-way ANOVA tables, and Scheffe' post-hoc comparisons were computed to analyze the data.

There were no strong correlations when comparing years of teaching experience with educators' responses to questions about implementing agriculture into the curriculum, FLP material, need for teaching and learning about agriculture, and barriers to integrating FLP and/or agriculture into the curriculum (Table 17).

Eleven of the 17 questions had negligible relationship with coefficients less the .09. Six questions had low relationships with coefficients between .10 and .29.

Table 17. Pearson Correlation Coefficients for Years of Teaching Experience and Implementing Agriculture into Their Classroom Questions (n = 75)

<table>
<thead>
<tr>
<th>Questions</th>
<th>r</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I felt prepared to implement agriculture into my lessons after attending</td>
<td>-.06</td>
<td>.61</td>
</tr>
<tr>
<td>an FLP workshop.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. The lessons the FLP facilitator went over were useful to helping me</td>
<td>.04</td>
<td>.76</td>
</tr>
<tr>
<td>implement agriculture into the curriculum.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. The FLP materials have been useful in implementing agriculture into</td>
<td>-.06</td>
<td>.62</td>
</tr>
<tr>
<td>the curriculum.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 17. (Continued)

<table>
<thead>
<tr>
<th>Responses</th>
<th>$r$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Material presented at the FLP workshop was appropriate for my grade level and subject area.</td>
<td>.12</td>
<td>.27</td>
</tr>
<tr>
<td>7. Material presented at the FLP workshop was at the appropriate level for my understanding.</td>
<td>.02</td>
<td>.83</td>
</tr>
<tr>
<td>8. There is a need for teachers to attend FLP workshops to update themselves about agriculture.</td>
<td>-.04</td>
<td>.71</td>
</tr>
<tr>
<td>9. Young people should have a solid understanding of agriculture.</td>
<td>-.06</td>
<td>.62</td>
</tr>
<tr>
<td>10. Implementing agriculture into my curriculum gives students real-life connection to the subject matter.</td>
<td>-.15</td>
<td>.19</td>
</tr>
<tr>
<td>11. FLP provides a foundation in agriculture knowledge that is useful in implementing agricultural concepts into my curriculum.</td>
<td>-.15</td>
<td>.17</td>
</tr>
<tr>
<td>12a. Barriers to including agriculture or FLP in the classroom: Time.</td>
<td>.01</td>
<td>.92</td>
</tr>
<tr>
<td>12b. Barriers to including agriculture or FLP in the classroom: Lack of interest on my part.</td>
<td>-.01</td>
<td>.90</td>
</tr>
<tr>
<td>12c. Barriers to including agriculture or FLP in the classroom: Lack of student interest.</td>
<td>.09</td>
<td>.43</td>
</tr>
<tr>
<td>12d. Barriers to including agriculture or FLP in the classroom: Lack of follow-up from FLP workshop facilitator.</td>
<td>-.11</td>
<td>.32</td>
</tr>
<tr>
<td>12e. Barriers to including agriculture or FLP in the classroom: A change in teaching appointment.</td>
<td>-.20</td>
<td>.07</td>
</tr>
<tr>
<td>12f. Barriers to including agriculture or FLP in the classroom: A change in the subject area that I teach.</td>
<td>-.14</td>
<td>.22</td>
</tr>
</tbody>
</table>

$p < .05$
Educators were placed in one of four categories depending on grade levels taught: elementary, middle, high, and all grades. There were not enough educators in the all grades category to do an adequate analysis. Therefore, a comparison was done between elementary, middle, and high school grade levels taught and responses to 17 selected survey questions. Statistical significance was found between grade levels taught and the following responses: “Lessons the FLP facilitator went over were useful to helping me implement agriculture into the curriculum” ($p = .02$), “Lack of interest on my part” ($p = .01$), “Lack of student interest” ($p = .02$), and “Lack of follow-up from FLP workshop facilitator” ($p = .04$) (Table 18 and Table 19).

Table 18. Comparing the Education Level that Respondents Teach to Implementing Agriculture into the Classroom Questions ($n = 75$)

<table>
<thead>
<tr>
<th>Questions</th>
<th>F</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I felt prepared to implement agriculture into my lessons after attending an FLP workshop.</td>
<td>2.590</td>
<td>.083</td>
</tr>
<tr>
<td>2. The lessons the FLP facilitator went over were useful to helping me implement agriculture into the curriculum.</td>
<td>4.002</td>
<td>.023*</td>
</tr>
<tr>
<td>3. The FLP materials have been useful in implementing agriculture into the curriculum.</td>
<td>2.821</td>
<td>.067</td>
</tr>
<tr>
<td>4. Other teachers in my school have implemented agriculture into their curriculum as a result of me attending the FLP workshop.</td>
<td>1.071</td>
<td>.349</td>
</tr>
<tr>
<td>5. Material presented at the FLP workshop was effective.</td>
<td>1.611</td>
<td>.208</td>
</tr>
</tbody>
</table>
Table 18. (Continued)

<table>
<thead>
<tr>
<th>Questions</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. There is a need for teachers to attend FLP workshops to update themselves about agriculture.</td>
<td>.411</td>
<td>.665</td>
</tr>
<tr>
<td>9. Young people should have a solid understanding of agriculture.</td>
<td>2.024</td>
<td>.140</td>
</tr>
<tr>
<td>10. Implementing agriculture into my curriculum gives students real-life connection to the subject matter.</td>
<td>.193</td>
<td>.825</td>
</tr>
<tr>
<td>11. FLP provides a foundation in agriculture knowledge that is useful in implementing agricultural concepts into my curriculum.</td>
<td>1.447</td>
<td>.243</td>
</tr>
<tr>
<td>12a. Barriers to including agriculture or FLP in the classroom: Time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12b. Barriers to including agriculture or FLP in the classroom: Lack of interest on my part</td>
<td>4.724</td>
<td>.012*</td>
</tr>
<tr>
<td>12c. Barriers to including agriculture or FLP in the classroom: Lack of student interest</td>
<td>3.979</td>
<td>.024*</td>
</tr>
<tr>
<td>12d. Barriers to including agriculture or FLP in the classroom: Lack of follow-up from FLP workshop facilitator</td>
<td>3.528</td>
<td>.035*</td>
</tr>
<tr>
<td>12e. Barriers to including agriculture or FLP in the classroom: A change in teaching appointment</td>
<td>.290</td>
<td>.750</td>
</tr>
<tr>
<td>12f. Barriers to including agriculture or FLP in the classroom: A change in the subject area that I teach</td>
<td>.665</td>
<td>.518</td>
</tr>
</tbody>
</table>

*p < .05
Table 19. Mean Scores on Implementing Agriculture into the Classroom Questions Categorized by Educational Level Taught (n = 75)

<table>
<thead>
<tr>
<th>Item</th>
<th>K-5</th>
<th></th>
<th>6-8</th>
<th></th>
<th>9-12</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>1</td>
<td>4.46</td>
<td>.66</td>
<td>4.00</td>
<td>.77</td>
<td>4.12</td>
<td>.67</td>
</tr>
<tr>
<td>2</td>
<td>4.67</td>
<td>.56</td>
<td>4.11</td>
<td>.83</td>
<td>4.28</td>
<td>.61</td>
</tr>
<tr>
<td>3</td>
<td>4.42</td>
<td>.83</td>
<td>3.83</td>
<td>.92</td>
<td>3.96</td>
<td>.84</td>
</tr>
<tr>
<td>4</td>
<td>3.33</td>
<td>1.20</td>
<td>2.78</td>
<td>1.22</td>
<td>2.96</td>
<td>1.37</td>
</tr>
<tr>
<td>5</td>
<td>4.54</td>
<td>.51</td>
<td>4.22</td>
<td>.65</td>
<td>4.44</td>
<td>.58</td>
</tr>
<tr>
<td>6</td>
<td>4.46</td>
<td>.51</td>
<td>4.06</td>
<td>1.30</td>
<td>4.24</td>
<td>1.01</td>
</tr>
<tr>
<td>7</td>
<td>4.42</td>
<td>.58</td>
<td>4.67</td>
<td>.49</td>
<td>4.72</td>
<td>.46</td>
</tr>
<tr>
<td>8</td>
<td>4.17</td>
<td>.82</td>
<td>4.00</td>
<td>.49</td>
<td>4.00</td>
<td>.76</td>
</tr>
<tr>
<td>9</td>
<td>4.50</td>
<td>.51</td>
<td>4.17</td>
<td>.62</td>
<td>4.28</td>
<td>.54</td>
</tr>
<tr>
<td>10</td>
<td>4.38</td>
<td>.58</td>
<td>4.22</td>
<td>.94</td>
<td>4.32</td>
<td>.85</td>
</tr>
<tr>
<td>11</td>
<td>4.29</td>
<td>.55</td>
<td>4.06</td>
<td>.80</td>
<td>4.40</td>
<td>.65</td>
</tr>
<tr>
<td>12a</td>
<td>1.95</td>
<td>1.20</td>
<td>2.50</td>
<td>1.38</td>
<td>2.00</td>
<td>1.00</td>
</tr>
<tr>
<td>12b</td>
<td>4.13</td>
<td>.68</td>
<td>3.33</td>
<td>.77</td>
<td>3.84</td>
<td>.99</td>
</tr>
<tr>
<td>12c</td>
<td>4.04</td>
<td>.62</td>
<td>3.33</td>
<td>.69</td>
<td>3.64</td>
<td>1.04</td>
</tr>
<tr>
<td>12d</td>
<td>3.79</td>
<td>1.02</td>
<td>3.00</td>
<td>1.08</td>
<td>3.56</td>
<td>.82</td>
</tr>
<tr>
<td>12e</td>
<td>3.04</td>
<td>1.52</td>
<td>2.72</td>
<td>1.23</td>
<td>2.92</td>
<td>1.26</td>
</tr>
<tr>
<td>12f</td>
<td>2.75</td>
<td>1.36</td>
<td>2.61</td>
<td>1.29</td>
<td>3.04</td>
<td>1.14</td>
</tr>
</tbody>
</table>

Note. Mean Scale on Questions 1-11: Scale 1 – (Strongly Disagree), 2 – (Disagree) 3 – (Neutral) 4 – (Agree) 5 – (Strongly Agree). Mean Scale on Questions 12a-12f: Scale 1 – (Strongly Agree), 2 – (Agree) 3 – (Neutral) 4 – (Disagree) 5 – (Strongly Disagree).

A Scheffe’ post-hoc comparison test was used for further statistical comparisons on the group mean scores. On each of the statistically significant responses, Scheffe’ test showed a difference between the elementary and middle school teachers’ responses on each of the four questions. On, “The lessons the FLP
facilitator went over were useful to helping me implement agriculture into the curriculum” elementary teachers had a mean score of 4.67 and elementary teachers had a mean score of 4.11. However, the next three statistically significant differences were with questions dealing with, “Barriers to including agriculture and/or FLP in the classroom”. The following responses, “Lack of interest on my part”, “Lack of student interest”, and “Lack of follow-up from FLP workshop facilitator” elementary school teachers had mean scores between 3.79 and 4.13, and middle school teachers had mean scores from 3.00 to 3.33.

There were no statistically significant differences when comparing size of community that respondents lived in to responses on integrating agriculture into the classroom (Table 20 and 21).

