DESCRIPTION AND ANALYSIS OF THE PERCEIVED KNOWLEDGE, USE AND EFFECTIVENESS OF EXPERIENTIAL LEARNING IN PENNSYLVANIA 4-H CLUBS

A Thesis in
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by
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ABSTRACT

The National 4-H organization prides itself on “learning by doing.” The idea of learning through an experience is a major component of the experiential learning process, which stems from constructivist education theories. By understanding the process of experiential learning, individuals within the 4-H program will be able to more successfully implement experiential learning within 4-H clubs.

This study examined the perceived knowledge, use and effectiveness of experiential learning within Pennsylvania 4-H clubs. Using an online survey, this study requested information from Extension educators and volunteer leaders throughout the state of Pennsylvania. The demographic profile of a respondent was a white female with a four year degree. The Extension educators had less than 15 years of experience and the volunteer leaders had less than 10 years of experience working with the 4-H program. The most popular project type worked with was Animals, with 93.9% of Extension educators (n=46) and 83.1% of volunteer leaders (n=74) indicating participation.

Of the survey respondents, only 16.3% (n=15) of the volunteer leaders indicated they had received training in experiential learning, while 47.8% (n=44) of volunteer leaders reported familiarity with experiential learning. Even fewer volunteer leaders knew how the phrase Do, Reflect, Apply related to 4-H learning. Although, 96% (n=49) of Extension educators were knowledgeable of the term experiential learning.

Even though 47.8% (n=44) of volunteer leaders reported familiarity with experiential learning, 68.1% (n=62) indicated they use experiential learning within club activities. Extension educators perceived the use of experiential learning by 4-H volunteer leaders as lower than what was self-reported by volunteer leaders. Both Extension educators and volunteer leaders felt that experiential learning techniques were Effective or Very Effective in educating youth. The
difference between Extension educators and volunteer leaders on the topic of effectiveness of experiential learning techniques in youth education approached statistical significance. The Extension educators reported a higher composite mean score compared to the volunteer leaders in the categories of knowledge and effectiveness of experiential learning.

However, the conclusions for the overall use and effectiveness of experiential learning must be analyzed carefully due to the low numbers of volunteer leaders trained and familiar with experiential learning. The recommendations based on the findings from this study suggest increasing the familiarity of volunteer leaders with experiential learning through education and training. While volunteer leaders indicate using experiential learning, a follow up study should be conducted to determine if all steps of the experiential learning model are being incorporated.
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Chapter 1

INTRODUCTION

“Learning by doing,” these three words guide many 4-H clubs in their purpose and educational goals (Enfield, 2001; Kress, 2006). However, one must wonder if there is a connection between the learning and the doing. By being actively engaged, individuals are able to learn what happens before, during, and after an experience. 4-H club advisors must ensure that every experience is educational and meaningful (Enfield, 2001).

To achieve the goal of educational and meaningful experiences, the national 4-H program has adopted the experiential learning model presented by Pfeiffer and Jones (Carlson & Maxa, 1998). In literature, this experiential learning model has been referred to as the 4-H model. The five steps within Pfeiffer and Jones experiential learning model are experience, share, process, generalize, and apply (Carlson & Maxa, 1998). In order for individuals to gain the most knowledge from an experience, all five steps must be followed (Pfeiffer, 1985). While some experiential learning models indicate that the learner can begin at any point in the cycle (Kolb, 1984), Pfeifer and Jones recommend following the order presented above as each step builds upon the one before it (Pfeifer, 1985).

To understand the importance of correctly using the experiential learning model, several questions are raised. First, one must ask if 4-H youth Extension educators and volunteer leaders know the definition of experiential learning. Specifically, questions related to the use of experiential learning and the 4-H model need to be examined. Do educators and leaders know how to use experiential learning? Are 4-H clubs utilizing the 4-H model to gain the most of each experience? Do the educators and leaders use the process of experiential learning as presented by Pfeiffer and Jones?
Another area to explore within 4-H and experiential learning is the training received by educators and leaders (Enfield, Schmitt-McQuitty, & Smith, 2007). Have the individuals that are to be using the experiential learning process received any type of formal training in experiential learning? If the educators and volunteers participated in any past training, was the training effective and understandable? Since “learning by doing” and experiential learning are critical components of the 4-H program (North Carolina State University, 2003; Enfield, 2001), any disconnect in understanding or utilization of the 4-H experiential learning model could create numerous problems for the 4-H program.

Need for the Study

The Pennsylvania 4-H program staff was interested in finding more information related to the knowledge, use, and effectiveness of experiential learning within the state 4-H program. Experiential learning is built into both the national curriculums for youth projects and adult volunteer training materials (Martz, Mincemoyer, & McNeely, 2009). Due to this incorporation of experiential learning, the Pennsylvania state staff was interested in gathering information about experiential learning in Pennsylvania 4-H clubs.

First, the Pennsylvania 4-H staff needs to know if the 4-H educators and volunteer leaders understand the process of experiential learning. This was the primary question that must be answered because without the knowledge of experiential learning by the 4-H leaders, there will be a breakdown in learning for the 4-H youth (Carlson & Maxa, 1998; Enfield, 2001; Enfield et al, 2007). Understanding the process of experiential learning is crucial for successful implementation of the 4-H model, leading to the greatest return from each experience.

The second reason for investigating experiential learning is the training required to fully understand experiential learning. Approximately five years ago, Pennsylvania 4-H staff offered
training in experiential learning, but the state staff is now unsure how many current educators and volunteers participated in this training. If there are a low number of trained individuals, the staff may have to consider re-training educators and volunteers. With limited finances and resources, the state staff wanted to ensure that experiential learning training would be worth the investment. By conducting this study, the Pennsylvania 4-H state staff will be able to determine the perceived levels of knowledge, use, and effectiveness of the experiential learning model in Pennsylvania 4-H clubs.

**Research Objectives**

The purpose of this study was to investigate the knowledge, use, and effectiveness of experiential learning within the Pennsylvania state 4-H program by Extension educators and volunteer leaders. The following objectives were explored.

1. Describe the demographics of Pennsylvania 4-H youth Extension educators and 4-H volunteer leaders.
2. Determine the level of training received by Pennsylvania youth Extension educators and 4-H volunteers trained in the 4-H model of experiential learning.
3. Explore the perceived knowledge of experiential learning within Pennsylvania 4-H clubs.
4. Explore the perceived use of experiential learning within Pennsylvania 4-H clubs.
5. Explore the perceived effectiveness of experiential learning within Pennsylvania 4-H clubs.
6. Determine the differences, if any, in perceived knowledge, use, and effectiveness of experiential learning between Pennsylvania 4-H Extension educators and Pennsylvania 4-H volunteer leaders.
Variables in the Study

Within this study many variables were explored. Differences are expected among the Pennsylvania youth Extension educators’ backgrounds. These variations could influence their knowledge about experiential learning and overall youth educator experience. There are also differences expected in the backgrounds of the volunteer 4-H leaders. Some of these differences are prior 4-H experience, level of education, amount of training, and degree of involvement.

Another area of variation within this study is the different types of Pennsylvania 4-H clubs. Clubs may be organized on a county or community basis. Many rural clubs still operate in the traditional project format, where the club is specifically focused around one subject such as beef cattle (Usinger, Breazeale & Smith, 2005). Other clubs focus on youth development and community service (Usinger, Breazeale & Smith, 2005). Variability will also arise in the learning abilities of club members, which may impact the implementation and effectiveness of experiential learning. Finally, the demographics of youth Extension educators and volunteer leaders will be explored and considered in the analysis of the study.

Operational Definitions

Experiential Learning: Occurs when carefully chosen experiences are supported by reflection, critical analysis, and synthesis (Seaman, 2008).

4-H Model of Experiential Learning: Also known as the 4-H Model. Based on the work of Pfeiffer and Jones (1985). The 4-H model consists of five steps: experience, share, process, generalize, and apply (Carlson & Maxa, 1998).
4-H Club: At least five youth between the ages of 8 and 19 from a minimum of two families. Can be a community club, project specific club, or afterschool club. (Penn State, 2010).

Youth Extension Educator: Individuals from the land-grant universities and Cooperative Extension System who use research to support 4-H volunteer leaders to provide youth with positive programs and activities (United States Department of Agriculture, 2010)

4-H Volunteer Leader: Adult community members who help organize, direct, teach and guide the 4-H club (Penn State, 2010).

Summary

The Pennsylvania 4-H program is supported by the work of volunteer leaders and Extension educators across the state. In order for the youth within this program to gain the most from their experience, adults must provide experiential learning opportunities that enhance learning. The current perceived knowledge, use, and effectiveness of experiential learning within Pennsylvania 4-H is unknown. By conducting this study, the current understanding and implementation of the 4-H model of experiential learning can be evaluated. Once the perceived knowledge, use, and effectiveness of experiential learning is known, the Pennsylvania 4-H state staff can make decisions to enhance the training and education programs for educators and volunteers.
Chapter 2

LITERATURE REVIEW

For thousands of years, there have been philosophers and researchers striving to find the best way to share knowledge. Numerous learning theories have been developed such as behaviorism, constructivism, multiple intelligences and problem-based learning through research and study (Phipps, Osborne, Dyer, & Ball, 2008). When looking for a theory that allows individuals to connect across life experiences, experiential learning stands out (Kolb, 1984). Experiential learning is a continual process that includes an experience and builds through reflection, discussion, analysis, and evaluation of the original experience (Roberts, 2006; Percy, 1999). The different stages of experiential learning enables individuals to be involved in the way they think, feel, perceive and behave in both social and physical worlds (Kolb, 1984). Engagement of the individual in learning activities through experiential learning has shown to increase interest, motivation and retention when encountering a new concept (Garside & Edwards, 1996).

The idea of utilizing experience in education is not new. John Dewey’s work is considered to be the original school of thought for experiential learning (Roberts, 2006). In “Experience and Education,” Dewey (1938) stated, "Everything depends upon the quality of the experience which is had” (p. 27). Dewey's explanation of experiential learning is further developed by the idea that new knowledge needs to be tied to a student's experience or the new knowledge is not retained for future use (Schmidt, 2010). The National 4-H curriculum uses experiential learning in program development because this learning model provides youth with the freedom to continually explore and create meaning about their world (Enfield, 2001).
However, to be most effective in coordinating these clubs, the Pennsylvania State 4-H staff must investigate the knowledge, use, and effectiveness of experiential learning within 4-H clubs.

In this review of literature, the background and supporting information of experiential learning and 4-H programs will be explored. A broad overview of experiential learning theory and its development will be reported first. The review then focuses on the use of experiential learning within the National 4-H program.

**Development of Experiential Learning**

**Behaviorism**

Most theories in education were developed in response to the theory preceding it and experiential learning is no exception. To understand how experiential learning has entered the modern education realm, the theory of behaviorism must first be introduced. Initially and still today, behaviorism was associated with the study of animal behaviors given a stimulus by researchers such as Skinner, Pavlov and Thorndike. Out of the research on animal behavior, educational behaviorist theories have been developed. The use of behaviorism in an educational setting was prominent during the first half of the 1900s. Behaviorism would predominately occur in the primary grades and classes that are teacher focused (Matthews, 2003). This was due to the passive nature of behaviorism where the teacher is seen as the truth of knowledge (Boghossian, 2006; Ertmer & Newby, 1993). Students in a behaviorist classroom underwent conditioning without knowing it. Students were taught routines, repeatedly practiced skills and received reinforcement for completing tasks (Ertmer & Newby, 1993). Students were seen as unresponsive participants with no interaction with the teacher, which provided for the use of behaviorism in lecture based classes (Boghossian, 2006).
Constructivism

The theory of constructivism grew out of, and in response to, behaviorist learning theories. Constructivism came into the classroom in the 1960s and 70s as a way to show value to the learner’s mind (Boghossian, 2006; Matthews, 2003). With constructivism, students are seen as active participants in their education (Ertmer & Newby, 1993). In this active role, students are to construct meaning from the experiences around them and meld together the new and existing knowledge (Ertmer & Newby, 1993). To explain how learners connected new and existing information, Piaget used the terms assimilation and accommodation. Assimilation was identified as the process of incorporating new knowledge into an individual’s ideas, whereas accommodation was described as modifying existing concepts with new knowledge (Phipps et al., 2008).

Learners are encouraged to look at the situation from multiple perspectives because there is no one set way (Ertmer & Newby, 1993; Furman, Jackson, Pepi Downey, & Shears, 2003). To encourage self discovery, teachers are seen as facilitators within the classroom (Ertmer & Newby, 1993; Matthews, 2003). To better understand how a child learns and interacts with adults, Vygotsky created the theory of the zone of proximal development (ZPD) (Phipps et al., 2008; Powell, 2009). The zone of proximal development occurs when a more knowledgeable individual assists a learner in solving a problem (Phipps et al., 2008; Powell, 2009). To support the zone of proximal development, Vgotsky developed a scaffolding theory which provides a supportive learning system for individuals to receive assistance from peers and adults (Powell, 2009). Teachers in a constructivist setting can use discussions and experiments to increase a learner’s interest in the environment (Powell, 2009). It is important for a teacher to note a student’s specific interest and tailor teaching styles and subject contexts for each individual (Matthews, 2003).
Constructivism is also beneficial in providing opportunities for adults to relate with the learner. This theory provides opportunities for adults to help understand the environment that youth see as reality (Furman et al., 2003). By being able to better comprehend what youth see as reality, adults can better relate to the learner's experiences and connect with the individual (Furman et al., 2003). Educators should encourage youth to be active participants in their realities and change their environments and lives (Furman et al., 2003). Youth are to be reminded that there is more than one perspective on any topic (Boghossian, 2006; Furman et al., 2003).