Table 20. Comparing the Size of Community that Respondents Live in to Implementing Agriculture into the Classroom Questions (n = 75)

<table>
<thead>
<tr>
<th>Questions</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I felt prepared to implement agriculture into my lessons after attending an FLP workshop.</td>
<td>1.401</td>
<td>.233</td>
</tr>
<tr>
<td>2. The lessons the FLP facilitator went over were useful to helping me implement agriculture into the curriculum.</td>
<td>.765</td>
<td>.578</td>
</tr>
<tr>
<td>3. The FLP materials have been useful in implementing agriculture into the curriculum.</td>
<td>.577</td>
<td>.718</td>
</tr>
<tr>
<td>4. Other teachers in my school have implemented agriculture into their curriculum as a result of me attending the FLP workshop.</td>
<td>.675</td>
<td>.644</td>
</tr>
<tr>
<td>5. Material presented at the FLP workshop was effective.</td>
<td>.533</td>
<td>.751</td>
</tr>
</tbody>
</table>
Table 20. (Continued)

<table>
<thead>
<tr>
<th>Questions</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. There is a need for teachers to attend FLP workshops to update themselves about agriculture.</td>
<td>.186</td>
<td>.967</td>
</tr>
<tr>
<td>9. Young people should have a solid understanding of agriculture.</td>
<td>.206</td>
<td>.959</td>
</tr>
<tr>
<td>10. Implementing agriculture into my curriculum gives students real-life connection to the subject matter.</td>
<td>1.605</td>
<td>.169</td>
</tr>
<tr>
<td>11. FLP provides a foundation in agriculture knowledge that is useful in implementing agricultural concepts into my curriculum.</td>
<td>2.000</td>
<td>.088</td>
</tr>
<tr>
<td>12a. Barriers to including agriculture or FLP in the classroom: Time</td>
<td>1.969</td>
<td>.093</td>
</tr>
<tr>
<td>12b. Barriers to including agriculture or FLP in the classroom: Lack of interest on my part</td>
<td>.788</td>
<td>.561</td>
</tr>
<tr>
<td>12c. Barriers to including agriculture or FLP in the classroom: Lack of student interest</td>
<td>.531</td>
<td>.752</td>
</tr>
<tr>
<td>12d. Barriers to including agriculture or FLP in the classroom: Lack of follow-up from FLP workshop facilitator</td>
<td>.634</td>
<td>.675</td>
</tr>
<tr>
<td>12e. Barriers to including agriculture or FLP in the classroom: A change in teaching appointment</td>
<td>.897</td>
<td>.487</td>
</tr>
<tr>
<td>12f. Barriers to including agriculture or FLP in the classroom: A change in the subject area that I teach</td>
<td>.629</td>
<td>.678</td>
</tr>
</tbody>
</table>

*p < .05
Table 21. Mean Scores for Implementing Agriculture into the Classroom Questions Categorized by Size of Community that Respondents Live In

<table>
<thead>
<tr>
<th>Item #</th>
<th>Level a M</th>
<th>Level a SD</th>
<th>Level b M</th>
<th>Level b SD</th>
<th>Level c M</th>
<th>Level c SD</th>
<th>Level d M</th>
<th>Level d SD</th>
<th>Level e M</th>
<th>Level e SD</th>
<th>Level f M</th>
<th>Level f SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4.21</td>
<td>.58</td>
<td>4.44</td>
<td>.63</td>
<td>4.23</td>
<td>.69</td>
<td>4.12</td>
<td>.64</td>
<td>3.94</td>
<td>.66</td>
<td>4.60</td>
<td>.55</td>
</tr>
<tr>
<td>2</td>
<td>4.35</td>
<td>.63</td>
<td>4.50</td>
<td>.63</td>
<td>4.41</td>
<td>.80</td>
<td>4.12</td>
<td>.64</td>
<td>4.18</td>
<td>.53</td>
<td>4.60</td>
<td>.55</td>
</tr>
<tr>
<td>3</td>
<td>4.07</td>
<td>.83</td>
<td>4.19</td>
<td>.75</td>
<td>4.14</td>
<td>.94</td>
<td>4.25</td>
<td>1.16</td>
<td>3.82</td>
<td>.73</td>
<td>4.40</td>
<td>.55</td>
</tr>
<tr>
<td>4</td>
<td>3.00</td>
<td>1.36</td>
<td>2.94</td>
<td>1.24</td>
<td>3.09</td>
<td>1.51</td>
<td>3.75</td>
<td>1.49</td>
<td>2.76</td>
<td>1.03</td>
<td>3.20</td>
<td>.45</td>
</tr>
<tr>
<td>5</td>
<td>4.50</td>
<td>.52</td>
<td>4.56</td>
<td>.63</td>
<td>4.55</td>
<td>.60</td>
<td>4.38</td>
<td>.52</td>
<td>4.29</td>
<td>.59</td>
<td>4.40</td>
<td>.55</td>
</tr>
<tr>
<td>6</td>
<td>4.36</td>
<td>.50</td>
<td>4.31</td>
<td>.60</td>
<td>4.05</td>
<td>1.17</td>
<td>4.25</td>
<td>.46</td>
<td>4.41</td>
<td>.62</td>
<td>4.60</td>
<td>.55</td>
</tr>
<tr>
<td>7</td>
<td>4.57</td>
<td>.51</td>
<td>4.75</td>
<td>.45</td>
<td>4.77</td>
<td>.43</td>
<td>4.50</td>
<td>.53</td>
<td>4.41</td>
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*Note: Level a = Under 1,000, Level b = 1,000-2,500, Level c = 2,501-10,000, Level d = 10,001-25,000, Level e = 25,001-100,000, Level f = More than 100,000

Mean Scale on Questions 1-11: Scale 1 – (Strongly Disagree), 2 – (Disagree) 3 – (Neutral) 4 – (Agree) 5 – (Strongly Agree). Mean Scale on Questions 12a-12f: Scale 1 – (Strongly Agree), 2 – (Agree) 3 – (Neutral) 4 – (Disagree) 5 – (Strongly Disagree).
CHAPTER V. DISCUSSION OF FINDINGS, CONCLUSIONS, RECOMMENDATIONS, AND IMPLICATIONS

Chapter five is divided into two sections. Section one contains a discussion of each research objective. Section two describes this study’s conclusions and implications and provides recommendations for future research and practice.

Discussion of Findings

Objective 1: Describe the Demographic Characteristics of Teachers Participating in FLP Training Workshops

This study focused on Iowa educators who had taken an FLP training workshop from 2000-2004. The majority of the educators who had taken the FLP training workshops were female (80%). Balschweid, et al. (1998) also found that a majority, 60%, of participants were female that were taking the Summer Agriculture Institute workshop. FLP survey results also reflect national trends. According to a National Education Association survey (2004), there have been two decades of decline in the number of male teachers in United States public schools with 21% of the nation’s 3 million teachers being men.

The average educator who participated in an FLP workshop was 48 years old and had lived in Iowa for an average of 40 years. In this study, and the Balschweid et al. (1998) study, around 26% of educators lived in a town of 2,501-10,000 people.
Also similar to the Balschweid, et al. (1998) study was the finding that only 13% of educators taking FLP workshops had taken agriculture classes in high school or college. Six percent of educators said that they had been in the FFA organization, and 46% had been in 4-H sometime throughout their life.

Educators who had more years of teaching experience appeared to be participating in the FLP workshops more than those with less teaching experience, with respondents’ average years of teaching experience being 20 years. Years of teaching experience ranged from 4 to 38 years. This finding is also similar to that of Balschweid, et al. (1998), who found that participants in the SAI agricultural literacy program had 3 to 35 years of teaching experience with a mean of 18.92 years.

The top five subjects taught by educators who participated in FLP workshops were: math, science, reading, social science, and language arts. The majority of FLP lessons are in the following core subjects: science (39 lessons), social studies (35 lessons), language arts (28 lessons), and math (25 lessons). FLP lessons are also designed for use in: business education, career education, communication, consumer education, debate, drama, economics, English, environmental studies, consumer science, geography, government, health, history, industrial education, philosophy, physical education, poetry, social science, sociology, and work history.
A master’s degree plus 30 hours was the highest and most common educational level of respondents (24%). Not far behind that, was a bachelor’s plus 30 hours (21%). The rest of the educational degree levels were distributed equally among educators, except for educational specialist and doctoral degrees, which were not possessed by any of the educators.

**Objective 2. Determine the Use of FLP Lessons in the Classroom**

After attending an FLP training workshop, close to two-thirds of respondents had increased the amount of agriculture lessons they teach. Nearly 80% of respondents (n = 82) had used at least one of the FLP lessons in their classroom. More than 450 FLP lessons have been used in Iowa classrooms to date. The most used FLP lessons were: Fruits and Veggies (n = 28), Germ Busters (n = 27), What’s the Shape of Your Diet (n = 19), and Six Billion and Still Growing (n = 19).

Respondents agreed with statements indicating a feeling of being prepared to implement agriculture into their curriculum after attending a FLP workshop (M = 4.04). The lessons that the FLP facilitators covered in the workshops were also useful to helping educators implement agriculture. However, educators did not encourage other educators at their schools to integrate agriculture into their curriculums. Educators agreed that FLP material presented at the workshop was effective
(M = 4.43), appropriate for the grade level and subject area (M = 4.22), and appropriate for their understanding (M = 4.61).

Overall, educators felt it was important for students to learn about agriculture. Educators agreed (M = 4.31) that young people should have a solid understanding of agriculture, and that teaching agriculture allows educators to give real-life connections to the subject matter they are teaching (M = 4.13). Educators also agreed (M = 4.03) that there is a need for teachers to attend FLP workshops to update themselves about agriculture.

Objective 3. Identify Barriers of Using FLP Materials in the Classroom

Two-thirds (n = 57) of educators indicated that time was the biggest barrier to including FLP or agriculture in the classroom. An additional barrier that educators mentioned was No Child Left Behind (NCLB) Legislation, and aligning curriculum with local and state benchmarks and standards. Lack of interest on educator's part, and student's interest, a change in teaching appointment, subject area that educators taught, and lack of a follow-up from a FLP facilitator were not viewed as barriers to incorporating FLP into the classroom.
Objective 4. Determine if Demographic Characteristics Influence Teachers' Implementation of Agriculture into Their Curricula

Eleven of the 17 implementing agriculture into the curriculum questions had negligible correlations with teaching experience. Six questions had low correlations: “Material presented at the FLP workshop was appropriate for my grade level and subject area” \((r = .12)\), “Implementing agriculture into my curriculum gives student’s real-life connection to the subject matter” \((r = -.15)\), “FLP provides a foundation in agriculture knowledge that is useful in implementing agricultural concepts into my curriculum” \((r = -.15)\), Lack of follow-up from FLP workshop facilitator \((r = -.11)\), “A change in teaching appointment” \((r = -.20)\), and “A change in the subject area that I teach” \((r = -.14)\). Overall, years of teaching experience had no significant correlation with factors regarding educators’ views about and use of FLP materials.

When comparing grade levels taught by respondents and answers implementing agriculture into the classroom questions, statistical significance was found with four questions. Those questions were: The lessons the FLP facilitator went over were useful to helping me implement agriculture into the curriculum \((p = .023)\), Lack of interest on my part \((p = .012)\), Lack of student interest \((p = .024)\), and Lack of follow-up from FLP workshop facilitator \((p = .035)\). On the following question, “The lessons the FLP facilitator went over were useful to helping me
implement agriculture into the curriculum" middle teachers had higher means scores than that of their middle school peers. Which meant that elementary school teachers agreed that the lesson went over during the FLP workshop helped them integrate agriculture into their curricula. But middle school teachers didn’t believe that the lessons that were covered in the workshop helped them integrate agriculture into their curricula. The lessons taught during FLP workshops might not be corresponding to the subject area or grade level that middle school educators are teaching. However, the next three statistically significant differences were with questions dealing with, “Barriers to including agriculture or FLP in the classroom”. The following responses, “Lack of interest on my part”, “Lack of student interest”, and “Lack of follow-up from FLP workshop facilitator” were all viewed as possible barriers by elementary school teachers, but not viewed as barriers by middle school teachers.