**Experiential Learning**

Constructivism and experiential learning are similar in the high value placed on experience had by the individual. Both of these learning theories are grounded in the works of Dewey. Dewey's belief that experience is the best educator was a firm foundation piece in the constructivist theory (Smith, 2001). According to Dewey, the idea that experiential learning links new knowledge to a student's experience to prevent the loss of new knowledge has been a driving force in understanding experiential learning (Schmidt, 2010).

Experiential learning is a structured approach to learning by experience (Seaman, 2008). This structure is characterized by multiple experiential learning models that have been developed to outline the learning process in a series of steps that continually repeat (Roberts, 2006; Seaman, 2008). The multiple models can be summarized into a carefully selected experience that is supported by reflection, analysis and synthesis of new knowledge (Brennan, 2004; Percy, 1999; Seaman, 2008). The models are cyclical in design by using the new knowledge to go through a new experience, reflect, analyze and synthesize which leads to another new experience (Enfield, Schmitt-McQuitty, & Smith, 2007; Torock, 2009). By having a structured process, the overall goal of the educational experience is more focused (Breunig, 2004; Emo, 2008). A key step of the various models is reflection. The process of reflection is what separates experiential learning from standard hands-on learning (Enfield et al, 2007). By pausing to reflect on what happened through...
an experience, individuals can better connect the new experience with their prior knowledge (Enfield et al, 2007; Seaman, 2008; Torock, 2009)

In 1984, David Kolb made one of the most powerful developments in experiential learning by developing Kolb’s Experiential Learning Model (Seaman, 2008). This model is frequently cited in literature surrounding experiential learning. Kolb suggested that the process is cyclical and never ending (Kolb, 1984; Roberts, 2006). Kolb indicated that there is no specific starting point to the process of experiential learning. By allowing an individual to enter the experiential learning cycle anywhere in the process, the instructor/supervisor enables each participant to experience the specific phenomenon at their own pace.

Kolb is not alone in his research on experiential learning models. The works of Pfeiffer and Jones, Joplin and others offer alternative groupings of the steps in experiential learning (Garside & Edwards, 1996; Kolb, 1984; Percy, 1999; Roberts, 2006). This variation in model development suggests that the many models of experiential learning may group or label the steps of the experiential learning cycle in different ways.

The initial step listed in both Kolb’s and Pfeiffer and Jones’ model is labeled experience (Garside & Edwards, 1996; Kolb, 1984; Percy, 1999; Roberts, 2006). Joplin’s focus is essentially a preparation for experience; it holds the learner’s attention to a specific task to be studied (Joplin, 1981). Choosing to begin with an experience emphasized Dewey’s belief in the importance of experience. The second step in Kolb’s model abstract conceptualization can also be referred to as thinking, and the third step is reflective observation. The second and third step of Pfeiffer and Jones’ model, publishing and processing correspond to Kolb’s second and third steps, abstract conceptualization and reflective observation respectively. Both the Kolb and Pfeiffer and Jones learning models cover the same principles of thinking, sharing and discussing the experience at this point; however, the authors use different vocabulary and steps to group the principles during these steps. The forth step in Kolb’s model active experimentation encompasses
the same ideas of Pfeiffer and Jones’ remaining steps of *generalizing* and *applying*. Here, Pfeiffer and Jones suggest that individuals generate concepts and apply the new principles to everyday life.

Joplin’s (1981) model does not as easily match those suggested by Kolb (1984) and Pfeiffer and Jones (1985). Joplin’s second step of *challenging action* is the experience phase that is identified in the models of Kolb and of Pfeiffer and Jones (Roberts, 2006; Joplin, 1981). The third and fourth steps of Joplin, *support* and *feedback*, focus more on the environment of the learner. These correspond to an instructor’s task during the second and third stages of Kolb’s model (1984) and Pfeiffer and Jones’ model (1985). The final *debrief* step returns to similarities with the final steps in Kolb’s model (1984) and Pfeiffer and Jones’ model (1985) as learners are to understand their learning and apply it to what is already known. Using the categories of *Do, Reflect, Apply* proposed by the National 4-H Learning model, the experiential learning models of Kolb, Pfeiffer and Jones, and Joplin are compared in Figure 2.1.
All three models of experiential learning have similarities in focusing on new experiences, reflecting on new information and applying what has been learned (Joplin, 1981; Kolb, 1984; Pfeiffer, 1985). Without the “experience” process step, experiential learning theory would lose its credibility as a “learner-focused system” (Percy, 1999). However, each model emphasizes different aspects of the learning process. Kolb is not concerned with the outcome of the learning process, rather the focus is on strictly following the cycle, making certain that each of the four steps in the learning model is completed (Kolb, 1984). Pfeiffer and Jones emphasize the
value of group learning and its benefits for individuals (Pfeiffer, 1985). Finally, Joplin’s learning model stands apart by including the steps of support and feedback for facilitators (Joplin, 1981).

Experiential learning is focused on student learning, but has specific requirements of teachers to make the process effective (Emo, 2008; Joplin, 1981; Quay, 2003; Roberts, 2006). Instructors serve as facilitators in experiential learning, helping students work through the reflection and synthesis phases (Joplin, 1981; Knobloch, 2003; Quay, 2003; Torock, 2009). The instructor must take the time to carefully design experiences for learners so that it is representative of the environment and life experiences (Emo, 2008; Quay, 2003; Sanders, 2010). Working with real world experience enables students to find connections between the classroom and outside world (Arnold, Warner, & Osborne, 2006; Knobloch, 2003; Kolb, 1984).

Furthermore, experiential learning develops and encourages the use of problem solving and critical thinking skills (Brennan, 2004; Knobloch, 2003).

The experiential learning process is different from “hands-on” learning because of the reflection and application steps (Enfield, Schmitt-McQuitty, & Smith, 2007). Experiential learning enables individuals to think about what they have learned and then apply it to other situations or problems (Breunig, 2004). When reflecting on what they have learned, individuals develop new questions about a topic, furthering the potential exploration of knowledge (Carlson & Maxa, 1998; Enfield, 2001). As cited in Enfield et al. (2007), Dewey indicated that experiences can be mis-educative unless the individual takes the time to reflect on the experience and apply new knowledge to existing concepts.

Criticisms of experiential learning focus on the framework and application of the different learning cycles. Seaman (2008), states that authors prior to Kolb did not support their work with strong research, and now the framework is built on folk psychology and ideology. Another concern with experiential learning is the lack of a formal evaluation stage (Roberts, 2006). Carlson and Maxa (1998), indicate that without guiding questions, individuals cannot
access the full knowledge potential in experiential learning. It is important for those using experiential learning to understand the process and guide individuals through each step of the cycle (Enfield, 2001).

**The 4-H Learning Model of Experiential Learning**

The phrase *Learning by Doing* is often associated with 4-H and reflects the long history of the organization’s dedication to hands-on learning. Over the years, the National 4-H Organization has developed an experiential learning model based on the works of Kolb and that of Pfeiffer and Jones (Enfield, 2001; Enfield et al., 2007). The 4-H model divides the five-step experiential learning cycle of Pfeiffer and Jones into three phases (Enfield et al., 2007). These phases are commonly known as *Do, Reflect, Apply* (Enfield, 2001). The experience involves the activity being conducted and is the *Do* phase (Carlson & Maxa, 1998; Enfield, 2001). Share and process steps together build the *Reflect* segment. In this step, members describe and communicate the experience to others, while they think and reflect about the experience and determine the most important aspects or themes. Generalize and apply work together to develop the phase of *Apply*. Relating the experience to everyday life is generalizing, while the apply step is relating the new knowledge to a new situation. 4-H adopted the five-step, three-phase model because it believed that creatively engaging youth and allowing them to reflect on experiences, provided for optimal learning opportunities (Enfield, 2001).

**Use of Experiential Learning in 4-H**

The beginning of hands-on 4-H learning started with the corn clubs and tomato clubs where youth were involved in creating a physical end product (Enfield, 2001). The experience component has now evolved into the *Do, Reflect, Apply* experiential learning model (Enfield, 2001). The experiential learning model is used in 4-H because it is relatable, supports different
learning styles, encourages discovery of knowledge, and helps draw conclusions (University of Arkansas, n.d). Besides the skills directly related to the cycle, it also encourages life-skills such as teamwork, communication, problem solving, decision making and self-directed learning (Enfield, 2001; University of Arkansas, n.d).

To successfully incorporate experiential learning, 4-H adult and teen leaders need to support an environment for exploration (Carlson & Maxa, 1998). These individuals help youth develop new knowledge through guiding questions, limiting directions, and encouraging reflection (Enfield, 2001). Experiential learning also requires active cooperation from the youth, which can be challenging at times (Carlson & Maxa, 1998).

A challenge with successfully incorporating experiential learning is changing habits of the leaders. Many of the more mature 4-H leaders are often more comfortable replicating practices and activities from their prior experiences in 4-H as a youth (McKee, Talbert & Barkman, 2002). These leaders want the youth to fit the 4-H program, rather than modifying the 4-H experience to the youth’s needs (Usinger, Breazeale & Smith, 2005). To overcome the traditional mindset and help 4-H leaders understand experiential learning, training sessions need to be utilized (McKee, Talbert & Barkman, 2002).

Overall, volunteer training programs offer many benefits. Training increases the knowledge and skill levels of volunteers, as well as prepares them for their role within an organization (Fox, Hebert, Martin & Bairnsfather, 2009). When done effectively, training helps motivate and encourage volunteers to support the mission and vision of the organization (Fox et al., 2009). Fox et al., (2009) found that 40.5% of volunteers preferred group training and emailed information was the second most preferred way to receive information.

A training program at the University of California had a high overall success rate of teaching 4-H leaders the principles and theories of experiential learning (Enfield et al, 2007). Extension educators have held intensive workshops that teach the correct methods of
incorporating experiential learning into 4-H programs (Enfield et al, 2007). In a survey conducted by Diem (2009), experiential learning was one of the top five categories in which volunteers wanted more information. By offering these extensive training workshops, the leader’s previous habits of teaching are replaced with the correct principles of experiential learning (Enfield, 2001).

Summary

By understanding the principles of experiential learning, 4-H youth Extension educators and volunteer leaders can help youth gain the most from the experience. It is important for adults in the 4-H program to utilize all five steps of the 4-H experiential learning model. Each step allows youth to further investigate and understand learning opportunities. It is imperative for 4-H youth Extension educators and volunteer leaders to fully understand the experiential learning model utilized by 4-H because these individuals are responsible for providing 4-H members with educative experiences.
Chapter 3

METHODS AND PROCEDURES

To measure the knowledge, use, and effectiveness of experiential learning within the Pennsylvania State 4-H program, descriptive survey research was conducted of Extension educators and volunteer leaders. To guide the survey, the following objectives were established.

1. Describe the demographics of Pennsylvania 4-H youth Extension educators and 4-H volunteer leaders.
2. Determine the level of training received by Pennsylvania youth Extension educators and 4-H volunteers trained in the 4-H model of experiential learning.
3. Explore the perceived knowledge of experiential learning within Pennsylvania 4-H clubs.
4. Explore the perceived use of experiential learning within Pennsylvania 4-H clubs.
5. Explore the perceived effectiveness of experiential learning within Pennsylvania 4-H clubs.
6. Determine the differences, if any, in perceived knowledge, use, and effectiveness of experiential learning between Pennsylvania 4-H Extension educators and Pennsylvania 4-H volunteer leaders.

Population / Sample

Two groups of individuals, Pennsylvania 4-H volunteer leaders and Pennsylvania 4-H Extension educators, were surveyed. The Pennsylvania 4-H state staff provided access to the e-data enrollment system where 4-H volunteer leaders’ contact information was available. Only the e-mail address and county for each volunteer leader were collected. Extension educator contact information was also obtained from the Pennsylvania 4-H state staff. When registration
for the 2011 4-H year was complete, the database had 5,697 individuals who were involved as adults in the Pennsylvania 4-H program. However, when the survey instrument was administered the population of individuals in the database was 3,477 with 3,444 usable entries. Entries were rejected if the email addresses were incomplete or missing. Thus, the population for this study was 3,444 volunteer leaders and 76 Extension educators. Using the sample size selection chart published by Krejcie and Morgan (1970), a sample of 346 individuals was selected. The state of Pennsylvania has four extension regions; therefore, the 4-H volunteer leader sample was selected in a proportional stratified random manner to ensure the sample accurately reflected the overall population. Figure 3.1 displays how the state of Pennsylvania is divided into the four extension regions.