Size of community that educators lived in had no effect on their responses to questions dealing with implementing agriculture into the classroom.

Conclusions

Based on the findings of this study, the following conclusions can be drawn:

1. Most of the participants taking the FLP workshops have more teaching experience and have above a bachelor’s degree.
2. Participation in an FLP workshop generally increases the amount of agriculture information taught in the participant’s classroom.

3. Time for teaching agriculture is biggest barrier to implementing agriculture and/or FLP materials into the classroom with there being too much content already in the curricula.

4. Educators in this study lacked formal education about agriculture, but believed it is important for their students to gain agriculture awareness and are willing to use agriculture-related FLP lessons in their classrooms.

Recommendaations

The following recommendations are offered based on the findings and conclusions of this study:

1. It is important to provide student teachers and less experienced teachers with access to FLP information and training sessions.

2. At FLP workshops, facilitators should demonstrate a minimum of one lesson from each grade level: elementary, middle, and high school.

3. FLP staff should identify an FLP leader in each school district. This leader could serve as a local reference for other educators by providing ideas on how to implement lessons into educators’ curricula and how lessons could help meet standards and benchmarks.
4. FLP staff needs to incorporate materials into their FLP workshops to show educators how to incorporate leadership, community service and citizenship, and communication into their classroom by using FLP lessons.

5. In order to more effectively serve educators, FLP staff should try to customize FLP training workshops. Workshops should be customized on the basis of subject or grade level: elementary, middle, and high school.

**Recommendations for Further Research**

1. This study only examined FLP participants in the state of Iowa. A study should be conducted to compare how the other 26 licensed affiliated FLP states are using the FLP materials.

2. Beginning teachers and experienced teachers could be compared to determine how they are using agriculture in their curricula.

3. To address a major barrier identified in this study, the effects that the No Child Left Behind legislation has on educators using FLP and other agricultural literacy programs should be explored.

4. Several of the 55 FLP lessons were rarely used. Research should be done to investigate why those lessons are not being used, and if they need to be updated and how to improve their usefulness to the FLP curriculum.
5. A study should be conducted to determine why more experienced and higher educated teachers are taking the FLP workshops. One hypothesis might be that the more experienced teachers are taking the workshop because of their connection to agriculture, rather than for professional development or graduate credit.

**Implications of the Study**

The need for teaching and learning about agriculture in the formal K-12 classroom setting is clear. This baseline study revealed that while teachers at all grade levels attended the workshop, the majority were experienced educators. Younger educators have taken very few agriculture classes, and this trend will continue without a push by universities for education students to increase their knowledge of the nation's food, fiber, and natural resource systems. By targeting undergraduate students in education to take agriculture courses, they could become more familiar with agriculture and maybe increase the likelihood of teaching agriculture. This would require individuals at the university level to work with other education departments at the university. There needs to be incentives for undergraduate students in education to take agriculture courses.

Food, Land, & People workshops provide professional development and graduate credit for educators. This is a key reason for many educators attending FLP
workshops. The educators like the hands-on activities that the FLP workshop provides. In order for educators to continue to use these materials after the workshop, meetings need to be held where educators can share ideas and get information about how to use the lessons. With time being the biggest barrier to including FLP materials and agriculture in the classroom, a meeting could help educators learn how to integrate agricultural lessons into their classroom. This study focuses on FLP workshop material, but may also have implications to other agricultural literacy programs. It is important that educators taking any agricultural literacy program understand how agriculture can be integrated into any subject that they teach.
APPENDIX A. HUMAN SUBJECT REVIEW COMMITTEE APPROVAL FORM
SECTION I: GENERAL INFORMATION

Principal Investigator (PI): Jessica R. Bowser  
Phone: (515) 294-0893  Fax: (515) 294-0530

Degrees: Bachelor of Science  Correspondence Address: 217 Curtiss

Department: Agricultural Education  Email Address: jrbowser@iastate.edu

Center/Institute: Iowa State University  College: Agriculture

PI Level: Faculty  Staff  Postdoctoral  Graduate Student  Undergraduate Student

Title of Project: Determining the use of Food, Land, & People educational materials in Iowa’s K-12 curricula.

Project Period (Include Start and End Date): [mm/dd/yy][1/01/2005] to [mm/dd/yy][07/31/2006]

FOR STUDENT PROJECTS

Name of Major Professor/Supervising Faculty:  Dr. W. Wade Miller
Phone: (515)294-0895  Campus Address: 217 Curtiss

Department: Agricultural Education & Studies/CI  Email Address: wwmiller@iastate.edu

Type of Project: (check all that apply)
[ ] Research  [X] Thesis  [ ] Dissertation  [ ] Class project
[ ] Independent Study (490, 590, Honors project)  [ ] Other. Please specify: 

KEY PERSONNEL

List all members and relevant experience of the project personnel. This information is intended to inform the committee of the training and background related to the specific procedures that each person will perform on the project.

<table>
<thead>
<tr>
<th>NAME &amp; DEGREE(S)</th>
<th>SPECIFIC DUTIES ON PROJECT</th>
<th>TRAINING &amp; EXPERIENCE RELATED TO PROCEDURES PERFORMED, DATE OF TRAINING</th>
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<tr>
<td>W. Wade Miller, PhD</td>
<td>Major Professor of the researcher. Is the expert on research and will assist and guide the researcher. Professor in Agricultural Education &amp; Studies. Dr. Miller is also the co-principal investigator.</td>
<td>Has completed the ISU Humans Subjects Training, Social Sciences Research Division. Has extensive experience with conducting research involving human subjects.</td>
</tr>
<tr>
<td>Gaylan Scofield, PhD</td>
<td>Dr. Scofield will be in charge of the web-based survey development.</td>
<td>Dr. Scofield is the director of the Brcnton Center. He has extensive knowledge in designing and evaluating online surveys. In 2000 he completed the ISU Human Subjects Training, Social Sciences</td>
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Research Assurances 12/01/2005
| Judy Levings, BS | Assisted with the validity of the survey instrument and supplied investigator with recipient list. | Levings is the director of the Food, Land & People project in Iowa. She helps conduct the Food, Land & People workshops in Iowa in which subjects attended. |
| Jessica R. Bowser, BS | Is the principal investigator for the project. Will be in charge of collecting and interpreting the data for this project. | Completed ISU Human Subjects Training Social Science Research Division, November 28, 2005. |

**FUNDING INFORMATION**

| Internally funded, please provide account number: | n/a |
| Externally funded, please provide funding source and account number: | n/a |
| Funding is pending please provide OSFA Record ID on GoldSheet: | n/a |
| Title on GoldSheet if Different Than Above: | n/a |
| Other: e.g., funding will be applied for later. | n/a |

**SCIENTIFIC REVIEW**

Although the assurance committees are not intended to conduct peer review of research proposals, the federal regulations include language such as “consistent with sound research design,” “rationale for involving animals or humans” and “scientifically valuable research,” which requires that the committees consider in their review the general scientific relevance of a research study. Proposals that do not meet these basic tests are not justifiable and cannot be approved. If an assurance review committee(s) has concerns about the scientific merit of a project and the project was not competitively funded by peer review or was funded by corporate sponsors, the project may be referred to a scientific review committee. The scientific review committee will be ad hoc and will consist of your ISU peers and outside experts as needed. If this situation arises, the PI will be contacted and given the option of agreeing that a consultant may be contacted or withdrawing the proposal from consideration.

☐ Yes ☐ No Has or will this project receive peer review?

If the answer is "yes," please indicate who did or will conduct the review: The survey being used in one that was adapted from Mark Balschweid's 1998 Summer Agriculture Institute. Balschweid had a panel of experts determine validity and reliability. To ensure that the survey was aligned with the goals and objectives of this study, Iowa State University Extension Youth Specialists and Food, Land & People experts, Judy Levings and Janet Anderson, reviewed the survey for validity. Dr. W. Wade Miller also reviewed the survey for validity. They concluded that the survey was valid for achieving the purpose and objectives of the study.

If a review was conducted, please indicate the outcome of the review: Revised survey questions.

**NOTE: RESPONSE CELLS WILL EXPAND AS YOU TYPE AND PROVIDE SUFFICIENT SPACE FOR YOUR RESPONSE.**

**COLLECTION OR RECEIPT OF SAMPLES**

Will you be: (Please check all that apply.)

☐ Yes ☐ No Receiving samples from outside of ISU? See examples below.

☐ Yes ☐ No Sending samples outside of ISU? See examples below.
Examples include: genetically modified organisms, body fluids, tissue samples, blood samples, pathogens.

If you will be receiving samples from or sending samples outside of ISU, please identify the name of the outside organization(s) and the identity of the samples you will be sending or receiving outside of ISU:

N/A

Please note that some samples may require a USDA Animal Plant Health Inspection Service (APHIS) permit, a USPHS Centers for Disease Control and Prevention (CDC) Import Permit for Etiologic Agents, a Registration for Select Agents, High Consequence Livestock Pathogens and Toxins or Listed Plant Pathogens, or a Material Transfer Agreement (MTA) (http://www.ehs.iastate.edu/bslshipping.htm).

SECTION II: APPLICATION FOR INSTITUTIONAL REVIEW BOARD (IRB) APPROVAL

☒ Yes ☐ No Does this project involve human research participants? If the answer "no" is checked, you will automatically move to a question regarding the involvement of radiation producing devices in your project.

SECTION III: ENVIRONMENTAL HEALTH AND SAFETY INFORMATION (EH&S)

☐ Yes ☒ No Does this project involve laboratory chemicals, human cell lines or tissue culture (primary OR immortalized), or human blood components, body fluid or tissues? If the answer is "no" is checked you will automatically move to a question regarding the involvement of human research participants in your project.

ASSURANCE

• I certify that the information provided in this application is complete and accurate and consistent with any proposal(s) submitted to external funding agencies.
• I agree to provide proper surveillance of this project to ensure that the rights and welfare of the human subject or welfare of animal subjects are protected. I will report any problems to the appropriate assurance review committee(s).
• I agree that I will not begin this project until receipt of official approval from all appropriate committee(s).
• I agree that modifications to the originally approved project will not take place without prior review and approval by the appropriate committee(s), and that all activities will be performed in accordance with all applicable federal, state, local and Iowa State University policies.

CONFLICT OF INTEREST

A conflict of interest can be defined as a set of conditions in which an investigator’s or key personnel’s judgment regarding a project (including human or animal subject welfare, integrity of the research) may be influenced by a secondary interest (e.g., the proposed project and/or a relationship with the sponsor). ISU’s Conflict of Interest Policy requires that investigators and key personnel disclose any significant financial interests or relationships that may present an actual or potential conflict of interest. By signing this form below, you are certifying that all members of the research team, including yourself, have read and understand ISU’s Conflict of Interest policy as addressed by the ISU Faculty Handbook (http://www.provost.iastate.edu/faculty/) and have made all required disclosures.

☐ Yes ☒ No Do you or any member of your research team have an actual or potential conflict of interest?
☐ Yes ☒ No If yes, have the appropriate disclosure form(s) been completed?

Research Assurances 12/01/2005
SIGNATURES

[Signature of Principal Investigator] 2/27/2006

[Signature of Department Chair] 2/27/2006

PLEASE NOTE: Any changes to an approved protocol must be submitted to the appropriate committee(s) before the changes may be implemented.

Please proceed to SECTION II.
SECTION II: IRB SECTION - STUDY SPECIFIC INFORMATION

STUDY OBJECTIVES

Briefly explain in language understandable to a layperson the specific aim(s) of the study.

1. Determine the use of FLP materials in the classroom.
2. Identify barriers that are preventing teachers who have taken the FLP workshops from using the materials in their classrooms.
3. Describe the demographics of teachers participating in FLP training workshops.

BENEFIT

Explain in language understandable to a layperson how the information gained in this study will benefit participants or the advancement of knowledge, and/or serve the good of society.

This information will help Food, Land, & People staff to conduct better workshops for educators across the state of Iowa. Information gained will also help FLP staff see what resources educators need to be able to use the FLP materials in the classroom. This study will fill a gap in the research on how effective FLP training workshops are at getting Iowa teachers to use the FLP materials.

PART A: PROJECT INVOLVEMENT

1) ❑ Yes ❋ No Is this project part of a Training, Center, Program Project Grant?
   Director Name: Overall IRB ID:
2) ❑ Yes ❋ No Is the purpose of this project to develop survey instruments?
3) ❑ Yes ❋ No Does this project involve an investigational new drug (IND)? Number:
4) ❑ Yes ❋ No Does this project involve an investigational device exemption (IDE)? Number:
5) ❑ Yes ❋ No Does this project involve existing data or records?
6) ❑ Yes ❋ No Does this project involve secondary analysis?
7) ❑ Yes ❋ No Does this project involve pathology or diagnostic specimens?
8) ❑ Yes ❋ No Does this project require approval from another institution? Please attach letters of approval.
9) ❑ Yes ❋ No Does this project involve DEXA/CT scans or X-rays?

PART B: MEDICAL HEALTH INFORMATION OR RECORDS

1) ❑ Yes ❋ No Does your project require the use of a health care provider's records concerning past, present, or future physical, dental, or mental health information about a subject? The Health Insurance Portability and Accountability Act established the conditions under which protected health information may be used or disclosed for research purposes. If your project will involve the use of any past or present clinical information about someone, or if you will add clinical information to someone’s treatment record (electronic or paper) during the study you must complete and submit the Application for Use of Protected Health Information.

PART C: ANTICIPATED ENROLLMENT

Research Assurances 12/01/2005
**Estimated number of subjects contacted to reach required enrollment:**

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**List estimated percent of the anticipated enrollment that will be minorities if known:**

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<td>Black or African American:</td>
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<td>Latino or Hispanic:</td>
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**PART D: SUBJECT SELECTION**

Please use additional space as necessary to adequately answer each question.

11. Explain the procedures for selecting subjects including any inclusion/exclusion criteria (i.e., Where will the names come from? Will a sample be purchased, will ads, fliers, word of mouth, email list, etc. be used?).

   a. Six individuals will be contacted to complete a pilot test for the study. These individuals took the Food, Land & People Workshop in the summer of 2005. E-mail addresses were given by Iowa FLP Iowa Director, Judy Levings.

   b. Judy Levings, Iowa FLP Director, gave a list of all individuals that had taken the workshop from 2000-2004. The list contains name, mailing address, phone number, e-mail address, and location of where the FLP training was conducted.

12. Attach a copy of any recruitment telephone scripts or materials such as ad, fliers, e-mail messages, etc. Recruitment material must include a statement of the voluntary and confidential nature of the research. Do not include the amount of compensation, (e.g., compensation available).

**Note:** Please answer each question. If the question does not pertain to this study, please type not applicable (N/A).

**PART E: RESEARCH PLAN**

Include sufficient detail for IRB review of this project independent of the grant, protocol, or other documents.

13. Describe the flow of events used in this research protocol. Include information from the first contact with the volunteers to the end of the study. Use a diagram or flow chart if appropriate. Also, include a description of the study procedures or tasks that participants will be exposed to or asked to complete. This information is intended to inform the committee of the procedures used in the study and their potential risk. Please do not respond with “see attached” or “not applicable.”

   A. Six individuals that have attended a FLP workshop will be asked to participate in the pilot study of the Web-based survey. The first correspondence with subjects will be through an introductory e-mail. This e-mail focuses on telling subjects about the study. A second e-mail will follow shortly after the first e-mail, this second e-mail will have a link to the survey. A week later a reminder e-mail will be sent to all participants that haven't completed the survey, reminding them to do so. A third e-mail will be sent a week after the second e-mail, again reminding subjects to participate via e-mail for the last time. A week after the third e-mail, a letter with a paper survey will be sent via postal mail to all those not responding by e-mail. After completing the survey, subjects will receive a thank either by being directed to a Web page or through the mail.
B. If changes are made after the six individuals have completed the pilot test, a revised survey will be sent to IRB for approval of the changes.

C. All subjects except for those in the pilot study could be contacted up to five times. Listed below are each of the following steps of the study.

Steps
1. An introductory e-mail sent out by Jessica Bowser jbowser@iastate.edu, to all participants on the e-mail list.
2. A few days following the introductory e-mail, a short e-mail will be sent to all participants with a link to the survey. Correspondence done through SurveyMonkey.
3. A week following step 2, a short reminder e-mail will be sent through SurveyMonkey to all those who had not completed the survey.
4. A week following step 3, another reminder e-mail will be sent through SurveyMonkey for the final time to all those participants who had not completed the survey.
5. A survey an introductory letter will then be sent by postal mail to all those subjects not completing the survey by e-mail. The survey would be mailed a week after step 4. The letter will also include a link to the survey so participants could still fill it out over the Internet.
6. After completing the survey, participants will be directed to a Web page or mailed a thank you for participating in the study.

14. For studies involving pathology/diagnostic specimens, indicate whether specimens will be collected prospectively and/or already exist "on the shelf" at the time of submission of this review form. If prospective, describe specimen procurement procedures; indicate whether any additional medical information about the subject is being gathered, and whether specimens are linked at any time by code number to the subject's identity. If this question is not applicable, please type N/A in the response cell.

n/a

15. For studies involving deception, please justify the deception and indicate the debriefing procedure, including the timing and information to be presented to subjects. If this question is not applicable, please type N/A in the response cell.

n/a

PART F: CONSENT PROCESS

16. Describe the consent process for participants who are age 18 and older. If the consent process does not include documented consent, a waiver of documentation of consent must be requested.

Subjects in this study will receive an information letter by e-mail. This letter will include information about consent. Consent is voluntary and will be assumed if the researchers complete the survey.

17. If your study involves minors, please explain how parental consent will be obtained prior to enrollment of the minor(s).

Research Assurances 12/01/2005
18. Please explain how assent will be obtained from minors (younger than 18 years of age), prior to their enrollment. Also, please explain if the assent process will be documented (e.g., a simplified version of the consent form, combined with the parental informed consent document). According to the federal regulations assent "...means a child's affirmative agreement to participate in research. Mere failure to object should not, absent affirmative agreement, be construed as assent."

n/a

PART G: DATA ANALYSIS

19. Describe how the data will be analyzed (e.g. statistical methodology, statistical evaluation, statistical measures used to evaluate results)

There will be statistical measures that will be used to analyze the data. All data will be exported from SurveyMonkey to SPSS version 14. In SPSS, data will be measured by means, frequencies, modes, standard deviations, medians, and ranges to summarize the quantitative data.

20. If applicable, please indicate the anticipated date that identifiers will be removed from completed survey instruments and/or audio or visual tapes will be erased:

07/31/2006 Month/Day/Year

PART H: BENEFITS

21. Describe the benefit to the volunteer from participating in this study, if any, and the benefit to society that will be gained from the study. Please note that monetary compensation is not considered a benefit.

The benefit of this study may not directly help the participants, but it will help future participants taking Food, Land, & People (FLP) training workshops. Information received from this study will help future educators by giving FLP staff valuable information to help educators to implement FLP materials into their curricula.

PART I: RISKS

The concept of risk goes beyond physical risk and includes risks to subjects' dignity and self-respect as well as psychological, emotional, legal, social or financial risk.

22. □ Yes  □ No  Is the probability of the harm or discomfort anticipated in the proposed research greater than that encountered ordinarily in daily life or during the performance of routine physical or psychological examinations or tests?

23. □ Yes  □ No  Is the magnitude of the harm or discomfort greater than that encountered ordinarily in daily life, or during the performance of routine physical or psychological examinations or tests?

24. Describe any risks or discomforts to the subjects and how they will be minimized and precautions taken. Do not respond with N/A. If you believe that there will not be risk or discomfort to subjects you must explain why.

Research Assurance 12/01/2005
There are not any foreseeable risks or discomforts to the subjects.

25. If this study involves vulnerable populations, including minors, pregnant women, prisoners, educationally or economically disadvantaged, what additional protections will be provided to minimize risks?

n/a

PART J: COMPENSATION

26. □ Yes ☒ No Will subjects receive compensation for their participation? If yes, please explain.

Do not make the payment an inducement, only a compensation for expenses and inconvenience. If a person is to receive money or another token of appreciation for their participation, explain when it will be given and any conditions of full or partial payment. (E.g., volunteers will receive $5.00 for each of the five visits in the study or a total of $25.00 if he/she completes the study. If a participant withdraws from participation, they will receive $5.00 for each of the visits completed.) It is considered undue influence to make completion of the study the basis for compensation.

n/a

PART K: CONFIDENTIALITY

27. Describe below the methods that will be used to ensure the confidentiality of data obtained. For example, who has access to the data, where the data will be stored, security measures for web-based surveys and computer storage, how long data (specimens) will be retained, etc.)

Data collected from this survey will be kept by SurveyMonkey. SurveyMonkey will only have access to individual’s first name and their e-mail address. SurveyMonkey uses this feature to be able to send surveys to those who do not fill out the survey (followup of nonrespondents). After the data has been exported from SurveyMonkey to SPSS version 14 the data will be promptly deleted. Only key personnel, listed on this form, will have access to the data.

SurveyMonkey has a strict privacy policy that states, “We will not use the information collected from your surveys in any way, shape, or form. In addition, any other material you provide us (including images, email addresses, etc.) will be held in the strictest confidence.” “In addition, we do not collect personally identifiable information about you except when you specifically provide this information on a voluntary basis. We will make every effort to ensure that whatever information you provide will be maintained in a secure environment.”

SurveyMonkey provides a more detailed privacy statement at http://www.surveymonkey.com/help/Privacy.asp

PART L: REGISTRY PROJECTS

To be considered a registry: (1) the individuals must have a common condition or demonstrate common responses to questions; (2) the individuals in the registry might be contacted in the future; and (3) the names/data of the individuals in the registry might be used by investigators other than the one maintaining the registry.

□ Yes ☒ No Does this project establish a registry?

If “yes,” please provide the registry name below.
Checklist for Attachments

The following are attached (please check ones that are applicable):

☐ A copy of the informed consent document OR ☑ Letter of introduction to subjects containing the elements of consent
☐ A copy of the assent form if minors will be enrolled
☐ Letter of approval from cooperating organizations or institutions allowing you to conduct research at their facility
☐ Data-gathering instruments (including surveys)
☐ Recruitment fliers, phone scripts, or any other documents or materials the subjects will see

Two sets of materials should be submitted for each project – the original signed copy of the application form and one copy and two sets of accompanying materials. Federal regulations require that one copy of the grant application or proposal be submitted for comparison with the application for approval.

FOR IRB USE ONLY:

Initial action by the Institutional Review Board (IRB):

☑ Project approved. Date: ________________________________
☐ Pending further review. Date: ________________________________
☐ Project not approved. Date: ________________________________

Follow-up action by the IRB:

[Signature]
IRB Approval Signature ________________________________ Date: 3/15/06

SECTION III: ENVIRONMENTAL HEALTH AND SAFETY INFORMATION

☐ Yes  ☑ No Does this project involve human cell or tissue cultures (primary OR immortalized), or human blood components, body fluids or tissues? If the answer is “no”, please proceed to SECTION III: APPLICATION FOR IRB APPROVAL. If the answer is “yes,” please proceed to Part A: Human Cell Lines.