![Map of Pennsylvania extension regions.](https://pccea.extension.psu.edu)

Figure 3.1 Map of Pennsylvania extension regions.


To calculate the number of individuals from each region to sample, the population from that region was divided by 3,444 which resulted in a percentage. This percentage was then multiplied by 346 to get the sample size for that region. For example, a total of 820 names were received from the western region. To calculate the percentage of the population made up by the western volunteers, 820 was divided by 3,444 to reach 23.8%. To determine the number of
individuals in the sample that should come from the western region, 346 was multiplied by 23.8% to result in 82 persons. Similar calculations were conducted for each of the other three groups. A fifth group, Unknown, was included because not all email addresses collected from the state 4-H staff were listed with a county or 4-H region. Each of the four regions and the unknown group was calculated utilizing the procedure for proportional stratified random sample. Table 3.1 shows the total number of volunteer leaders in each group and the number selected for the sample. When selecting the 50 individuals for the pilot study, the same proportional stratified random procedure was also utilized.

Table 3.1 Population and sample size for the survey investigating the knowledge, use and effectiveness of experiential learning.

<table>
<thead>
<tr>
<th></th>
<th>West</th>
<th>Central</th>
<th>Northeast</th>
<th>Southeast</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Population</strong></td>
<td>820</td>
<td>695</td>
<td>591</td>
<td>755</td>
<td>583</td>
<td>3444</td>
</tr>
<tr>
<td><strong>Percent of</strong></td>
<td>23.8%</td>
<td>20.2%</td>
<td>17.2%</td>
<td>21.9%</td>
<td>16.9%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Population</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sample</strong></td>
<td>82</td>
<td>70</td>
<td>59</td>
<td>76</td>
<td>59</td>
<td>346</td>
</tr>
<tr>
<td><strong>Pilot</strong></td>
<td>12</td>
<td>10</td>
<td>9</td>
<td>11</td>
<td>8</td>
<td>50</td>
</tr>
</tbody>
</table>

Because of the small number of 4-H Extension educators in Pennsylvania, a census of all 4-H educators was conducted. There are 76 individuals with 4-H educator as part of their job description within the Pennsylvania Extension system. Since a census was conducted of this population, no pilot study group was selected.

**Survey Procedures**

The survey was conducted online through SurveyMonkey © and an individualized link was created and distributed via email to all Pennsylvania youth Extension educators and the 4-H
volunteer leaders that were part of the sample. When distributing the survey link, Dillman’s (2000) online survey procedures were followed with a slight modification to achieve the highest response rate, while still being able to complete the study during the researcher’s limited timeframe. Dillman’s procedure was altered by not sending a pre-notice to the survey distribution. The pre-notice was not sent due to the time constraints of this study.

Miller and Smith’s (1983) procedure for comparing early and late respondents was used to determine if those in the sample that did not respond were statistically different than those that did respond. As cited in Miller and Smith, it has been shown that non-respondents are often similar to later respondents in a survey (Miller and Smith, 1983). Independent t-tests on four individual Likert-type scales were completed to check statistical differences between early and late respondents. After the four independent t-tests were calculated, there were no statistical differences found between the two groups. To interpret the data, SPSS version 19 was used, with means, standard deviations, frequencies, and independent t-test.

**Survey Instrument**

No suitable survey instrument was available to measure the knowledge, use, and effectiveness of experiential learning. Therefore, a survey instrument was developed based on the literature review of experiential learning and with input from the Pennsylvania State 4-H Staff to fulfill the study needs. The survey was developed in three sections, one for Extension educators, one for volunteer leaders, and a third demographic section to be completed by both groups. The survey instrument used in this study is found in Appendix B.

This web-based survey used multiple assessments to gather data about the knowledge, use, and effectiveness of experiential learning. Likert-type scales were used to measure activity frequency and statement agreement. Nominal level questions and write in answers were included to measure agreement and understanding. Multiple-choice questions were used to measure
activity frequency and complete statements. Table 3.2 lists the question number and type of analysis used to gather information through the survey. The survey was developed using survey logic to direct individuals through the survey and avoid questions that were not relevant to their situation. Various nominal level and multiple choice questions were designed with the survey logic. By using survey logic, individuals were able to complete only the portions of the survey relevant to their situation.
Table 3.2 Objectives, questions, and analysis techniques for survey.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Sources of Data</th>
<th>Type of Data</th>
<th>Analysis Technique</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective #1:</strong> Describe the demographics of Pennsylvania 4-H youth Extension educators and 4-H volunteer leaders.</td>
<td>Question #: 1, 2, 3, 4, 5a-e, 14, 15, 16, 17a-e, 18a-e, 29, 30, 31, 32, 33, 34, 35, 36</td>
<td>Nominal, Ordinal, Interval / Ratio</td>
<td>Frequencies, Percentages</td>
</tr>
<tr>
<td>Q. 1</td>
<td>Nominal</td>
<td>Frequencies, Percentages</td>
<td></td>
</tr>
<tr>
<td>Q. 2</td>
<td>Interval / Ratio</td>
<td>Frequencies, Percentages</td>
<td></td>
</tr>
<tr>
<td>Q. 3</td>
<td>Nominal</td>
<td>Frequencies, Percentages</td>
<td></td>
</tr>
<tr>
<td>Q. 4</td>
<td>Nominal</td>
<td>Frequencies, Percentages</td>
<td></td>
</tr>
<tr>
<td>Q. 5a–e</td>
<td>Ordinal</td>
<td>Frequencies, Percentages</td>
<td></td>
</tr>
<tr>
<td>Q. 14</td>
<td>Interval / Ratio</td>
<td>Frequencies, Percentages</td>
<td></td>
</tr>
<tr>
<td>Q. 15</td>
<td>Nominal</td>
<td>Frequencies, Percentages</td>
<td></td>
</tr>
<tr>
<td>Q. 16</td>
<td>Nominal</td>
<td>Frequencies, Percentages</td>
<td></td>
</tr>
<tr>
<td>Q. 17a–e</td>
<td>Ordinal</td>
<td>Frequencies, Percentages</td>
<td></td>
</tr>
<tr>
<td>Q. 18a–e</td>
<td>Ordinal</td>
<td>Frequencies, Percentages</td>
<td></td>
</tr>
<tr>
<td>Q. 29</td>
<td>Nominal</td>
<td>Frequencies, Percentages</td>
<td></td>
</tr>
<tr>
<td>Q. 30</td>
<td>Interval / Ratio</td>
<td>Frequencies, Percentages</td>
<td></td>
</tr>
<tr>
<td>Q. 31</td>
<td>Nominal</td>
<td>Frequencies, Percentages</td>
<td></td>
</tr>
</tbody>
</table>
### Objective #2

**Objective**
Determine the level of training received by Pennsylvania youth Extension educators and 4-H volunteers trained in the 4-H model of experiential learning.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Sources of Data</th>
<th>Type of Data</th>
<th>Analysis Technique</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q. 32</td>
<td>Nominal</td>
<td>Frequencies</td>
<td>Percentages</td>
</tr>
<tr>
<td>Q. 33</td>
<td>Nominal</td>
<td>Frequencies</td>
<td>Percentages</td>
</tr>
<tr>
<td>Q. 34</td>
<td>Nominal</td>
<td>Frequencies</td>
<td>Percentages</td>
</tr>
<tr>
<td>Q. 35</td>
<td>Nominal</td>
<td>Frequencies</td>
<td>Percentages</td>
</tr>
<tr>
<td>Q. 36</td>
<td>Nominal</td>
<td>Frequencies</td>
<td>Percentages</td>
</tr>
</tbody>
</table>

**Question #:** 6, 11a, 12a-e, 19, 19a, 24, 24a, 24b, 24c1-5, 27a-i

<table>
<thead>
<tr>
<th>Question #</th>
<th>Type of Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>11a</td>
<td>Ordinal</td>
</tr>
<tr>
<td>12a-e</td>
<td>Ordinal</td>
</tr>
<tr>
<td>19</td>
<td>Nominal</td>
</tr>
<tr>
<td>19a</td>
<td>Ordinal</td>
</tr>
<tr>
<td>24</td>
<td>Nominal</td>
</tr>
<tr>
<td>24a</td>
<td>Ordinal</td>
</tr>
<tr>
<td>24b</td>
<td>Qualitative</td>
</tr>
<tr>
<td>24c1-5</td>
<td>Ordinal</td>
</tr>
<tr>
<td>27a-i</td>
<td>Ordinal</td>
</tr>
</tbody>
</table>

**Analysis Technique:** Frequencies, Percentages
<table>
<thead>
<tr>
<th><strong>Objective</strong></th>
<th><strong>Sources of Data</strong></th>
<th><strong>Type of Data</strong></th>
<th><strong>Analysis Technique</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective #3</strong></td>
<td>Question #: 3, 8, 10, 10a, 15, 20, 21, 23, 23a</td>
<td>Nominal, Ordinal</td>
<td>Frequencies, Percentages</td>
</tr>
<tr>
<td>Exploration of perceived knowledge of experiential learning within Pennsylvania 4-H clubs.</td>
<td>Q. 3</td>
<td>Nominal</td>
<td>Frequencies, Percentages</td>
</tr>
<tr>
<td></td>
<td>Q. 8</td>
<td>Nominal</td>
<td>Frequencies, Percentages</td>
</tr>
<tr>
<td></td>
<td>Q. 10</td>
<td>Nominal</td>
<td>Frequencies, Percentages</td>
</tr>
<tr>
<td></td>
<td>Q. 10a</td>
<td>Nominal</td>
<td>Frequencies, Percentages</td>
</tr>
<tr>
<td></td>
<td>Q. 15</td>
<td>Nominal</td>
<td>Frequencies, Percentages</td>
</tr>
<tr>
<td></td>
<td>Q. 20</td>
<td>Nominal</td>
<td>Frequencies, Percentages</td>
</tr>
<tr>
<td></td>
<td>Q. 21</td>
<td>Nominal</td>
<td>Frequencies, Percentages</td>
</tr>
<tr>
<td></td>
<td>Q. 23</td>
<td>Nominal</td>
<td>Frequencies, Percentages</td>
</tr>
<tr>
<td></td>
<td>Q. 23a</td>
<td>Nominal</td>
<td>Frequencies, Percentages</td>
</tr>
<tr>
<td><strong>Objective #4</strong></td>
<td>Question #: 7, 7a, 9a-e, 11b, 20a, 22a-e, 25, 26</td>
<td>Nominal, Ordinal, Qualitative</td>
<td>Frequencies, Percentages</td>
</tr>
<tr>
<td>Exploration of perceived use of experiential learning within Pennsylvania 4-H clubs.</td>
<td>Q. 7</td>
<td>Nominal</td>
<td>Frequencies, Percentages</td>
</tr>
<tr>
<td></td>
<td>Q. 7a</td>
<td>Qualitative</td>
<td>Frequencies, Percentages</td>
</tr>
<tr>
<td></td>
<td>Q. 9a – e</td>
<td>Ordinal</td>
<td>Frequencies, Percentages</td>
</tr>
<tr>
<td></td>
<td>Q. 11b</td>
<td>Ordinal</td>
<td>Frequencies, Percentages</td>
</tr>
<tr>
<td>Objective</td>
<td>Sources of Data</td>
<td>Type of Data</td>
<td>Analysis Technique</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------</td>
<td>--------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Q. 20</td>
<td>Nominal</td>
<td>Frequencies</td>
<td>Percentages</td>
</tr>
<tr>
<td>Q. 20a</td>
<td>Qualitative</td>
<td>Frequencies</td>
<td>Percentages</td>
</tr>
<tr>
<td>Q. 22a – e</td>
<td>Ordinal</td>
<td>Frequencies</td>
<td>Percentages</td>
</tr>
<tr>
<td>Q. 25</td>
<td>Nominal</td>
<td>Frequencies</td>
<td>Percentages</td>
</tr>
<tr>
<td>Q. 26</td>
<td>Ordinal</td>
<td>Frequencies</td>
<td>Percentages</td>
</tr>
<tr>
<td>Question#: 13a-g, 28a-g</td>
<td>Ordinal</td>
<td>Frequencies</td>
<td>Percentages</td>
</tr>
<tr>
<td>Q. 13a – g</td>
<td>Ordinal</td>
<td>Frequencies</td>
<td>Percentages</td>
</tr>
<tr>
<td>Q. 28a – g</td>
<td>Ordinal</td>
<td>Frequencies</td>
<td>Percentages</td>
</tr>
<tr>
<td>Question #: 9a-e, 12a-e, 13a-g, 22a-e, 24c1-5, 28a-g</td>
<td>Interval / Ratio</td>
<td>Independent t-test</td>
<td></td>
</tr>
</tbody>
</table>

**Objective #5**
Explore the perceived effectiveness of experiential learning within Pennsylvania 4-H clubs.

**Objective #6**
Determine the differences, if any, in perceived knowledge, use, and effectiveness of experiential learning between Pennsylvania 4-H Extension educators and Pennsylvania 4-H volunteer leaders.
Survey Validity, Reliability, and Approval

To establish validity and reliability of this survey, it was reviewed multiple times by four professors at The Pennsylvania State University with experience in youth education, 4-H programming, experiential learning and research design. This panel of experts reviewed the survey to ensure that questions were worded correctly, easy to understand and that the survey was navigable. The survey was then sent as a pilot test to 50 4-H volunteer leaders who were not part of the research sample. The Likert-type questions were then evaluated for their alpha values and determined to be acceptable at 0.82. When reviewing the results of the pilot test, no questions had an unanticipated response.

In order to conduct this survey, approval from the Institutional Review Board at The Pennsylvania State University was received for study #36674. A copy of this approval is in Appendix C. This board reviewed the survey instrument, recruitment materials, population and plans for analysis to check for research ethics. The board found that the proposed research study was exempt, and therefore did not require further review from the IRB.

Procedures for Data Collection

To distribute this survey, Dillman’s (2000) internet survey method was used with a slight modification. When sending the survey, there was no pre-notice email sent due to time consideration for the study. The researcher wanted to accurately represent the current sample of individuals in the 4-H database, in addition to the completion of the graduate program. Rather, the first contact with sample individuals contained the survey link and recruitment letter. The second and third contacts served as reminders to all who had not yet completed the survey. These reminders were sent out 7 to 10 days following the previous message. The final notice was sent 7 days after the second reminder. For the 4-H volunteer leader sample, 10% of non-respondents were chosen using proportional stratified random sampling to receive this final notice. All
remaining 4-H Extension educators received the final notice. Because each participant was assigned a unique survey link, the researcher was able to identify which email addresses had completed the survey. Once an individualized survey link was used, its email address was removed from the contact list to prevent further reminder emails being sent to that respondent. Table 3.3 lists the number of emails sent and responses received for each correspondence.

Table 3.3 Number of emails sent to sample individuals throughout the data collection process.

<table>
<thead>
<tr>
<th></th>
<th>Initial Email</th>
<th>First Reminder</th>
<th>Second Reminder</th>
<th>Final Notice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volunteer Educator</td>
<td>346</td>
<td>282</td>
<td>238</td>
<td>21</td>
</tr>
<tr>
<td>Volunteer Educator</td>
<td>76</td>
<td>45</td>
<td>31</td>
<td>25</td>
</tr>
<tr>
<td>Invalid</td>
<td>13</td>
<td>4</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Total Volunteers</td>
<td>124</td>
<td>106</td>
<td>59</td>
<td>33</td>
</tr>
<tr>
<td>Response Rate</td>
<td>35.8%</td>
<td>35.8%</td>
<td>35.8%</td>
<td>75.0%</td>
</tr>
</tbody>
</table>

To analyze quantitative data, the researcher calculated means, frequencies and percentages using SPSS. For select questions, such as the type of club worked with, the percentage was calculated using the total number individuals who responded to that question as the denominator. For objective six, three Likert-type questions were used. A mean score was calculated for each respondent who completed all items within the question. If an individual responded *Don’t Know*, a 9 was entered into their score calculation and the program was told to treat that entry as a missing value. Independent t-tests were then used to compare the values generated by the Extension educators and volunteer leaders.

Extension educators were asked one qualitative question and the volunteer leaders were asked two. For both groups of survey respondents, they were asked to define experiential
learning. In addition, the volunteer leaders who used experiential learning were asked to provide an example of how experiential learning was used within their club activities.

According to Zhang and Wildemuth (2006), “Qualitative content analysis involves a process designed to condense raw data into categories or themes based on valid inference and interpretation” (p. 2). Prior to coding the definitions of experiential learning, the researcher used the literature review to identify themes or key words associated with experiential learning and the 4-H learning model. Next, the researcher collected all of the responses provided on the survey. Each response was read and any of the seven themes present in the response were identified. The following week, the researcher reprinted the responses and recoded the definitions. The two sets of data coding were compared and it was found that there were no variations in themes identified.

The process of identifying themes within examples of experiential learning provided by volunteer leaders was similar. With the examples, the researcher used the six club types as the initial themes, but after reviewing the responses found them to be inadequate. Therefore, the researcher used the responses to generate themes that best represented the examples of experiential learning. This coding process was again repeated one week later by the researcher to check for reliability of identifying themes. The researcher found that the data was coded identically on each day.
Chapter 4

Results

The purpose of this study was to investigate the knowledge, use and effectiveness of experiential learning within the Pennsylvania state 4-H program by Extension educators and volunteer leaders. The following objectives guided the study:

1. Describe the demographics of Pennsylvania 4-H youth Extension educators and 4-H volunteer leaders.
2. Determine the level of training received by Pennsylvania youth Extension educators and 4-H volunteers trained in the 4-H model of experiential learning.
3. Explore the perceived knowledge of experiential learning within Pennsylvania 4-H clubs.
4. Explore the perceived use of experiential learning within Pennsylvania 4-H clubs.
5. Explore the perceived effectiveness of experiential learning within Pennsylvania 4-H clubs.
6. Determine the differences, if any, in perceived knowledge, use, and effectiveness of experiential learning between Pennsylvania 4-H Extension educators and Pennsylvania 4-H volunteer leaders.

This chapter presents the results obtained from the data collected including statistical analysis. The results of the study are presented as per the stated objectives.
Demographic Profile

Objective #1: Describe the demographics of Pennsylvania 4-H youth Extension educators and 4-H volunteer leaders.

Of the 186 responses received, there were 52 usable Extension educator surveys and 92 usable volunteer leader surveys for a total of 144 usable surveys. Responses were counted if they completed 75% of survey questions, excluding demographics. Because respondents did not need to complete 100% of questions to be usable, some questions have fewer than 52 Extension educator or 92 volunteer leader responses. Of the volunteer leaders surveyed, 26.6% usable responses were collected. Of the Extension educators, 68.4% usable responses were collected. The overall response rate for this survey was 34.1%. Table 4.1 shows how the usable respondents were distributed across the state. For the unknown group surveyed, the researcher was able to use a demographic question to determine which region the respondent belonged in.

Table 4.1 Distribution of survey respondents across the state of Pennsylvania.

<table>
<thead>
<tr>
<th></th>
<th>West</th>
<th>Central</th>
<th>Northeast</th>
<th>Southeast</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educators</td>
<td>13</td>
<td>11</td>
<td>12</td>
<td>16</td>
<td>0</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>25.0%</td>
<td>21.1%</td>
<td>23.1%</td>
<td>30.8%</td>
<td>0.0%</td>
<td>100%</td>
</tr>
<tr>
<td>Leaders</td>
<td>29</td>
<td>19</td>
<td>15</td>
<td>27</td>
<td>2</td>
<td>92</td>
</tr>
<tr>
<td></td>
<td>31.5%</td>
<td>20.7%</td>
<td>16.3%</td>
<td>29.3%</td>
<td>2.2%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Respondents were asked to complete a demographics section on the survey. Results indicated that 79.3% of respondents (n=111) were female and 20.7% of respondents (n=29) were male. When looking at race, 94.1% of Extension educators (n=48) were white, 2.0% (n=1) were Black or African American, and 3.9% (n=2) were other. Of the 4-H volunteer leaders who responded, 100% (n=89) were white. In terms of age, the educators (n=44) reported being
between the ages of 25 and 67. Of the 4-H volunteer leaders, 69.8% (n=60) were between the ages of 35 and 54. The complete distribution of ages is displayed in table 4.2.

Table 4.2 Distribution of ages for Pennsylvania Extension educators and volunteer leaders.

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Educators</th>
<th>Leaders</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-29 years</td>
<td>5</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>30-34 years</td>
<td>6</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>35-39 years</td>
<td>7</td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td>40-44 years</td>
<td>3</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>45-49 years</td>
<td>3</td>
<td>23</td>
<td>26</td>
</tr>
<tr>
<td>50-54 years</td>
<td>8</td>
<td>13</td>
<td>21</td>
</tr>
<tr>
<td>55-59 years</td>
<td>7</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td>60-64 years</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>65-69 years</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>86</td>
<td>130</td>
</tr>
</tbody>
</table>

In terms of highest education level achieved, a four-year college degree was reported most frequently by both the Extension educators (45.1%, n=23) and volunteer leaders (30.3%, n=27). However, the second most frequently reported level of education was different for each group. For Extension educators, a masters degree (39.2%, n=20) was second, while a high school diploma (25.8%, n=23) was the second most reported by volunteer leaders. The results for highest level of education completed are provided in table 4.3.
Table 4.3 Highest level of education completed by Pennsylvania Extension educators and volunteer leaders.

<table>
<thead>
<tr>
<th></th>
<th>High School</th>
<th>Some College</th>
<th>2 year/Technical</th>
<th>4 year College</th>
<th>Masters</th>
<th>PhD</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educator</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>23</td>
<td>20</td>
<td>0</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>5.9%</td>
<td>7.8%</td>
<td>2.0%</td>
<td>45.1%</td>
<td>39.2%</td>
<td>0.0%</td>
<td>100%</td>
</tr>
<tr>
<td>Leader</td>
<td>23</td>
<td>8</td>
<td>17</td>
<td>27</td>
<td>12</td>
<td>2</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td>25.8%</td>
<td>9.0%</td>
<td>19.1%</td>
<td>30.3%</td>
<td>13.5%</td>
<td>2.3%</td>
<td>100%</td>
</tr>
<tr>
<td>Total</td>
<td>26</td>
<td>12</td>
<td>18</td>
<td>50</td>
<td>32</td>
<td>2</td>
<td>140</td>
</tr>
<tr>
<td></td>
<td>18.6%</td>
<td>8.6%</td>
<td>12.8%</td>
<td>35.7%</td>
<td>22.9%</td>
<td>1.4%</td>
<td>100%</td>
</tr>
</tbody>
</table>

When both the Extension educators and volunteer leaders were asked if they were a member of the 4-H program as a youth, 60.6% (n=86) responded Yes and 39.4% (n=56) responded No. The respondents were also asked to select all project types with which they currently work. These projects were then condensed into six categories: Animal, Environment, Youth Development, Science and Technology, Home Economics, and Other. The Other category included projects such as bicycle, collectables, photography, shooting sports and theatre. A total of 49 Extension educators and 89 volunteer leaders provided information about the programs with which they work. In both groups, Animal focused projects received the highest participation numbers with 93.9% (n=46) Extension educators and 83.1% (n=74) of volunteer leaders. Science and Technology based projects received the lowest level of participation in both groups with 63.3% (n=31) of Extension educators and 14.6% (n=13) of volunteer leaders responding Yes. Table 4.4 shows the complete distribution of all project types worked with by Extension educators and volunteer leaders.
Respondents were asked to indicate how many years they have worked with the Pennsylvania 4-H program, either as an Extension educator or volunteer leader. For the Extension educators, 28.9% (n=15) had been working with the 4-H program for 11 – 15 years. For the 4-H volunteer leaders, 42.4% (n=39) had been associated with the 4-H program for 1 – 5 years. The complete results to this question are displayed in table 4.5.

Table 4.4 Frequency of project type worked with by the Pennsylvania Extension educators and volunteer leaders.

<table>
<thead>
<tr>
<th></th>
<th>Animal</th>
<th>Environment</th>
<th>Youth Development</th>
<th>Science/ Technology</th>
<th>Home Economics</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educator</td>
<td>46</td>
<td>35</td>
<td>45</td>
<td>31</td>
<td>41</td>
<td>38</td>
<td>236</td>
</tr>
<tr>
<td>(n=49)</td>
<td>93.9%</td>
<td>71.4%</td>
<td>91.8%</td>
<td>63.3%</td>
<td>83.7%</td>
<td>77.6%</td>
<td></td>
</tr>
<tr>
<td>Volunteer</td>
<td>74</td>
<td>28</td>
<td>24</td>
<td>13</td>
<td>27</td>
<td>21</td>
<td>187</td>
</tr>
<tr>
<td>(n=89)</td>
<td>83.1%</td>
<td>31.5%</td>
<td>27.0%</td>
<td>14.6%</td>
<td>30.3%</td>
<td>23.6%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>63</td>
<td>69</td>
<td>44</td>
<td>68</td>
<td>59</td>
<td>423</td>
</tr>
<tr>
<td>(n=138)</td>
<td>87.0%</td>
<td>45.7%</td>
<td>50.0%</td>
<td>31.9%</td>
<td>49.3%</td>
<td>42.8%</td>
<td></td>
</tr>
</tbody>
</table>

Respondents were asked to indicate how many years they have worked with the Pennsylvania 4-H program, either as an Extension educator or volunteer leader. For the Extension educators, 28.9% (n=15) had been working with the 4-H program for 11 – 15 years. For the 4-H volunteer leaders, 42.4% (n=39) had been associated with the 4-H program for 1 – 5 years. The complete results to this question are displayed in table 4.5.