PART A: HUMAN CELL LINES

☐ Yes  ☑ No Does this project involve human cell or tissue cultures (primary OR immortalized cell lines/strains) that have been documented to be free of bloodborne pathogens? If the answer is “yes,” please attach copies of the documentation. If the answer is “no,” please answer question 1 below.

1) Please list the specific cell lines/strains to be used, their source and description of use.

<table>
<thead>
<tr>
<th>CELL LINE</th>
<th>SOURCE</th>
<th>DESCRIPTION OF USE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

Research Assurances 12/01/2005
APPENDIX B. SURVEY AND SURVEY DATA
The purpose of this survey is to determine the degree to which the objectives of the Food, Land & People (FLP) workshops were met, and how helpful the materials are for educators. Your participation in this survey is important to the future success of FLP workshops.

Section 1: Implementing agriculture into the classroom
Included in this section is a list of statements. As you read each statement, please respond to each item by sharing your beliefs about the item using the 1-5 scale as described below. Food, Land & People will be abbreviated by FLP throughout the survey.

5=Strongly Agree 4=Agree 3=Neutral 2=Disagree 1=Strongly Disagree
N/A=Not Applicable

Implementing agriculture into your curriculum
1. I felt prepared to implement agriculture into my lessons after attending an FLP workshop.
2. The lessons the FLP facilitator went over were useful to helping me implement agriculture into the curriculum.
3. The FLP materials have been useful in implementing agriculture into the curriculum.
4. Other teachers in my school have implemented agriculture into their curriculum as a result of me attending an FLP workshop.

FLP Material
5. Material presented at the FLP workshop was effective.
6. Material presented at the FLP workshop was appropriate for my grade level and subject area.
7. Material presented at the FLP workshop was at the appropriate level for my understanding.

Need for teaching/learning about agriculture
8. There is a need for teachers to attend FLP workshops to update themselves about agriculture.
9. Young people should have a solid understanding of agriculture.
10. Implementing agriculture into my curriculum gives students real-life connections of the subject matter.
11. FLP provides a foundation in agriculture knowledge that is useful in implementing agricultural concepts into my curriculum.

Please respond to each item by sharing your beliefs about the item using the 1-5 scale as described below.
1=Strongly Agree 2=Agree 3=Neutral 4=Disagree 5=Strongly Disagree
N/A=Not Applicable

Barriers to including agriculture and/or FLP in the classroom?
12a. Time
12b. Lack of interest on my part
12c. Lack of student interest
12d. Lack of follow-up from FLP workshop facilitator
12e. A change in teaching appointment (such as grade level, schools, etc.)
12f. A change in the subject area that I teach (example – changed from a math teacher to an administration) since attending FLP workshop
13. Other barrier(s)
Section 2: FLP Lessons Used
14. Lessons Used, Please place a check in the box of each lesson you use once a year

- The Plan and Me
- Seed Surprises
- Chewy Choices
- Fruits and Veggies
- School Ground Caretakers
- Let's Celebrate!
- Season Through the Year
- Tomatoes to Ketchup, Chickens to Omelettes
- We're into Pumpkins
- Don't Use It All Up!
- Germ Busters
- Lunchtime Favorites
- Trash Bashing
- Root, Root for Life
- Buzzy, Buzzy, Bee
- From Apple Core to Healthy Soil
- Perc Through the Pores
- Banking on Seeds
- Could It Be Something They Ate?
- Tree-mendous!
- Expression Connection
- Feed the Need
- Gala Fiesta Jamboree
- Investing Insects
- Your School Ground Through New Eyes
- In Harmony
- Amazing Grazing
- Gifts from the Sun
- From Sea to Shining Sea
- Till We or Won't We?
- Be Label Able
- Breads Around the World
- By the Way
- Cleared for Takeoff
- From Fiber to Fashion
- It All Starts with A
- Nail by Nail, Board by Board
- Step by Step
- What's the Shape of Your Diet?
- What Piece of the Pie?
- Why I Buy
- Calorie Counting
- Global Grocery Bags
Soil Is Not Trivial
What Will the Land Support?
GO, GO H₂O
Mighty Macros
Loco for Cocoa
To Whom It May Concern
Six Billion and Still Growing
Less Elbowroom
Trading Favorites
Managing Pest
Piecing Together Population Patterns
Cows or Condos?
Section 3: Use of Food, Land & People Information

15. As a result of attending an FLP workshop, how many daily lessons on average have you implemented into your curriculum each year?____

16. Since attending FLP, has the number of lessons you teach that implement agriculture
   a. Increased
   b. Decreased
   c. Stayed the same

17. Looking back to the FLP workshop, what were the most positive things that stand out in your mind?

__________________________________________________________________________

__________________________________________________________________________

18. Again, looking back, what areas would you change about your FLP experience?

__________________________________________________________________________

__________________________________________________________________________

19. What was the purpose(s) for your participation in the FLP workshop?

__________________________________________________________________________

__________________________________________________________________________

20. How did you find out about the FLP workshop?

__________________________________________________________________________

__________________________________________________________________________

21. What is an area you would improve about the FLP materials?

__________________________________________________________________________

__________________________________________________________________________

22. Did the FLP lessons lead to community service or citizenship activities?
   a. YES   b. NO
   Explain

__________________________________________________________________________

__________________________________________________________________________
23. Did the FLP lessons lead to communication activities?
   a. YES    b. NO
   Explain

24. Did the FLP lessons lead to leadership activities?
   a. YES    b. NO
   Explain

25. Did the FLP lessons lead to knowledge gained in students?
   a. YES    b. NO
   Explain
Section 4: Demographic Information

26. How many years of teaching experience do you have (including current year)?

27. What is your age?

28. What is your gender? a. Female b. Male

29. How long have you lived in Iowa?

30. What is the population of the town nearest to your home?
   a. under 1,000
   b. 1,000-2,500
   c. 2,501-10,000
   d. 10,001-25,000
   e. 25,001-100,000
   f. More than 100,000

31. Do you have relatives that live or work on a farm? a. YES b. NO

32. Did you take agriculture courses in high school or college? a. YES b. NO

33. Have you been a member of FFA? a. YES b. NO

34. Have you been a member of 4-H? a. YES b. NO

35. What grade level(s) do you teach?

36. What specific content area(s) do you teach during a normal day (i.e. science, math, P.E., English, special education, administration)?

37. What is the highest educational degree you have completed?
   a. Bachelor’s Degree
   b. Bachelor’s +15
   c. Bachelor’s +30
   d. Master’s Degree
   e. Master’s Degree +15
   f. Master’s Degree +30
   g. Educational Specialist
   h. Doctorate

38. Indicate your college degree major(s):
   Major:

39. Indicate your college degree minor(s):
   Minor:

Survey was adapted from Mark Balschweid’s 1998 Summer Agriculture Institute Survey
Data Collected from the Survey.

1. Total Responses: 88
   (1) Strongly Disagree – 0
   (2) Disagree – 1
   (3) Neutral – 9
   (4) Agree – 54
   (5) Strongly Agree – 22
   (6) Not Applicable – 2

2. Total Responses: 88
   (1) Strongly Disagree – 0
   (2) Disagree – 0
   (3) Neutral – 4
   (4) Agree – 43
   (5) Strongly Agree – 41
   (6) Not Applicable – 0

3. Total Responses: 88
   (1) Strongly Disagree – 0
   (2) Disagree – 1
   (3) Neutral – 19
   (4) Agree – 44
   (5) Strongly Agree – 20
   (6) Not Applicable – 4

4. Total Responses: 88
   (1) Strongly Disagree – 0
   (2) Disagree – 3
   (3) Neutral – 6
   (4) Agree – 43
   (5) Strongly Agree – 34
   (6) Not Applicable – 0

5. Total Responses: 88
   (1) Strongly Disagree – 0
   (2) Disagree – 0
   (3) Neutral – 1
   (4) Agree – 32
   (5) Strongly Agree – 55
   (6) Not Applicable – 4

6. Total Responses: 87
   (1) Strongly Disagree – 0
   (2) Disagree – 0
   (3) Neutral – 7
   (4) Agree – 53
   (5) Strongly Agree – 34
   (6) Not Applicable – 3

7. Total Responses: 88
   (1) Strongly Disagree – 0
   (2) Disagree – 0
   (3) Neutral – 1
   (4) Agree – 32
   (5) Strongly Agree – 55
   (6) Not Applicable – 4

8. Total Responses: 88
   (1) Strongly Disagree – 0
   (2) Disagree – 0
   (3) Neutral – 13
   (4) Agree – 53
   (5) Strongly Agree – 34
   (6) Not Applicable – 0

9. Total Responses: 88
   (1) Strongly Disagree – 0
   (2) Disagree – 0
   (3) Neutral – 4
   (4) Agree – 53
   (5) Strongly Agree – 31
   (6) Not Applicable – 0

10. Total Responses: 88
    (1) Strongly Disagree – 0
    (2) Disagree – 2
    (3) Neutral – 7
    (4) Agree – 47
    (5) Strongly Agree – 30
    (6) Not Applicable – 2
11. Total Responses: 88
(1) Strongly Disagree – 0
(2) Disagree – 1
(3) Neutral – 6
(4) Agree – 58
(5) Strongly Agree – 21
(6) Not Applicable – 2

12b. Total Responses: 88
(5) Strongly Disagree – 3
(4) Disagree – 48
(3) Neutral – 12
(2) Agree – 10
(1) Strongly Agree – 3

12d. Total Responses: 87
(1) Strongly Disagree – 13
(4) Disagree – 31
(3) Neutral – 30
(2) Agree – 11
(1) Strongly Agree – 1

12f. Total Responses: 87
(5) Strongly Disagree – 6
(4) Disagree – 26
(3) Neutral – 21
(2) Agree – 22
(1) Strongly Agree – 12

12a. Total Responses: 85
(5) Strongly Disagree – 5
(4) Disagree – 12
(3) Neutral – 3
(2) Agree – 41
(1) Strongly Agree – 24

12c. Total Responses: 87
(5) Strongly Disagree – 10
(4) Disagree – 46
(3) Neutral – 19
(2) Agree – 10
(1) Strongly Agree – 2

12e. Total Responses: 86
(5) Strongly Disagree – 9
(4) Disagree – 25
(3) Neutral – 23
(2) Agree – 18
(1) Strongly Agree – 11

12g. Total Responses: 87
(5) Strongly Disagree – 10
(4) Disagree – 46
(3) Neutral – 19
(2) Agree – 10
(1) Strongly Agree – 2

13. Comments
• NCLB... This legislation has made the use of materials from any workshops difficult to implement into curriculum as districts are focusing more on meeting testing scores in core areas the NCLB mandates.
• I used Why I Buy when I taught eight grade communications. I also gave copies of a few programs to family consumer science teacher. I have not been at that grade level for the last three years. I recently looked through the notebook because I am required to teach a mini course to K-5th graders. I couldn’t find anything that I thought would work for that age range in a short one time lesson of forty minutes.
• I have switched districts and I am now a reading specialist rather than a classroom teacher.
• I am an AEA consultant and am not in the classroom.
• none
• We are held accountable for standards and benchmarks in our district. It would be necessary to fit the FLP lessons into existing units of study and align with standards and benchmarks.
• I am a naturalist and not a classroom teacher. So most of the subjects I teach about are not ag related.
• The No Child Left Behind requirements have forced me to reduce or eliminate many units I have taught in the past, therefore I have not had time to use the very great FLP lessons.
• Not a part of my curriculum, so I can only do the activities with my after school kids
• too much curriculum already
• NCLB- Right now No Child Left Behind does not allow as many extensions and enrichment for my kids. I still try to do it as much as I can because I think it is very valuable for children.
• Time and resources are the main barriers.