Table 4.5 Number of years associated with the Pennsylvania 4-H Program

<table>
<thead>
<tr>
<th></th>
<th>1 - 5 years</th>
<th>6 - 10 years</th>
<th>11 - 15 years</th>
<th>16 - 20 years</th>
<th>21 - 25 years</th>
<th>26 - 30 years</th>
<th>31 - 50 years</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educator</td>
<td>10</td>
<td>9</td>
<td>15</td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>3</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>19.2%</td>
<td>17.3%</td>
<td>28.9%</td>
<td>7.7%</td>
<td>11.5%</td>
<td>9.6%</td>
<td>5.8%</td>
<td>100%</td>
</tr>
<tr>
<td>Volunteer</td>
<td>39</td>
<td>20</td>
<td>13</td>
<td>9</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>92</td>
</tr>
<tr>
<td></td>
<td>42.4%</td>
<td>21.7%</td>
<td>14.1%</td>
<td>9.8%</td>
<td>4.4%</td>
<td>2.2%</td>
<td>5.4%</td>
<td>100%</td>
</tr>
<tr>
<td>Total</td>
<td>49</td>
<td>29</td>
<td>28</td>
<td>13</td>
<td>10</td>
<td>7</td>
<td>8</td>
<td>144</td>
</tr>
<tr>
<td></td>
<td>34.0%</td>
<td>20.1%</td>
<td>19.4%</td>
<td>9.0%</td>
<td>7.0%</td>
<td>4.9%</td>
<td>5.6%</td>
<td>100%</td>
</tr>
</tbody>
</table>
Tables 4.6, 4.7, and 4.8 display results related to the levels of interaction between Extension educators and volunteer leaders. To understand the use of workshops in the Pennsylvania 4-H program, Extension educators were asked how frequently they offer workshops or training for volunteer leaders. Then volunteer leaders were asked how frequently they attend workshops or training hosted by the Extension educators. Approximately 56% of Extension educators (n=29) reported offering More than 2 Workshops per Year, while 46.7% of volunteer leaders (n=43) reported attending 1 or 2 Workshops per Year. Table 4.6 provides the frequency counts for this information.

Table 4.6 Frequency of workshops offered and attended in the Pennsylvania 4-H Program.

<table>
<thead>
<tr>
<th></th>
<th>More than 2 per year</th>
<th>1 or 2 per year</th>
<th>Less than 1 per year</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educator (Hold)</td>
<td>29</td>
<td>22</td>
<td>1</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>55.8%</td>
<td>42.3%</td>
<td>1.9%</td>
<td>100%</td>
</tr>
<tr>
<td>Leader (Attend)</td>
<td>9</td>
<td>43</td>
<td>40</td>
<td>92</td>
</tr>
<tr>
<td></td>
<td>9.8%</td>
<td>46.7%</td>
<td>43.5%</td>
<td>100%</td>
</tr>
</tbody>
</table>

To understand the level of interaction at the club level, Extension educators were asked how frequently they attend 4-H club meetings. The volunteer leaders were asked how many club meetings they hold per year. Of the Extension educators, 30.8% (n=16) attended 3-5 Meetings per Year, while 62.0% (n=57) of the volunteer leaders reported holding 9 or More Meetings per Year. The complete results for this interaction are provided in table 4.7.
Table 4.7 Interaction between Pennsylvania Extension educators and volunteer leaders at club meetings.

<table>
<thead>
<tr>
<th></th>
<th>More than 12</th>
<th>9-11 per year</th>
<th>6-8 per year</th>
<th>3-5 per year</th>
<th>2 or fewer</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educator (Attended)</td>
<td>14</td>
<td>6</td>
<td>10</td>
<td>16</td>
<td>6</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>27.0%</td>
<td>11.5%</td>
<td>19.2%</td>
<td>30.8%</td>
<td>11.5%</td>
<td>100%</td>
</tr>
<tr>
<td>Leader (Held)</td>
<td>57</td>
<td>29</td>
<td>4</td>
<td>2</td>
<td></td>
<td>92</td>
</tr>
<tr>
<td></td>
<td>62.0%</td>
<td>31.5%</td>
<td>4.3%</td>
<td>2.2%</td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 4.8 provides frequency counts and percentages for how different methods of communications occur. This table compares the level of interaction between Extension educators and volunteer leaders through the perceptions of both Extension educators and volunteer leaders. First, Extension educators were asked to describe their level of interaction with volunteer leaders using *Face to Face, Phone, Email, Newsletter,* and *Text Message* communication. The volunteer leaders were then asked their perceived level of communication with Extension educators using the same methods of communication. For example, 48.1% (n=25) of Extension educators believe that their level of *Phone* communication is high with the volunteer leaders. However, only 17.4% (n=16) of volunteer leaders feel that the level of *Phone* communication with Extension educators qualifies as high.
Table 4.8 Perceived level of use for different communication methods among Pennsylvania Extension educators and volunteer leaders.

<table>
<thead>
<tr>
<th>Method</th>
<th>Very Low</th>
<th>Low</th>
<th>Average</th>
<th>High</th>
<th>Very High</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face to Face</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educator with Volunteer</td>
<td>0</td>
<td>3</td>
<td>18</td>
<td>19</td>
<td>12</td>
<td>52</td>
</tr>
<tr>
<td>Volunteer with Educator</td>
<td>10</td>
<td>12</td>
<td>28</td>
<td>29</td>
<td>12</td>
<td>91</td>
</tr>
<tr>
<td>Phone</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educator with Volunteer</td>
<td>0</td>
<td>1</td>
<td>12</td>
<td>25</td>
<td>14</td>
<td>52</td>
</tr>
<tr>
<td>Volunteer with Educator</td>
<td>14</td>
<td>13</td>
<td>38</td>
<td>16</td>
<td>11</td>
<td>92</td>
</tr>
<tr>
<td>Email</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educator with Volunteer</td>
<td>0</td>
<td>1</td>
<td>12</td>
<td>22</td>
<td>17</td>
<td>52</td>
</tr>
<tr>
<td>Volunteer with Educator</td>
<td>9</td>
<td>15</td>
<td>26</td>
<td>25</td>
<td>17</td>
<td>92</td>
</tr>
<tr>
<td>Newsletter</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educator with Volunteer</td>
<td>3</td>
<td>7</td>
<td>21</td>
<td>13</td>
<td>8</td>
<td>52</td>
</tr>
<tr>
<td>Volunteer with Educator</td>
<td>6</td>
<td>11</td>
<td>42</td>
<td>19</td>
<td>10</td>
<td>88</td>
</tr>
<tr>
<td>Text Message</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educator with Volunteer</td>
<td>25</td>
<td>14</td>
<td>8</td>
<td>3</td>
<td>0</td>
<td>50</td>
</tr>
<tr>
<td>Volunteer with Educator</td>
<td>71</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>85</td>
</tr>
</tbody>
</table>
Training in Experiential Learning

Objective #2: Determine the level of training received by Pennsylvania youth Extension educators and 4-H volunteers trained in the 4-H model of experiential learning.

To understand the training that occurs within the Pennsylvania 4-H program, several questions were asked. First, Extension educators were asked how frequently they offer different workshops or training opportunities for the volunteer leaders. Of the Extension educators, 55.8% (n=29) reported offering *More than Two Workshops per Year* and 42.3% (n=22) reported *One or Two Workshops per Year*. The volunteer leaders were asked how many different Extension workshops or trainings they attend per year. The volunteer leaders were almost evenly split between attending *One or Two Workshops per Year* (46.7%, n=43) and *Less than One Workshop per Year* (43.5%, n=40).

Table 4.9 displays the number of Extension educators and volunteer leaders who have received training or attended a workshop in experiential learning at some point in their careers. 71.2% of Extension educators (n=37) and 16.3% of volunteer leaders reported participating in some form of experiential learning training or workshop.

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Not Sure</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Educators</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>37</td>
<td>13</td>
<td>2</td>
<td>52</td>
</tr>
<tr>
<td>Percentage</td>
<td>71.2%</td>
<td>25.0%</td>
<td>3.8%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Volunteers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>15</td>
<td>77</td>
<td>0</td>
<td>92</td>
</tr>
<tr>
<td>Percentage</td>
<td>16.3%</td>
<td>83.7%</td>
<td>0.0%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>52</td>
<td>90</td>
<td>2</td>
<td>144</td>
</tr>
<tr>
<td>Percentage</td>
<td>36.1%</td>
<td>62.5%</td>
<td>1.4%</td>
<td>100%</td>
</tr>
</tbody>
</table>
Extension educators were then asked if they offered experiential learning workshops or training sessions for their volunteer leaders. This question corresponded to the volunteer leaders responding if they had attended an experiential learning workshop or training session through the Extension program. Of the Extension educators, 64.7% (n=33) said they offered some type of experiential learning program, while only 13.0% (n=12) of volunteer leaders responded Yes to attending. The educators and volunteer leaders who participated in an Extension based program were asked when the most recent training or workshop occurred. As reported in table 4.10, the majority of Extension educators (72.7%, n=24) and volunteer leaders (66.7%, n=8) reported that the training or workshop Occurred within the Past Year.

Table 4.10 Most recent experiential learning training or workshop offered or attended through the Extension program.

<table>
<thead>
<tr>
<th></th>
<th>&lt; 1 year ago</th>
<th>1-2 years ago</th>
<th>3-4 years ago</th>
<th>&gt; 4 years ago</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educators (Offered)</td>
<td>Count</td>
<td>24</td>
<td>5</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Percent</td>
<td>72.7%</td>
<td>15.2%</td>
<td>9.1%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Volunteers (Received)</td>
<td>Count</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>66.7%</td>
<td>8.3%</td>
<td>8.3%</td>
<td>16.7%</td>
</tr>
</tbody>
</table>

Perceived Knowledge of Experiential Learning

Objective #3: Explore the perceived knowledge of experiential learning within Pennsylvania 4-H clubs.

Both Extension educators and volunteer leaders were asked if they were familiar with the term experiential learning. Of the Extension educators, 96.1% (n=49) said Yes and 3.9% (n=2) responded No. Volunteer leaders were more evenly split as 47.8% (n=44) answered Yes and 52.2% (n=48) responded No to being familiar with the term experiential learning. Participants
that indicated being familiar with the term experiential learning were asked to provide their definition of experiential learning. When looking at the responses, seven main themes were identified: *Do, Reflect, Apply, Learn by Doing, Multiple Steps, Hands-On, and Learn by Experience*. Each response could have multiple themes identified, but each theme was only counted once per response. Table 4.11 displays the results for this question.

Table 4.11 Common themes identified in definitions of experiential learning reported by Extension educators and volunteer leaders.

<table>
<thead>
<tr>
<th></th>
<th>Do</th>
<th>Reflect</th>
<th>Apply</th>
<th>Learn By Doing</th>
<th>Multiple Steps</th>
<th>Hands-On</th>
<th>Learn By Experience</th>
<th>Number of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Extension Educator</strong></td>
<td>14</td>
<td>18</td>
<td>7</td>
<td>23</td>
<td>4</td>
<td>17</td>
<td>5</td>
<td>49</td>
</tr>
<tr>
<td>Count</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>19</td>
<td>1</td>
<td>10</td>
<td>11</td>
<td>35</td>
</tr>
<tr>
<td>Percentage of Responses</td>
<td>28.6%</td>
<td>36.7%</td>
<td>14.3%</td>
<td>46.9%</td>
<td>8.2%</td>
<td>34.7%</td>
<td>10.2%</td>
<td></td>
</tr>
<tr>
<td><strong>Volunteer Leader</strong></td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>19</td>
<td>1</td>
<td>10</td>
<td>11</td>
<td>35</td>
</tr>
<tr>
<td>Count</td>
<td>19</td>
<td>19</td>
<td>7</td>
<td>42</td>
<td>5</td>
<td>27</td>
<td>16</td>
<td>84</td>
</tr>
<tr>
<td>Percentage of Responses</td>
<td>14.3%</td>
<td>2.9%</td>
<td>0.0%</td>
<td>54.3%</td>
<td>2.9%</td>
<td>28.6%</td>
<td>31.4%</td>
<td></td>
</tr>
<tr>
<td><strong>Total Responses</strong></td>
<td>19</td>
<td>19</td>
<td>7</td>
<td>42</td>
<td>5</td>
<td>27</td>
<td>16</td>
<td>84</td>
</tr>
<tr>
<td>Percentage of Responses</td>
<td>22.6%</td>
<td>22.6%</td>
<td>8.3%</td>
<td>50.0%</td>
<td>6.0%</td>
<td>32.1%</td>
<td>19.0%</td>
<td></td>
</tr>
</tbody>
</table>

To further investigate survey respondent’s knowledge of experiential learning, a Likert-type item was used that divided the process of experiential learning down into five statements. Each statement reflected a step in the National 4-H experiential learning model. The most popular response for both Extension educators and volunteer leaders across all statements was *Strongly Agree*. Table 4.12 summarizes the findings from this question.
Table 4.12 Based on knowledge of experiential learning, Extension educator and volunteer leader’s level of agreement with the following statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Educator Count</th>
<th>Educator Percentage</th>
<th>Volunteer Count</th>
<th>Volunteer Percentage</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>To have actual experiences</td>
<td>2</td>
<td>3.8%</td>
<td>1</td>
<td>11.1%</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0.0%</td>
<td>1</td>
<td>1.1%</td>
<td>92</td>
</tr>
<tr>
<td>To share their understanding of the experience</td>
<td>2</td>
<td>3.8%</td>
<td>1</td>
<td>1.1%</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0.0%</td>
<td>1</td>
<td>1.1%</td>
<td>92</td>
</tr>
<tr>
<td>To reflect on an experience</td>
<td>2</td>
<td>3.8%</td>
<td>1</td>
<td>1.1%</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0.0%</td>
<td>1</td>
<td>1.1%</td>
<td>92</td>
</tr>
<tr>
<td>To generalize the content to other situations</td>
<td>2</td>
<td>3.9%</td>
<td>1</td>
<td>3.9%</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0.0%</td>
<td>1</td>
<td>3.9%</td>
<td>90</td>
</tr>
<tr>
<td>To apply the content</td>
<td>2</td>
<td>3.8%</td>
<td>1</td>
<td>2.2%</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0.0%</td>
<td>1</td>
<td>2.2%</td>
<td>90</td>
</tr>
</tbody>
</table>

“It is important to provide opportunities for youth…”
To further investigate the perceived knowledge of experiential learning in 4-H clubs, Extension educators were then asked to gauge how many of their volunteer leaders were aware of the 4-H learning process *Do, Reflect, Apply*. Of the 52 respondents, 42.3% (n=22) reported that *Most of the Leaders* were aware of the process, followed by *Few of the Leaders* (28.8%, n=15), *Nearly all of the Leaders* (17.3%, n=9), *Don’t Know* (7.7%, n=4), and *Nearly None* (3.8%, n=2). This information was compared to two volunteer leader questions. First, volunteer leaders were asked if they had heard the terms *Do, Reflect, Apply*. Of the 88 respondents, 37.5% (n=33) answered *Yes* while 62.5% (n=55) of volunteer leaders responded *No*. The volunteer leaders were then asked to rank their level of agreement with the following statement *I understand what the terms “Do, Reflect, Apply” mean related to 4-H learning*. On a Likert-type scale of *Strongly Disagree, Disagree, Agree, Strongly Agree*, 42.8% (n=39) selected *Agree* for the statement. The full results for this question are reported in table 4.13.

Table 4.13 Volunteers frequency for level of agreement with understanding the terms “Do, Reflect, Apply” and 4-H learning.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Don't Know</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I understand what the terms &quot;Do, Reflect, Apply&quot; mean related to 4-H Learning.</strong></td>
<td>1</td>
<td>6</td>
<td>39</td>
<td>29</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>1.1%</td>
<td>6.6%</td>
<td>42.8%</td>
<td>31.9%</td>
<td>17.6%</td>
</tr>
</tbody>
</table>
Perceived Use of Experiential Learning

Objective #4: Explore the perceived use of experiential learning within Pennsylvania 4-H clubs.

To gauge the perceived use of experiential learning, respondents were first asked about hands-on learning. This question was included to have a baseline to compare the use of experiential learning. When asked if they encourage their volunteer leaders to use hands-on learning at club meetings, 100% (n=52) of Extension educators reported Yes. Of the 92 volunteer leaders that responded to whether or not they use hands-on learning at club meetings, 93.5% (n=86) responded Yes.

The Extension educators were asked how many of the volunteer leaders they work with incorporate experiential learning in club activities. On a scale of Don’t Know, Nearly None, Few, Most, Nearly All, the most popular response was Most with 44.2% (n=23), followed by Nearly All with 25.0% (n= 13). Don’t Know, Nearly None, and Few combined for 30.8% (n=16) of responses. Thus, approximately 70% of Extension educators believed that Most or Nearly All of their volunteer leaders use experiential learning in club activities.

All volunteer leaders were asked if they incorporated experiential learning in club activities and 68.1% (n=62) responded Yes and 31.9% (n=29) responded No. Table 4.14 compares self-reported perceived use of hands-on learning and experiential learning by 4-H volunteer leaders. Frequently was recorded the most often at 48.8% (n=42) for hands-on learning and 45.2% (n=28) for experiential learning. All volunteer leaders were eligible to answer the question regarding the use of hands-on learning. Only those volunteers who said they incorporated experiential learning were eligible to answer how frequently they utilized this learning theory. Therefore, there were 86 volunteer leaders that answered the question about hands-on learning, but only 62 volunteer leaders then answered how frequently they used experiential learning.
Table 4.14 Perceived use of hands-on and experiential learning by Pennsylvania 4-H volunteer leaders within club activities.

<table>
<thead>
<tr>
<th></th>
<th>Almost Never (24-0% meetings)</th>
<th>Rarely (49-25% meetings)</th>
<th>Sometimes (74-50% meetings)</th>
<th>Frequently (99-75% meetings)</th>
<th>Always (100% meetings)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volunteers: Hands-on Learning</td>
<td>1</td>
<td>4</td>
<td>22</td>
<td>42</td>
<td>17</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td>1.2%</td>
<td>4.6%</td>
<td>25.6%</td>
<td>48.8%</td>
<td>19.8%</td>
<td>100%</td>
</tr>
<tr>
<td>Volunteers: Experiential Learning</td>
<td>3</td>
<td>5</td>
<td>18</td>
<td>28</td>
<td>8</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>4.8%</td>
<td>8.1%</td>
<td>29.0%</td>
<td>45.2%</td>
<td>12.9%</td>
<td>100%</td>
</tr>
</tbody>
</table>

The volunteer leaders who responded Yes to using experiential learning in club activities were then asked to provide an example of how they use experiential learning. Forty-seven volunteer leaders provided examples (57.4%, n=27) revolving around the theme of Animal Projects. Table 4.15 summarizes the results for this question. Some examples of activities included in the Other category were babysitting, identifying stains and collecting canned goods.

Table 4.15 Uses of experiential learning within club activities as reported by volunteer leaders.

<table>
<thead>
<tr>
<th></th>
<th>Animal</th>
<th>Build / Make a Project</th>
<th>Food or Cooking</th>
<th>Shooting Safety</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volunteers: Count</td>
<td>27</td>
<td>7</td>
<td>4</td>
<td>2</td>
<td>7</td>
<td>47</td>
</tr>
<tr>
<td>Percentage</td>
<td>57.4%</td>
<td>14.9%</td>
<td>8.5%</td>
<td>4.3%</td>
<td>14.9%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 4.16 reports the frequency of experiential learning opportunities within various 4-H settings. Extension educators responded to how often they believed the volunteer leaders provided experiential learning opportunities within 4-H activities. Volunteer leaders who
responded in the survey as using experiential learning then self-reported their responses to the statements in the question. Overall, Extension educators reported providing specific opportunities for experiential learning *Sometimes* the most frequently (40.7%, n=98) while volunteer leaders responded with *Frequently* the most often (44.5%, n=198).
Table 4.16 Frequency of ways volunteer leaders provide experiential learning opportunities as perceived by Extension educators and reported by volunteer leaders.

<table>
<thead>
<tr>
<th>“My 4-H volunteer leaders (or I) provide experiential learning opportunities…”</th>
<th>Almost Never (0-24%)</th>
<th>Rarely (25-49%)</th>
<th>Sometimes (50-74%)</th>
<th>Frequently (75-99%)</th>
<th>Always (100%)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the 4-H Program</td>
<td>Educator</td>
<td>0</td>
<td>4</td>
<td>22</td>
<td>21</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Leader</td>
<td>2</td>
<td>6</td>
<td>17</td>
<td>30</td>
<td>6</td>
</tr>
<tr>
<td>At 4-H meetings that include an actual experience</td>
<td>Educator</td>
<td>0</td>
<td>4</td>
<td>16</td>
<td>28</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Leader</td>
<td>4</td>
<td>4</td>
<td>21</td>
<td>28</td>
<td>5</td>
</tr>
<tr>
<td>At 4-H meetings that include an opportunity for youth to reflect on what they learned</td>
<td>Educator</td>
<td>0</td>
<td>8</td>
<td>25</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Leader</td>
<td>3</td>
<td>4</td>
<td>21</td>
<td>30</td>
<td>4</td>
</tr>
<tr>
<td>At 4-H meetings that include formal reflective opportunities for youth to draw conclusions</td>
<td>Educator</td>
<td>3</td>
<td>17</td>
<td>18</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Leader</td>
<td>3</td>
<td>13</td>
<td>22</td>
<td>22</td>
<td>2</td>
</tr>
<tr>
<td>At 4-H meetings that include discussions about how to use their new knowledge for future situations</td>
<td>Educator</td>
<td>2</td>
<td>10</td>
<td>17</td>
<td>18</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Leader</td>
<td>4</td>
<td>6</td>
<td>22</td>
<td>27</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>Educator</td>
<td>5</td>
<td>43</td>
<td>98</td>
<td>90</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Leader</td>
<td>16</td>
<td>33</td>
<td>103</td>
<td>137</td>
<td>19</td>
</tr>
</tbody>
</table>

To gauge how often volunteer leaders incorporate experiential learning activities into club events, these individuals were asked to evaluate nine statements. These statements represent activities and opportunities where experiential learning could occur within 4-H clubs. The
responses to these statements are presented in table 4.17. Overall, 41.8% (n=342) of volunteer leader responses indicated *Frequently* offering activities and opportunities of experiential learning for 4-H members. Of the volunteer leaders, 53.3% (n=49) said they *Frequently* provide hands-on activities for youth. However, only 33% (n=39) of volunteer leaders reported *Frequently* or *Always* providing youth with opportunities to practice their new skills in another setting.
Table 4.17 Frequency of use for activities related to experiential learning as reported by volunteer leaders.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Almost Never (0-24%)</th>
<th>Rarely (25-49%)</th>
<th>Sometimes (50-74%)</th>
<th>Frequently (75-99%)</th>
<th>Always (100%)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>I provide hands-on activities for youth</td>
<td>2</td>
<td>6</td>
<td>21</td>
<td>49</td>
<td>14</td>
<td>92</td>
</tr>
<tr>
<td></td>
<td>2.2%</td>
<td>6.5%</td>
<td>22.8%</td>
<td>53.3%</td>
<td>15.2%</td>
<td>100%</td>
</tr>
<tr>
<td>I arrange field trips, guest speakers, and other outside sources of learning for youth</td>
<td>4</td>
<td>13</td>
<td>39</td>
<td>29</td>
<td>6</td>
<td>91</td>
</tr>
<tr>
<td></td>
<td>4.4%</td>
<td>14.3%</td>
<td>42.8%</td>
<td>31.9%</td>
<td>6.6%</td>
<td>100%</td>
</tr>
<tr>
<td>I encourage youth to try new ideas and methods at club meetings</td>
<td>4</td>
<td>7</td>
<td>35</td>
<td>35</td>
<td>11</td>
<td>92</td>
</tr>
<tr>
<td></td>
<td>4.4%</td>
<td>7.6%</td>
<td>38.0%</td>
<td>38.0%</td>
<td>12.0%</td>
<td>100%</td>
</tr>
<tr>
<td>I support youth as they direct their own learning</td>
<td>2</td>
<td>2</td>
<td>18</td>
<td>54</td>
<td>15</td>
<td>91</td>
</tr>
<tr>
<td></td>
<td>2.2%</td>
<td>2.2%</td>
<td>19.8%</td>
<td>59.3%</td>
<td>16.5%</td>
<td>100%</td>
</tr>
<tr>
<td>I ask youth questions during activities such as who, what, why when, where</td>
<td>4</td>
<td>6</td>
<td>25</td>
<td>44</td>
<td>13</td>
<td>92</td>
</tr>
<tr>
<td></td>
<td>4.4%</td>
<td>6.5%</td>
<td>27.2%</td>
<td>47.8%</td>
<td>14.1%</td>
<td>100%</td>
</tr>
<tr>
<td>I encourage youth to have group discussions about experiences</td>
<td>5</td>
<td>6</td>
<td>27</td>
<td>44</td>
<td>9</td>
<td>91</td>
</tr>
<tr>
<td></td>
<td>5.5%</td>
<td>6.6%</td>
<td>29.7%</td>
<td>48.3%</td>
<td>9.9%</td>
<td>100%</td>
</tr>
<tr>
<td>I utilize think, pair, share techniques within my club</td>
<td>17</td>
<td>15</td>
<td>22</td>
<td>28</td>
<td>5</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td>19.5%</td>
<td>17.2%</td>
<td>25.3%</td>
<td>32.2%</td>
<td>5.8%</td>
<td>100%</td>
</tr>
<tr>
<td>I ask youth to find similarities between the experience and real life situations</td>
<td>12</td>
<td>16</td>
<td>24</td>
<td>34</td>
<td>5</td>
<td>91</td>
</tr>
<tr>
<td></td>
<td>13.2%</td>
<td>17.6%</td>
<td>26.4%</td>
<td>37.3%</td>
<td>5.5%</td>
<td>100%</td>
</tr>
<tr>
<td>I provide opportunities for youth to practice their new skills in another setting</td>
<td>6</td>
<td>22</td>
<td>33</td>
<td>25</td>
<td>5</td>
<td>91</td>
</tr>
<tr>
<td></td>
<td>6.6%</td>
<td>24.2%</td>
<td>36.2%</td>
<td>27.5%</td>
<td>5.5%</td>
<td>100%</td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>93</td>
<td>244</td>
<td>342</td>
<td>83</td>
<td>818</td>
</tr>
<tr>
<td></td>
<td>6.8%</td>
<td>11.4%</td>
<td>29.8%</td>
<td>41.8%</td>
<td>10.2%</td>
<td>100%</td>
</tr>
</tbody>
</table>
**Perceived Effectiveness of Experiential Learning**