• District and State assessments, other mandated materials that have taken away available time.
• Fitting it in with current curriculum areas.
• current local curriculum
• Demands made by curriculum already in place Increased pressure for high test scores, so less time to do the extra
• Lack of math applications.
• My first grade objectives do not match up with the FLP curriculum except in our plant unit and a bit in our animal unit. Some of the activities were great for my grade level but science is not a big part of our day and I don't have time for a lot of 'extra' lessons. We struggle just to get through our basic curriculum.
• The largest barrier I face is the materials are in English and some in Spanish. My problem is that I also work with students of other languages. I find it very difficult for all of my students to get to the 'meat' of the lessons with the language barriers. This is a great program!! Thanks!
• I only teach 1 foods related course and we are in an articulation agreement with Kirkwood. Sometimes it's hard to do a much from FLP curriculum as I'd like.
• I am a resource teacher, so more and more I am simply supporting what occurs in the regular classroom. Because of NCLB, I don't teach as much of my own curriculum as I used to.
• I was not able to attend this workshop, actually.
• Huge pressure for Standards and Benchmarks and an emphasis on Reading, Math, and Science curriculum.
• The class was to address all grade levels and disciplines. After I had enrolled in the class, I found that there was not much material for me, a high school math teacher.
<table>
<thead>
<tr>
<th>FLP Lesson</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruits and Veggies</td>
<td>28</td>
</tr>
<tr>
<td>Germ Busters</td>
<td>27</td>
</tr>
<tr>
<td>Six billion and still growing</td>
<td>19</td>
</tr>
<tr>
<td>What’s the shape of your diet?</td>
<td>19</td>
</tr>
<tr>
<td>Tomatoes to Ketchup, Chickens to Omelettes</td>
<td>18</td>
</tr>
<tr>
<td>Tree-mendous</td>
<td>18</td>
</tr>
<tr>
<td>Seed Surprises</td>
<td>17</td>
</tr>
<tr>
<td>Be Label Abel</td>
<td>17</td>
</tr>
<tr>
<td>Breads Around the World</td>
<td>15</td>
</tr>
<tr>
<td>Lunchtime Favorites</td>
<td>15</td>
</tr>
<tr>
<td>Trash Bashing</td>
<td>15</td>
</tr>
<tr>
<td>Chewsy Choices</td>
<td>14</td>
</tr>
<tr>
<td>Let’s Celebrate!</td>
<td>14</td>
</tr>
<tr>
<td>Piecing Together the Population Patterns</td>
<td>14</td>
</tr>
<tr>
<td>From Apple Core to Healthy Soil</td>
<td>14</td>
</tr>
<tr>
<td>Calorie Counting</td>
<td>14</td>
</tr>
<tr>
<td>Investing Insects</td>
<td>12</td>
</tr>
<tr>
<td>Global Grocery Bags</td>
<td>12</td>
</tr>
<tr>
<td>What Will the Land Support</td>
<td>12</td>
</tr>
<tr>
<td>The Plan and Me</td>
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<td>Season Through the Year</td>
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<tr>
<td>School Ground Caretakers</td>
<td>10</td>
</tr>
<tr>
<td>Cows or Condos?</td>
<td>10</td>
</tr>
<tr>
<td>Don’t Use It All Up!</td>
<td>9</td>
</tr>
<tr>
<td>Loca for Cocoa</td>
<td>8</td>
</tr>
<tr>
<td>What Piece of the Pie?</td>
<td>8</td>
</tr>
<tr>
<td>Why I Buy</td>
<td>8</td>
</tr>
</tbody>
</table>
Less Elbowroom 8
Soil Is Not Trivial 8
From Fiber to Fashion 7
Root, Root for Life 7
Step by Step 6
Buzzy, Buzzy, Bee 6
It All Starts with A 5
Your School Ground Through New Eyes 5
Banking on Seeds 5
Could It be Something They Ate? 5
Gifts from the Sun 5
Feed the Need 4
Managing Pest 4
GO, GO H20 3
From Sea to Shining Sea 3
Till We or Won’t We 3
Amazing Grazing 3
Gala Fiesta Jamboree 2
Expression Connection 2
In Harmony 2
To Whom It May Concern 2
Cleared for Takeoff 2
Nail by Nail, Board by Board 2
Mighty Macros 1
By the Way 1
Trading Favorites 0
Perc Through the Pores 0

15.
3-4, 10, 25, none the last three years, 0, 5, 8, 2, 1, 10, 0, 2 or 3, 4 or 5, 6, 1, 1,
At least 5, 2, 3, 0, 1, 1 a month, I used parts of a couple of lessons, 0, 10, 15, 3, 2 the first year only, 9 over a years time, 1, 8, 15, 4, 1, 4, 2, 0, 2, 25, 1, 11, 4, 3, 25, 1, 0, haven't counted, 20, about a dozen, 2 before my subject changed, not certain, 4, about 18, 2, 6, 6, 6 to 10, 1, 2, 0, 1 or 2, 1, Depends on the unit I'm teaching, 1, 0, 0, 25, 5, 4.5, 10

16. Total Responses: 84
(1) Increase – 54
(2) Decrease – 4
(3) Stayed the Same – 25

17.
- Easy to understand and implement. Keeps the students interest. Hands on activities.
- good ideas to use a variety of educators present teacher friendly
- good facilitator
- My high interest in learning new materials. The instructor's knowledge. Good group dynamics and cooperation.
- Hands-on activities with other educators. It was helpful to hear other teachers sharing ideas how to use the lessons.
- The variety of lessons available and the interaction and sharing in the class.
- Hands-on learning
- Chance to work with others and think of different ways to do things
- Things set to implement in the classroom that gets the students interest
- It was fun for me, so I felt it would be fun the classroom. Lots of child involvement to make learning more meaningful.
- Ease of use of the lessons. Organization of the material (the large 3-ring binder).
- Huge amounts of lessons to choose from
- Working together with a group to do one of the activities.
- Attended by a wide variety of disciplines so I was able to see potential for an interdisciplinary lesson.
- Lessons and ideas that I could easily adapt to my school.
- The hands on lessons. Actually doing a lesson. I really appreciate the binder of lessons! They are easy to follow and easy to adapt. My instructor was very knowledgeable and made me want to do more!
- I liked the simplicity of the lessons and the way the guide presented them.
- The activities that went along with the lessons.
- Hands on materials.
- HANDS ON ACTIVITIES
- The lessons were interesting and were easy to adjust to fit the grade level and to integrate. So I was motivated right away to try lessons in my classroom.
- up-to-date data and websites as resources
• Done in a small amount of days. Fun and active involvement.
• Awareness of the importance of agriculture.
• that everything I needed was in the lesson, I just had to make copies or gather some ingredients
• Ideas abounded! The lesson plans and trying them out was tremendous.
• The lessons are so easy to apply, they are fun and educational. It is wonderful to have an additional perspective to add to the classroom.
• Interesting activities
• Materials I got. Networking Seeing some of the lessons in action
• fun group atmosphere to learn together
• It was a great class with wonderful lessons and hands on ideas.
• Planning and trying lessons
• That the lessons can be adapted to all grade levels.
• It give our students a chance to learn information and to investigate information about their world and how to care about their world for future generations
• My memories from five years ago fail me.
• doing sample lessons with suggestions on modifications for different ages
• Useful Information
• The hands on activities.
• application practice
• neat lessons
• The material is great. I really appreciate the teacher-friendly and student-friendly material, and it's ready to use. The instructor made the class interesting and did a great job in presenting the material. I wish I had more opportunity to use the material, but it hasn't fit in well with my teaching duties in the last year.
• I really enjoyed the lessons and I believe students would also. However I am now the Informational Media Specialist and do not have the opportunity to use them.
• presentation interesting
• Good teacher and teaching materials
• Hands on activities. The chance to discover.
• The new information.
• doing the lessons in class
• It was a very interesting and fun class.
• Positive things: the leader, the people in the group and the stimulating discussions we had, the guest speakers and having an opportunity to focus on our land, our environment, our planet. I truly appreciated the ideas that were presented in these lessons.
• Recycling
• It was an informative workshop that opened my eyes to statistics about the world. good hands on training and material I can take with me into the classroom-ready to use.
• Actually doing the lesson and having feedback available
• Interaction with fellow teachers, lesson plans ready to go and to be used in the classroom.
• Good curriculum but haven’t had the course for some time and it sort of slips away. The continuing need to inform our students of Ag related issues.
• It gave me a perspective that I did not previously have.
• The quality of the presenters and the fun people attending
• Liked the instructor Chance to network and get ideas from other people in your area Chance to see what the elementary teachers are doing
• guest speakers
• The activities get students involved and they are fun.
• Hands on activities that the instructors did- Fruits & veggies, and cow by-products
• Lots of good info on the environment
• hands on activities, interesting statistics, time to work with others in the teaching profession
• I was able to incorporate activities in several units throughout the year.
• How Practical
• Interesting Instructor
• The people I worked with
• Practical information, making a connection with real life
• Excellent material and teachers
• New Information and ideas
• Awareness of Agriculture

18.
• Good use of time and ability to see in practice some of the lessons.
• nothing
• none
• None
• Follow-up after the workshop was over. Feedback from others and a chance to share more ideas would have been helpful.
• None
• Now I’m at the high school and the levels of math have changed.
• It was good. Teachers of many different grade levels were able to make lessons fit.
• none
• Nothing
• I really enjoyed the experience so can’t see any necessary changes.
• None
• I was very satisfied with the class!
• Nothing
• nothing
• Have more activities for upper grades.
• I wish more people from my building would go. State cuts prevent tuition reimbursement so it is less likely people will go to something they do not have to have.
• more activities that take less class time to demonstrate or finish
• Divide into elementary and secondary groups.
• Nothing, I really enjoyed it.
• Have another session to make sure that I had really done something with what I had received
• I don't remember anything in particular.
• At this point, I need to go back and review the topics.
• more ways to relate things to kids who have never been nor will be on a farm
• nothing
• nothing
• None
• Nothing, it was great!
• See above.
• wouldn't change anything
• none
• No changes.
• nothing
• I know more about how to link ag into my lessons
• none
• I would not change anything. The class time was good, materials were good and the workshop held my interest.
• my teaching assignment changed and now my curriculum doesn't have the flexibility it once had; therefore I am not using the materials I got
• Time to work with grade levels to see how to integrate the activities into the curriculum
• Nothing
• I don't remember
• ?
• none
• It was all good!
• Mine was extremely powerful and very useful
• Nothing
• None.
• I can't think of a thing.
• ??
• More secondary lessons
• more guest speakers
• Several of the examples demonstrated from the FLP program were for lower level students, or didn't pertain well to the subjects/concepts I teach.
• It might have been helpful to have elementary teachers and secondary teachers in separate groups.
• Nothing