**Objective #5: Explore the perceived effectiveness of experiential learning within Pennsylvania 4-H clubs.**

When measuring the perceived effectiveness of experiential learning, Extension educators and volunteer leaders were asked to evaluate seven statements and select a level of effectiveness to complete the sentence. Table 4.18 shows that nearly all responses for both groups of respondents were answered as either *Effective* or *Very Effective*. However, table 4.18 also displays that several volunteers were unsure how to answer the statements.
Table 4.18 Distribution of effectiveness levels in statements describing experiential learning by Pennsylvania Extension educators and volunteer leaders.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Very Ineffective</th>
<th>Ineffective</th>
<th>Effective</th>
<th>Very Effective</th>
<th>Don't Know</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiential learning is a(n) _____ way to educate youth.</td>
<td>Educator Count</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>37</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>0.0%</td>
<td>0.0%</td>
<td>28.8%</td>
<td>71.2%</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Volunteer Count</td>
<td>2</td>
<td>0</td>
<td>36</td>
<td>39</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>2.3%</td>
<td>0.0%</td>
<td>41.9%</td>
<td>45.3%</td>
<td>10.5%</td>
</tr>
<tr>
<td>Experiences are a(n)_____ strategy to use with youth.</td>
<td>Educator Count</td>
<td>0</td>
<td>0</td>
<td>17</td>
<td>35</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>0.0%</td>
<td>0.0%</td>
<td>32.7%</td>
<td>67.3%</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Volunteer Count</td>
<td>2</td>
<td>0</td>
<td>35</td>
<td>48</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>2.3%</td>
<td>0.0%</td>
<td>39.8%</td>
<td>54.5%</td>
<td>3.4%</td>
</tr>
<tr>
<td>Field trips are _____ in enhancing youth learning.</td>
<td>Educator Count</td>
<td>0</td>
<td>0</td>
<td>25</td>
<td>26</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>0.0%</td>
<td>0.0%</td>
<td>49.0%</td>
<td>51.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Volunteer Count</td>
<td>2</td>
<td>0</td>
<td>35</td>
<td>49</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>2.3%</td>
<td>0.0%</td>
<td>39.7%</td>
<td>55.7%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Asking youth to share their observations is a(n) _____ way to understand content.</td>
<td>Educator Count</td>
<td>0</td>
<td>1</td>
<td>20</td>
<td>31</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>0.0%</td>
<td>1.9%</td>
<td>38.5%</td>
<td>59.6%</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Volunteer Count</td>
<td>2</td>
<td>1</td>
<td>47</td>
<td>35</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>2.3%</td>
<td>1.1%</td>
<td>53.4%</td>
<td>39.8%</td>
<td>3.4%</td>
</tr>
<tr>
<td>Helping youth find connections between a current experience and future situations is a(n) _____ means of learning.</td>
<td>Educator Count</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>32</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>0.0%</td>
<td>0.0%</td>
<td>38.5%</td>
<td>61.5%</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Volunteer Count</td>
<td>2</td>
<td>1</td>
<td>39</td>
<td>40</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>2.3%</td>
<td>1.2%</td>
<td>45.9%</td>
<td>47.1%</td>
<td>3.5%</td>
</tr>
<tr>
<td>Questioning youth about what is occurring/experiencing is a(n) _____ process.</td>
<td>Educator Count</td>
<td>0</td>
<td>1</td>
<td>23</td>
<td>28</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>0.0%</td>
<td>1.9%</td>
<td>44.2%</td>
<td>53.9%</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Volunteer Count</td>
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<td>1</td>
<td>44</td>
<td>37</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>2.3%</td>
<td>1.2%</td>
<td>51.2%</td>
<td>43.0%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Provide multiple scenarios to practice a new skill is a(n) _____ learning strategy.</td>
<td>Educator Count</td>
<td>0</td>
<td>0</td>
<td>18</td>
<td>34</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>0.0%</td>
<td>0.0%</td>
<td>34.6%</td>
<td>65.4%</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Volunteer Count</td>
<td>2</td>
<td>1</td>
<td>38</td>
<td>42</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>2.3%</td>
<td>1.1%</td>
<td>43.7%</td>
<td>48.3%</td>
<td>4.6%</td>
</tr>
<tr>
<td>Total</td>
<td>Educator Count</td>
<td>0</td>
<td>2</td>
<td>138</td>
<td>223</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>0.0%</td>
<td>0.6%</td>
<td>38.0%</td>
<td>61.4%</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Volunteer Count</td>
<td>14</td>
<td>4</td>
<td>274</td>
<td>290</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>2.3%</td>
<td>0.6%</td>
<td>45.1%</td>
<td>47.7%</td>
<td>4.3%</td>
</tr>
</tbody>
</table>
Comparison of Extension Educators and Volunteer Leaders on Knowledge, Use and Effectiveness of Experiential Learning

Objective #6: Determine the differences, if any, in perceived knowledge, use, and effectiveness of experiential learning between Pennsylvania 4-H Extension educators and Pennsylvania 4-H volunteer leaders.

Three separate independent t-tests were used to compare the mean scores of Extension educators and volunteer leaders on three topics: knowledge, use, and effectiveness of experiential learning. For all three tests, the nominal independent variable was respondent type and the dependent variable was an average score of a set of Likert-type items.

Knowledge of Experiential Learning

In order to compare the level of knowledge of experiential learning for the Extension educators and 4-H volunteer leaders, the scores for five Likert-type items were used. Each respondent had a cumulative value created based on their responses to the following statements:

It is important to provide opportunities for youth…

1. To have actual experiences (not just demonstrations and lectures).
2. To share their understanding of the experience.
3. To reflect on an experience.
4. To generalize the content to other situations.
5. To apply the content.

Respondents could select the following responses (and values): Strongly Disagree (1), Disagree (2), Agree (3), Strongly Agree (4), Don’t Know” (0).

After running the independent t-test, the Levene’s Test for Equality of Variances had a significance value greater than .05; therefore, equal variances were assumed. For the educators, the mean score for knowledge of experiential learning was 3.71 which corresponded to a high Agree score. The volunteers had a mean score of 3.64 which was a lower ranking Agree. The
t-value between these two groups was 0.612 and was determined to be not significant because the p-value was 0.542 which is greater than .05. The information for the independent t-test regarding components of knowledge is summarized in table 4.19.

Table 4.19 Independent t-test for components of knowledge of experiential learning

<table>
<thead>
<tr>
<th>Range</th>
<th>n</th>
<th>mean</th>
<th>SD</th>
<th>Low</th>
<th>High</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge Educator</td>
<td>51</td>
<td>3.71</td>
<td>0.63</td>
<td>1</td>
<td>4</td>
<td>0.612</td>
<td>0.542</td>
</tr>
<tr>
<td>Volunteer</td>
<td>76</td>
<td>3.64</td>
<td>0.54</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Use of Experiential Learning**

In order to compare the use of experiential learning for 4-H volunteer leaders as perceived by the Extension educators and self-reported by the volunteer leaders, the scores for five Likert-type items were used. Each respondent had a cumulative value created based on their responses to the following statements:
Extension educator: My 4-H volunteer leaders provide experiential learning opportunities…

Volunteer leader: I provide experiential learning opportunities…

1. In the 4-H program.
2. At 4-H meetings that include an actual experience.
3. At 4-H meetings that include an opportunity for youth to reflect on what they learned.
4. At 4-H meetings that include formal reflective opportunities for youth to draw conclusions.
5. At 4-H meetings that include discussions about how to use their new knowledge for future situations.

Respondents could select the following responses (and values): Almost Never 0-24% (1), Rarely 25-49% (2), Sometimes 50-74% (3), Frequently 75-99% (4), Always 100% (5).

After completing the independent t-test, the Levene’s Test for Equality of Variances had a significance value of less than .05; therefore, equal variances were not assumed. For the educators, the mean score for perceived use of experiential learning was 3.19 which corresponded to a low Sometimes value. The volunteers had a mean score of 3.35 which was a higher ranking Sometimes value. The t-value between these two groups was -1.15; however, this measure was determined to be not significant because the p-value was 0.253. This information is summarized in table 4.20.

Table 4.20 Independent t-test for the components of use of experiential learning by volunteer leaders as perceived by Extension educators and self-reported by volunteer leaders.

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>mean</th>
<th>SD</th>
<th>Low</th>
<th>High</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use</td>
<td>Educator</td>
<td>47</td>
<td>3.19</td>
<td>0.62</td>
<td>1</td>
<td>5</td>
<td>-1.15</td>
</tr>
<tr>
<td></td>
<td>Volunteer</td>
<td>60</td>
<td>3.35</td>
<td>0.84</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>
Effectiveness of Experiential Learning

In order to compare the level of effectiveness for different techniques of experiential learning as viewed by the Extension educators and 4-H volunteer leaders, the scores for seven Likert-type items were used. Each respondent had a cumulative value created based on their responses to the following statements:

1. Experiential learning is a(n) ____ way to educate youth.
2. Experiences are a(n) _____ strategy to use with youth.
3. Field trips are _____ in enhancing youth learning.
4. Asking youth to share their observations is a(n) _____ way to understand content.
5. Helping youth find connections between a current experience and future situations is a(n) _____ means of learning.
6. Questioning youth about what is occurring/experiencing is a(n) ____ process.
7. Providing multiple scenarios to practice a new skill is a(n) _____ learning strategy.

Respondents could select the following responses (and values): Very Ineffective (1), Ineffective (2), Effective (3), Very Effective (4), Don’t Know (0). After running the independent t-test, the Levene’s Test for Equality of Variances had a significance value greater than .05; therefore, equal variances were assumed. For the educators, the mean score for use of experiential learning was 3.61 which corresponded to a high Effective score. The volunteers had a mean score of 3.45 which was a lower ranking Effective score. The t-value between these two groups was 1.73 and was found to be approaching significance, assuming an alpha-level of 0.05, with a p-value of 0.087. This information is summarized in table 4.21.
Table 4.21 Independent t-test for components of effectiveness of experiential learning techniques.

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>n</th>
<th>mean</th>
<th>SD</th>
<th>Low</th>
<th>High</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educator</td>
<td>51</td>
<td>3.61</td>
<td>0.35</td>
<td>1</td>
<td>4</td>
<td>1.73</td>
<td>0.087</td>
</tr>
<tr>
<td>Volunteer</td>
<td>74</td>
<td>3.45</td>
<td>0.56</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Summary of Results**

After analyzing the demographics for this survey, the majority of survey respondents were white females who had prior experience with the 4-H program. The Extension educators who completed this survey fairly evenly represented all project types available in the 4-H program. The volunteer leaders who responded primarily worked with Animal projects. When Extension educators and volunteer leaders were asked if they had ever received training in experiential learning, 71.3% of Extension educators and 36.1% of volunteer leaders reported Yes. Nearly all of the Extension educators were familiar with the term experiential learning, while 47.8% of volunteer leaders indicated familiarity with the term. Across both groups, the most common theme identified in the definitions of experiential learning was Learn By Doing.

The perceived use of experiential learning varied across both groups, as approximately 70% of Extension educators reported Most or Nearly All of volunteer leaders used experiential learning in club activities. The volunteer leaders self reported that 68% of them use experiential learning at club activities; however, as stated above, only 47.8% indicated familiarity with the term. When asked how effective experiential learning is as an educational method, 71.2% of Extension educators reported Very Effective and 45.3% of volunteer leaders reported Very Effective. The independent t-test for knowledge and use of experiential learning were found to be not significant. The independent t-test for effectiveness of experiential learning was found to be
approaching significance at 0.087 with mean values of 3.61 for Extension educators and 3.45 for volunteer leaders.
Chapter 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Chapter 5 outlines the purpose, objectives, and procedures used in this study. The chapter also summarizes the findings and conclusions. Recommendations for education opportunities and further study are also presented.

Purpose and Objectives of the Study

The purpose of this study was to investigate the knowledge, use, and effectiveness of experiential learning within the Pennsylvania state 4-H program by the Extension educators and volunteer leaders. To guide the study the following objectives were established.

1. Describe the demographics of Pennsylvania 4-H youth Extension educators and 4-H volunteer leaders.
2. Determine the level of training received by Pennsylvania youth Extension educators and 4-H volunteers trained in the 4-H model of experiential learning.
3. Explore the perceived knowledge of experiential learning within Pennsylvania 4-H clubs.
4. Explore the perceived use of experiential learning within Pennsylvania 4-H clubs.
5. Explore the perceived effectiveness of experiential learning within Pennsylvania 4-H clubs.
6. Determine the differences, if any, in perceived knowledge, use, and effectiveness of experiential learning between Pennsylvania 4-H Extension educators and Pennsylvania 4-H volunteer leaders.
Summary of Procedures

The population for this survey was two groups of individuals: Pennsylvania 4-H Extension educators and Pennsylvania 4-H volunteer leaders. A census was taken of the Extension educators while a proportional stratified random sample was taken of the volunteer leaders.