19.
• To gain more information about agriculture for students since we are an agricultural based state and have access to lesson plans that would fit within my curriculum.
• I wanted to get to some new ideas on how to teach lessons on agriculture in my suburban classroom.
• to learn
• To earn credits and receive free lesson plans and materials.
• It was a district goal to implement more Ag. into the regular classrooms. My previous district was bit on Ag.
• Interested and credit
• continuing ed
• More ideas and variety of ways to bring ag in the lower class
• Find out what was in the FLP curriculum so I could recommend it to classroom teachers.
• Activity oriented lesson plans that relate to real life.
• Certificate renewal credits.
• Gather more materials for my classes
• Gain credit for renewal I teach three sections of Social Studies daily. I wanted more info on Iowa ag since many rural Iowa students no longer live and work on farms.
• To learn what the curriculum was about.
• The information brochure had very positive comments from other teachers and I saw the potential for use in my Family and Consumer Sciences classes. Many workshops are not geared to the vocational areas. It was exciting to have lessons designed for my subject matter - Foods and Nutrition.
• I wanted to learn effective way to present concepts that would not only interest my students but positively impact their education.
• I needed to take a class and I am interested in expanding my student’s knowledge on how to take care of the earth.
• I was interested in the concept and wanted to expand my curriculum choices.
• location, activities to implement with current lessons, grad credit
• Personal interest, renewal credits, and new ideas for classroom.
• CREDIT AND ENHANCE CURRICULUM
• To learn how I could integrate it into the Kindergarten level. Most of the kids in my class don’t know anything about agriculture issues.
• to get more math applications and hands-on activities
• Ideas for science with hands on approach.
• Ideas for environmental activities.
• Incorporate some info into my Family and Consumer Science classes
• To provide resources to the teachers I work with.
• The topics fit with the environmental science class I teach and I needed renewal credit.
• inexpensive credit, food and culture related
• needed credits to move over on the pay scale
• Interest and getting renewal credit in something I would use in the classroom.
• I'm a farm gal, so I wanted to see what they recommended to teach about agriculture
• A local class...sounded interesting. It was not tied directly to a need in my classroom.
• To learn how to incorporate agriculture into my curriculum.
• To find some activities to implement into Social Studies and Science lessons
• Hours of credit and interest in topic
• To learn more about FLP. Another teacher recommended it. I needed College Credits for Renewal
• Needed credit
• learn about the how to include lessons dealing with agriculture into my life science class
• Updated information
• re-certification with the purpose to take a course that was of interest and in my subject matter which is Family and Consumer science.
• gather more resources for environmental science to do with high risk students
• recert credit
• I thought it sounded interesting and was looking for some new materials to use in my classes.
• I needed credit for recertification, it fit my schedule and was of interest to me. Plus it was very affordable.
• grad credit
• Knowing more about agriculture and implementation into my science curriculum
• To help with ideas on teaching nutrition.
• New material and renewal credit
• interest and credit
• Learn more about the environment.
• I was renewing my teacher license. Fellow teachers from my school district had taken this class and really praised it.
• Needed credits
• Continuing Education Credit and interest.
• Expand my opportunities to teach about science and math in new and appropriate ways.
• Free graduate credit in an interesting topic in a convenient location.
• To learn more about issues that could be used in my classroom.
• To become a better informed teacher.
• To better integrate ag awareness into my classroom and to get a recert credit.
• Recommended by a friend. Time to complete the course. Iowa needs to keep educating our kids on the importance of agriculture—it is our heritage and our future—even if the future may look different.
• credit
• graduate credit
• To learn more about how to teach agriculture in the classroom and earn a graduate credit.
• License renew
• Other teachers had told me it was a good class
• My main motivation was to get graduate credit to help with the completion of my master's degree.
• To be honest, I needed the credit for certificate renewal. I did gain much useful information, though.
• Credit
• Easy Credit, to be honest towards my masters
• TO get the grad hour
• Professional update
• High interest
• Broader curriculum ideas
• An interest in Iowa and what we have to offer

20.
• Thru a friend who also took the class.
• Farm Bureau
• flyer
• ntaea catalog
• aea
• Building principal. A group from my previous district attended this workshop.
• Another teacher at school that had taken the class.
• another teacher
• fun and informative
• AEA
• pamplet
• Information came to my school.
• AEA listings
• Info in the lounge about this class.
• Through other naturalists.
• I received a brochure in the school mail as I recall.
• Notices in our mailboxes.
• A flier that was sent to the school
• Flyer at school
• flyer
• pamphlet in teachers' lounge
• ANOTHER TEACHER
• Flyer at my school
• AEA Bettendorf
• Bulletin
• AEA listings
• Received a flyer in the mail
• Flyer
• Flier that was delivered to our school.
• Brochure to elementary
• a flyer in the teacher work room
• Friend
• family and co-workers
• From a middle school teacher in my district.

• Other teachers
• Another Teacher
• County extension office
• From another teacher
• Brochure
• AEA newsletter
• AEA267
• Brochure in the mail.
• other teachers
• flyer at school
• I received a flyer in my mailbox at school.
• Through keystone AEA1
• Flier
• I can't remember, it's been several years ago
• Past participants.
• other teachers
• I don't remember
• ?
• Three teachers in our district had taken this at different times. They told me how practical this class was and how much they used it.
• AEA
• Grant Wood newspaper listing courses for credits and other staff members in my building.
• Flyers and word of mouth.
• Flyer in faculty room.
• Mailings
• We received information at school.
• I believe through Keystone.
• Friend
• flyer sent to school
• school brochure
• A flyer
• Flyer at school
• brochures and other teachers
• I think I got something in the mail or on email about it.
• It has been a while, and I really don't remember.
• I liked it but I didn't really fit my curriculum
• Flyer
• mail
• flyer
• brochure
• Friends

21.
• No changes. I liked how all the lessons were in a binder and how the lessons were organized, with grade levels, topics, in alphabetical order.
• nothing
• none
• How to use with primary for working on reading skills
• Research-based teaching strategies.
• I am early elementary and would like more info that way
• I really can't remember.
• none
• Nothing
• I am thrilled with how user friendly it is that I can't think of any suggestions to improve. I really appreciate materials that are ready to copy and use with students.
• none
• Of course I would like to see more lower grade level lessons.
• Nothing
• ?
• upper grade levels
• There are a lot of good things in the notebooks! Of course I would always try more K-level activities. Push its importance to be taught in the schools and to train the teachers. I would really like to teach with people who were as interested as I am in this.
• less information per lesson
• So much. I only needed elementary set.
• I know there was alot of info to cover, but it sure seemed like we went really fast over the lessons
• They're great.
• Updates to students in regards to statics in the activities.
• too elementary
• including non farm kids
• nothing
• nothing They were easy to use
• Nothing
• It is all great, I just wish I had more time to use it!
• none
• none
• Have another update session. Us them more!
• nothing
• none
• Can't think of anything right now.
• all good; maybe have them more divided with k-2, 3-5 6+
• Occasional updates to keep the participants actively engaged in FLP
• none
• Make more for upper level classes
• ?
• I don't know of any areas that I would change.
• none
• There is so much and it is all useful-don't know.
• No improvements to offer. I modify, but do not necessarily improve lessons.
• They are fine.
• Unsure.
• There is so much it is overwhelming. It might help to make it more grade specific.
• Huge booklet with lots of materials irrelevant to my area. I threw away lots of stuff. Maybe at the end of the class you could just send teachers with only the parts that are relevant to their class area.
• more math lessons
• I think the materials are good, but I just haven't taken the time to use them very much, or they just haven't pertained to my subject area.
• Materials were fine.
• middle school

22. Total Responses: 82
(1) Yes – 7
(2) No – 59
(3) Not Applicable – 16
Open-ended responses....
• YES...several students went out on Earth day and helped with cleanup of the area and did some recycling.
• Just don't have the time to set it all up.
• We clean the school yard and plant flowers for school
• Caring for our environment is a responsibility.
• We planted flowers for a habitat for humanity house in town.
• Random Acts of Kindness class activities
• TREE PROGRAM PARTICIPATION
• Time limits
• no time
• No, as stated above different position.
• The students would on a garden project, growing plants, planting.
• They haven't, but I realize they could. Hopefully, in future years, this will occur,
• Earth Day focus and clean up around school. Awareness to activities they could be involved in.
• Students helped beautify our school grounds using concepts learned in the lessons
• Planted trees. Developed summer activities.
• The ones I used fit in with my normal curriculum
• I was already involved with some.
• Planted 2 trees in front of school

23. Total Responses: 80
(1) Yes – 14
(2) No – 45
(3) Not Applicable – 20
Open-ended responses....
• Students shared information with parents
• We were doing an advertising unit and Why I Buy fit in very well. We also did some other part of a lesson but I am not sure which one at this time.
• Students used FLP lessons to create speeches for the required speech class.
  small group work and presentations
• Students must communicate with each other within the lesson structure.
• within the classroom and with their families
• Lots of writing activities were incorporated
• Yes because when I did the gift from the sun activity, I had the students write a story about the water's journey through the water cycle which is communicating to me their understanding and their communications skills.
• Small group and class discussion
• Shared some lessons with fellow teachers.
• I did not follow up as much as I might have
• Discussion
• Students are sharing comments which give others ideas of what the Agriculture industry is about.
• No, for me it didn’t, but many of the lessons certainly would do that.
• sometimes required writing assignments to assess
• Students shared their results with others.
• Student written activities included information sent home on what was learned
• Overpopulation is a stimulating topic for discussion.
• Students have written letters for inclusion in our newsletter dealing with some of the lessons.
• With colleagues in school building
• Leads to discussion in the classroom

24. Total Responses: 82
(1) Yes – 9
(2) No – 67
(3) Not Applicable – 6

Open-ended responses....
• don't know. Not where I have seen in the classroom.
• small group work and presentations
• Students had responsibilities within the lessons, and someone was usually called upon to be the leader of the activity or a portion of the activity.
• May term projects
• The students contacted outside sources for help.
• Yes, somewhat.
• Our students connected with our local community gardening organization.

25. Total Responses: 81
(1) Yes – 57
(2) No – 11
(3) Not Applicable – 13

Open-ended responses....
• Open-Ended Response
• most of my students live in town and had no idea about many ag related things
• It fit with the content of lessons.
• Use math to look at statistics
• Gave them ag info they would not have gotten otherwise
• observations
• They really liked the activities.
• material was covered that they were not aware of
• Added to our regular plant curriculum.
• Students love the activities so they learn from them.
• I never did a formal assessment, but kids were excited and could follow-through with the lessons
• Awareness
• It even helped with ITBS test topics
• Fit in with existing curriculum
• We did a lesson on rotting apples/microbes in soil and compared to rotting banana skin
• Connect to life, practical info
• Better understanding of how food get to their table
• Students are more aware of the role agriculture plays in their lives

26.
18, 12, 35, 18, 26, 18, 38, 32, 12, 8, 15, 30, 25, 8, 32, 10, 26, 31, 10, 24, 8, 22, 21, 13, 15, 34, 22, 25, 7, 24, 9, 15, 32, 23, 18, 13, 18, 19, 29, 32, 24, 4-full time 15-substitute, 18, 17, 21, 10, 21, 12, 20, 20, 14, 33, 30, 26, 30, 10, 20, 19, 12, 25+, 8, 30+, 21, 21, 32, 30, 30, 16, 8, 13, 27, 9, 16, 32, 9, 32, 25, 18, 21, 35, 20, 11, 15,
27.

28. Total Responses: 84
(1) Yes – 67
(2) No – 17

29.

30. Total Responses: 83
(1) Under 1,000 – 14
(2) 1,000-2,500 – 16
(3) 2,501-10,000 – 22
(4) 10,000-25,000 – 8
(5) 25,001-100,000 – 18
(6) More than 100,000 – 5

31. Total Responses: 85
(1) Yes – 66
(2) No – 19

32. Total Responses: 84
(1) Yes – 11
(2) No – 73

33. Total Responses: 84
(1) Yes – 5
(2) No – 79

34. Total Responses: 85
(1) Yes – 39
(2) No – 46
35. 7, 2, 6-8, k-5, 6-7-8, 7-8 now/I use to teach 9-12, 9-12, high school, 1, pre school, K-12, 10-12, 1, 9-10, 4, all ages, 9-12, 5, 1, 9, 10-12, 7-12, 9-12, Kindergarten, 9-12, 1, 9-12, High school, 9-12, high school special ed, 9-10, 9-12, 6, 8, 6, 2-4 Level II Spec. Ed., 1, 6, 4, Kindergarten, High School, Middle School, K-12, 4, 8-12, 6, 8-12, 9-12, 9-12, 7-12 resource, IMS kindergarten to 5, 2, currently 5th- was 7th when I took the class, 8, 6, 8-12, 9-12, 1st through 3rd Special Ed., 6, 10-12, 3-4, 3, K-2, 10-12, 6, 6-8, 6-8, 9-12, 9-10, 7-12, 3, 7-12, MS special ed., 8-12, high school, 10-12, 1, 3-8, 5, 6-8, 7-9, 5, 6-8, 1

36.
- World Studies
- all core areas
- math, social studies, careers, health
- Title One Reading
- Industrial technology
- Currently, I'm a reading specialist working with students that need additional skills in reading. I use to teach high school English and speech.
- math
- Family and Consumer Science: Foods, Teen Living, Family Living class Health: Senior Health and 10th Health
- reading language arts spelling science social studies
- all
- SCIENCE
- math
- Reading, writing, English, science, math, social studies, art
- Environmental science biology
- Reading, math, spelling, and social studies
- Environmental education
- Family and Consumer Sciences -Culinary Arts -Parenting -Family Living
- Math Spelling Computers Science
- all areas
- Science
- math, career education
- language arts (literature and speech) business education
- AGRICULTURAL EDUCATION
- math, reading, writing, science, social studies, health
- Math
- reading, math science social studies language, spelling
- Science
- Family and Consumer Science
- science
- Special ed
- math and science
• FCS
• math, science, health, reading, spelling
• math
• Science
  Until this year I also taught Communications (writing, presentations, etc.)
  This year I don't teach communications, but I teach keyboarding.
• special education
• all except P.E., Art, and Music
• Reading, Language Arts and Math
• reading, language, spelling, math, science, social studies
• Every content area.
• Government History Geography Math English
• Exploratory Spanish
• biology and library media
• homeroom
• Family and Consumer Science
• science
• Family and Consumer Science
• health, biology and art
• math
• Special ed resource—in that setting, English and math
• computer skills and library skills
• all second grade classes
• math, science, social studies, language arts and reading
• math
• math, reading, social st. language, science—you name it!!!
• Family and Consumer Sciences, Health
• special education
• Reading, math, written language
• Social Studies, Language Arts, Literature
• Spanish
• I teach all areas.
• All
• Special education
• Language Arts and Title Reading
• American History, Computer science.
• science, math, reading
• Family and Consumer Sciences
• biology, physical science
• agriculture, science
• All areas
• PE health
• Special ed
• physical science
• geometry
• science
• Reading and Language Arts  Math  Science and Social Studies
• Media
• All except science
• Social Studies
• FCS
• all-self-contained
• SPED Lang Arts & Math
• Science, reading, math, S.S., Phonics, handwriting, Spanish

37. Total Responses: 85
   (1) Bachelor’s − 9
   (2) Bachelor’s +15 − 15
   (3) Bachelor’s +30 − 18
   (4) Master’s − 10
   (5) Master’s + 15 − 13
   (6) Master’s + 30 − 20
   (7) Educational Specialist − 0
   (8) Doctorate − 0

38.
• History... BA  Education... MA
• Elem. Education K-6 Early Childhood
• history, counseling
• BA Elementary Education K-6 MA Elementary Education
• IA
• English Reading
• math
• Family and Consumer Science/ Health
• elementary education/reading
• elementary education business administration
• SCIENCE EDUCATION GIFTED TALENTED EDUCATION
• math education 7-12 gr
• Elementary Education with a reading endorsement
• Biology
• Elementary education
• Fisheries and Wildlife Biology
• Home Economics Education B.S. Family and Consumer Sciences Education M.A.
• Elementary Education
• Elementary Education-BS Effective Teaching-MS
• Physical Education and Biology
• Special Education
• Business Education
• AGRICULTURAL EDUCATION M.S. EDUCATION
• BS Elem. Educ, Early Childhood specialization MA Developmental Reading
• BA Math Education MA Curriculum & Instruction
• El. Ed.
• Science Education - Life Science
• Family Environment with a Home Economics Education endorsement
• Biology Secondary Education
• Lang Arts Education: Learning Disabilities.
• math education
• BS Vocational Home Economics MA Education
• Elementary education with a science emphasis
• math education
• Elementary Education
• Elem. Education
• Education
• Elementary Ed and Master's in Math in the Middle Grades
• Psychology and Elementary Education
• Special education and elementary education
• Elementary Education Social Studies 7-12 Educational Administration
• Business Education
• biology and library science
• education
• Vocational Home Economics
• Home Economics
• Special education 7-12 endorsement in Behavior Disorders
• math
• Elementary education Special Education, Learning disabilities
• elementary education reading endorsement
• Elem Ed
• English Elementary Ed
• middle school math
• Elementary Education
• FCS
• Bachelors with behavioral Disorder endorsement
• Elementary education, English,
• K-6 All subjects.
• Spanish
• Elementary Education. I am currently working on a master's degree in Literacy with a Reading endorsement.
- History Elementary Ed Secondary Ed Education Administration
- BA Middle School Junior High Educ MS Learning Disabilities
- Elementary Education
- Sociology, elementary education
- Elementary Education, History
- Vocational Home Economics
- Biology, secondary education
- Agricultural Education Professional Agriculture
- Elementary education BA Reading and Language Art MA Endorsements in Math and Special Education
- Physical Education Health Counseling
- Special ed.
- Geology
- Mathematics
- BA in Biology Education MA in Science Education
- Elementary Education
- Home Economics & Library Science
- Elem. Ed
- PE
- BA Vocational Home Ec, MA Home Ec Education
- Education bs, ms elementary counseling and religion
- Elem. Ed
- Social Studies

39.
- Business, Geography, coaching endorsement
- Economics, political science
- None
- None
- Speech Drama
- PE
- Social studies reading
- BUSINESS ADMINISTRATION RELIGIOUS STUDIES BIOLOGY
- English-literature
- Chemistry
- Language arts emphasis
- None
- Math Economics
- None
- None
- Psychology
- English
• SCIENCE
  • Psychology  Physical Education
  • Science
  • Sports Medicine
  • science education
  • Clothing and Textiles  science
c• coaching
  • psychology
  • Social Sciences
• learning disabilities  mild/moderate multi. cat.  German
• Child development
  • Music
  • none
  • none
  • None
  • esl
  • NA
  • Art
  • sociology
  • art
  • Library Science
  • History and P.E.
  • family environment
  • Religion, Elementary Special Ed.
  • Psychology, social studies
  • International studies
  • Early Childhood Education
• see above
  • Reading
  • History
  • science, math
• Psychology and English
  • chemistry
  • Agronomy
  • Social Science
  • education
  • german
• Chemistry and Coaching
  • Math emphasis
  • History
  • SPED, RD, coaching
APPENDIX C. CORRESPONDENCE
Subject Line: Food, Land & People Workshops in Iowa

Dear recipient’s first name,

You are being asked to participate in a study because you attended a Food, Land, & People (FLP) workshop in Iowa between the year of 2000 and 2004. On March 27th you will receive an e-mail survey titled "Food, Land & People Workshops in Iowa." Please take the time to fill out the survey as soon as possible.

Participation in this study is voluntary and you may select to not participate at any time. If you choose to participate in the study your answers will remain confidential.

Jessica Bowser is a graduate student collecting data for her master's degree at Iowa State University, and is conducting this research under the guidance of Dr. W. Wade Miller, professor of Agricultural Education & Studies at Iowa State University. Judy Levings, 4-H Youth Development Specialist, is also assisting the researcher.

The purpose of this study is to describe how Iowa K-12 teachers who have participated in FLP workshops are using the program in their classroom. The specific objectives for the study are listed below.

1. Determine the use of FLP materials in the classroom.
2. Identify barriers that are preventing teachers who have taken the FLP workshops from using the materials in their classrooms.
3. Describe the demographics of teachers participating in FLP training workshops.

Again, thank you for your participation in this study. Your responses will help better the Food, Land & People program in Iowa to better serve educators. If you have any questions, please contact me at (515) 294-0893, or by e-mail at jrbowser@iastate.edu. If you have questions regarding human subjects, please feel free to contact the institutional review board at (515)294-4566.

Thank you,
Jessica R. Bowser
2nd Correspondence with subjects.
E-mail sent out through Survey Monkey on March 27, 2006

Subject Line: Food, Land & People Workshops in Iowa

Dear recipient’s first name,

Please click on the link below to complete the Food, Land & People survey.


The survey should take approximately 15 minutes to complete. The link above will take you to the survey where all answers will be recorded. Your answers are confidential and will not be associated with your name. The responses to the questions will be recorded by Survey Monkey, and only accessed by key personnel in the study. The results from all surveys will be exported into SPSS version 14 for analysis.

Again, thank you for your participation in this study. Your responses will help better the Food, Land & People program in Iowa to better serve educators. If you have any questions, please contact me at (515) 294-0893, or by e-mail at jrbowser@iastate.edu. If you have questions regarding human subjects, please feel free to contact the institutional review board at (515)294-4566.

Thank you for your help.

Sincerely,
Jessica R. Bowser
Iowa State University
Graduate Student

Please note: If you do not wish to receive further emails from us, please click the link below, and you will be automatically removed from our mailing list.
http://www.surveymonkey.com/r.asp?A=121648970E88273
Dear recipient’s first name,

A week ago you received an e-mail to complete a Food, Land & People (FLP) survey. The information that will be collected from this researcher will help better FLP workshops for educators.

Please click on the link below to complete the Food, Land & People Survey.


Again, thank you for your participation in this study. If you have any questions, please contact me at (515) 294-0893, or by e-mail at jrbowser@iastate.edu. If you have questions regarding human subjects, please feel free to contact the institutional review board at (515)294-4566.

Thank You.

Jessica R. Bowser
Iowa State University
Graduate Student

Please note: If you do not wish to receive further emails from us, please click the link below, and you will be automatically removed from our mailing list.

http://www.surveymonkey.com/r.asp?A=121648942E23592
Subject Line: Food, Land & People Workshops in Iowa

Dear recipient’s first name,

A week ago you received an e-mail to complete a Food, Land & People (FLP) survey. The information that will be collected from this researcher will help better FLP workshops for educators.

Please click on the link below to complete the Food, Land & People Survey.


Again, thank you for your participation in this study. If you have any questions, please contact me at (515) 294-0893, or by e-mail at jrbowser@iastate.edu. If you have questions regarding human subjects, please feel free to contact the institutional review board at (515)294-4566.

Thank You.

Jessica R. Bowser
Iowa State University
Graduate Student

Please note: If you do not wish to receive further emails from us, please click the link below, and you will be automatically removed from our mailing list.

http://www.surveymonkey.com/r.asp?A=121648910E23592
Dear recipient’s first name,

I have sent you several e-mails asking you to fill out a survey over your participation in the Food, Land & People workshop in Iowa. Please fill out the survey as soon as possible. Click on link below to go to survey:

http://www.surveymonkey.com/s.asp?A=121648942E97611

This survey is vitally important in helping extension individuals at Iowa State University provide effective Food, Land & People workshops to educators. The survey takes roughly 15 minutes to fill out. If you do not fill out the electronic form, I will be mailing you a paper copy of the survey on April 26th.

Thank you for your participation in this study. If you have any questions, please contact me at (515) 294-0893, or by e-mail at jrbower@iastate.edu.

Thank you, Jessica

Please note: If you do not wish to receive further emails from us, please click the link below, and you will be automatically removed from our mailing list.
http://www.surveymonkey.com/r.asp?A=121648942E97611
REFERENCES


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