Descriptive research methods were used to conduct this study. Data was gathered through a survey questionnaire distributed via an email link. The email addresses used in this study were collected from the Pennsylvania 4-H state staff. The web-based survey was divided into three sections: Extension educator, volunteer leader and demographics. The use of logic questions guided participants through the survey, only completing applicable questions. Multiple choice, Likert-type scales, and open ended questions were used to assess the perceived level of knowledge, use and effectiveness of experiential learning within the Pennsylvania 4-H program.

The survey questionnaire was reviewed for content and face validity by a panel of four experts from the College of Agricultural Sciences faculty. To evaluate the reliability of the survey, a pilot study was conducted. Fifty 4-H volunteer leaders who were not part of the sample population were invited to complete the web-based survey. Because a census was taken of the Extension educators, a pilot study was not conducted with that group. The survey instrument was found to have an acceptable reliability.

To maintain confidentiality, the researcher only worked with email addresses and 4-H regions. Once email addresses were divided into the five regions (Western, Central, Northeast, Southeast, and Unknown), they were assigned a coding number. A random number generator then selected the email addresses to be used in the proportional stratified random sample. This coding number allowed the researcher to determine which survey participants had completed the survey and identify email addresses for the reminder notices. This study sought to gather responses from
Pennsylvania 4-H Extension educators and volunteer leaders enrolled in the e-data system through June of 2011. The response rate for all surveys sent and received was 34.1%. However, the response rate for just Extension educators was 68.4% which was higher than the percentage of surveys received from the volunteer leaders at 26.6%.

**Limitations of the Study**

Throughout this research study, there were several limitations that could have influenced the results. When the contact information for the volunteer leaders was collected in May, it was assumed that the database was nearly complete. However, following the completion of the study the researcher learned that an additional 2,220 individuals were entered into the system. This means that the survey was completed with 61.0% of all volunteer leaders in Pennsylvania for the 2011 project year. Therefore, the individuals who were not in the computer system may have been the volunteer leaders who have a better understanding of experiential learning.

A second limitation to this study was the modification of Dillman’s Total Design Method (2000). The researcher chose to eliminate the pre-notice contact because of time constraints. However, the elimination of that step may have reduced the response rate of Extension educators and volunteer leaders.

When reviewing the project type survey respondents were associated with, the overwhelming majority of participants selected Animal. This result may have led to a potential bias that skewed the results. To account for this bias in a second study, the researcher would need to gather email, region, and project information before determining the study sample.

Another limitation would be the manner in which qualitative data was treated. There was only one rater who reviewed the information which may have caused a personal bias. While the
data was completely recoded following a week’s worth of time, personal bias may have still influenced the coding process.

Finally, knowledge and effort of survey respondents may have impacted the quality of the data. If participants were unsure of what the question was asking, or became fatigued with the questionnaire, they may have just started clicking responses to complete the survey. It must also be questioned if all responses were truthful and honest and not just given as “the correct” response.

**Objective #1**

**Describe the demographics of Pennsylvania 4-H youth Extension educators and 4-H volunteer leaders.**

Of the Extension educators who responded (n=52), 30.8% (n=16) represented the Southeast region with the remaining educators evenly distributed across the western, central, and northeast. The results indicate that the typical 4-H Extension educator is a white (94.1%, n=48) female (78.4%, n=40) with a four year college or masters degree (84.3%, n=43). These Extension educators had a range of ages between 25 and 67. The years of experience as an Extension educator clumped between 1 and 15 (65.4%, n=34) and most Extension educators were members of 4-H as youth (62.7%, n=32). Extension educators have experience with all six project type categories, animal based projects are the most popular.

The volunteer leaders who responded (n=92) were predominately white (100%, n=89) females (79.8%, n=71) with a high school or four year degree (56.2%, n=50). Of the volunteer leaders who responded to the survey, the majority of participants were from the western (31.5%, n=29) and southeast (29.3%, n=27) regions. These volunteer leaders had a range of ages from 26 to 68 with the majority of leaders in the 35 to 54 range (69.8%, n=60). In terms of experience,
42.4% (n=39) have been associated with the 4-H program for 1 to 5 years and approximately 60% (n=54) of the volunteer leaders were members of 4-H as a youth. While all project types were represented by respondents, animal based projects were the most popular.

To understand the types and levels of interactions between Extension educators and volunteer leaders, a series of questions was asked to both groups. The Extension educators and volunteer leaders ranked the uses of various communication methods. For the most part, both groups agreed on the use level for the communication method. Differences arose in categories of Phone and Email. The majority of Extension educators ranked Phone communications as High or Very High (75%, n=39) while volunteer leaders felt it was more Average or High (58.7%, n=54). For Email, Extension educators rated the use at a High or Very High level (75%, n=39), compared with volunteer leaders who felt the use of Email was more Average or High (55.5%, n=51). While no communication method stood out as a desired means, the use of Text Messages was scored very poorly. In terms of attending club meetings, the majority (62.0%, n=57) of 4-H volunteer leaders hold more than 9 club meetings per year. Approximately 38% (n=20) of Extension educators attend 9 or more club meetings each year.

Extension educators were then asked how frequently they offer a general workshop or training session for the 4-H volunteers. Approximately 56% (n=29) of Extension educators offered more than 2 workshops or training sessions each year and 42.3% (n=22) offer 1 or 2 per year. To determine if volunteer leaders were taking advantage of these educational opportunities, the volunteer leaders were asked how frequently they attend a workshop or training session offered through the Extension system. Approximately 47% (n=43) of volunteer leaders attended 1 or 2 workshops or sessions each year, but 43.5% (n=40) of volunteer leaders attended less than 1 per year.
Objective #2

Determine the level of training received by Pennsylvania youth Extension educators and 4-H volunteers trained in the 4-H model of experiential learning.

Once the frequencies of general workshops and training sessions were known, the researcher wanted to know if Extension educators and volunteer leaders received specialized training in experiential learning. First, both groups of participants were asked if they had received any training in experiential learning at some point in their careers. Of the Extension educators, 71.2% (n=37) said Yes and 16.3% (n=15) of volunteer leaders replied Yes to specific experiential learning training.

Through the survey, it was found that only 64.7% (n=33) of Extension educators offered some type of experiential learning program for 4-H volunteers. Of the volunteer leaders responding to the survey, 13.0% (n=12) indicated attending an experiential learning training program through the Extension system. The majority of Extension educators (72.7%, n=24) and volunteer leaders (66.7%, n=8) who responded to offering or attending an experiential learning session through the extension system reported that this occurred within the past year.

Conclusions, Discussion, and Recommendations – Objectives #1 and #2

As found through this study, most Extension educators and 4-H volunteer leaders are white females with limited experience. This level of experience is matched by the Extension educators with between 1 and 15 years of experience in their position. Because the volunteers and Extension educators have less than 15 years of experience working within the 4-H system, it is important for clear and open communication between both groups of individuals. Extension educators oversee the 4-H programs in their communities. Volunteer leaders are an important part
for the success of the 4-H program (White & Arnold, 2003). Without the efforts of the volunteer leaders, the local 4-H clubs would be unable to operate at the current levels. The average volunteer leader is involved with the 4-H program through the duration of their child’s participation. In a study by White and Arnold (2003), it was found that the enrollment of a child in 4-H influenced when a parent served as a volunteer and terminated their involvement. As found in the results of the survey, no one communication method stood out as extremely valuable. However, it is important to realize that what the Extension educator describes as a high level of communication method may not be same for the volunteer leader. When Extension educators plan meetings or share information, they should assess the needs of their volunteers or provide multiple formats when distributing important information.

While the Extension educators offer at least one general workshop or training session each year, it is more challenging to get the volunteer leaders to attend. This difference in participation is even greater for experiential learning focused events. The survey found that nearly 65% of Extension educators offered an experiential learning workshop, but only 13% of volunteer leaders attended. This is troubling as the experiential learning model is built into the National 4-H curriculum. Therefore, state 4-H staff must question if volunteer leaders are using the National 4-H curriculum to its fullest potential. The 4-H staff must also investigate if volunteer leaders received training in experiential learning and not know they were being trained in experiential learning. As the Pennsylvania state 4-H staff looks to correct this gap in training, they should further investigate what times and methods of communications best suit the volunteer leaders. Pennsylvania 4-H staff must help the volunteer leaders find the value and benefit in attending the various 4-H training workshops. A shift to online training and resources may be beneficial for those volunteer leaders who have time or location constraints placed on their involvement with the Pennsylvania 4-H program.
Objective #3

Explore the perceived knowledge of experiential learning within Pennsylvania 4-H clubs.

Approximately 96% (n=49) of the Extension educators were familiar with the term experiential learning. This percentage is nearly double the amount of volunteer leaders, as only 47.8% (n=44) were familiar with the experiential learning term. This lack of familiarity with experiential learning by the volunteer leaders is an area of concern, as the National 4-H program leaders seek to utilize experiential learning in club activities and curriculum.

To further gauge how knowledgeable the survey respondents were with experiential learning, both Extension educators and volunteer leaders who said they were familiar with experiential learning supplied their definitions of the term. These results show that the 4-H educational mindset of “Learning by Doing” is still prevalent in today’s Extension educators and volunteer leaders. However, all three steps of the experiential learning process were rarely identified in one definition. After reviewing the literature and responses, the seven common themes of Do, Reflect, Apply, Learn By Doing, Multiple Steps, Hands-On, and Learn By Experience were identified. Each definition could have multiple themes identified. Both Extension educators and volunteer leaders defined experiential learning as Learn By Doing most frequently. Following Learn By Doing, the Extension educators next top three themes identified were Reflect, Hands-On, and Do. In comparison, the volunteer leaders next top three themes were Learn By Experience, Hands-On, and Do.

To continue investigating the knowledge of experiential learning, five statements were written that described the different steps within the process of experiential learning as described by the National 4-H curriculum. All five statements received the majority of responses from both Extension educators and volunteer leaders in the Strongly Agree category.
The final evaluation for perceived knowledge was completed by asking the Extension educators to estimate how many of the volunteer leaders they work with are aware of the 4-H learning process Do, Reflect, Apply. Approximately 60% (n=31) of the Extension educators believed that Most or Nearly All of the leaders were aware of the Do, Reflect, Apply process. The volunteer leaders were asked if they had heard the Do, Reflect, Apply in association with the 4-H learning process. The survey results showed that 37.5% (n=33) of volunteer leaders are familiar with Do, Reflect, Apply and 4-H learning. When the volunteer leaders were asked to rank the following statement “I understand what the terms Do, Reflect, Apply mean related to the 4-H learning” on a scale of Strongly Disagree to Strongly Agree, the category with the most responses was Agree (42.9%, n=39).

Conclusions, Discussion, and Recommendations – Objective #3

Extension educators’ familiarity with experiential learning is very high; however, volunteers lack knowledge related to experiential learning. This information is both encouraging and disheartening to learn. The fact that so many Extension educators are familiar with experiential learning methods would be beneficial when training new and returning volunteer leaders. With so many volunteer leaders unfamiliar with experiential learning, the survey results further emphasize the need for training to understand the experiential learning process.

Another area of knowledge to investigate brought about through the responses to this survey is the definition of experiential learning. As addressed in the literature review, the experiential learning theories of Kolb (Kolb, 1984), Pfeiffer and Jones (Pfeiffer, 1985), and Joplin (Joplin, 1981) can be summarized into the process of Do, Reflect and Apply. The National 4-H curriculum experiential learning model superimposes these categories onto its model of experiential learning. When reviewing the results of the written definitions, the researcher was
surprised to see the low numbers for the themes of *Do, Reflect*, and *Apply*. None of the volunteer leaders (0%, n=0) and few of the Extension educators (14.3%, n=7) who completed the question identified *Apply* as part of their definitions.

While *Apply* was not identified as a strong theme in the definitions, the majority of both groups *Strongly Agreed* that it was important to provide youth with situations to apply the content. This example of not identifying a theme within a definition, but realizing its importance within the learning process indicates that Extension educators may not know the best way to describe experiential learning, but can identify the value in the process.

Perhaps the most valuable result from objective three came from the comparison of perceived and self-reported knowledge of experiential learning. The majority of Extension educators indicated that their volunteer leaders were aware of the process *Do, Reflect, Apply* in relation to 4-H learning. However, the majority of 4-H volunteer leaders reported that *No*, they had not heard *Do, Reflect, Apply* related to 4-H learning. Furthermore, the majority of volunteer leaders (42.9%, n=39) said they *Agree* with the statement *I understand what the terms Do, Reflect, Apply mean related to 4-H Learning*. However the researcher is left to question whether that result is accurate given that the majority of volunteer leader respondents were not familiar with the terms and 4-H learning.

With the lack of familiarity with the term experiential learning and those words associated with it, the value of training focused on experiential learning is further increased. Following a basic understanding of experiential learning workshop in California, the number of volunteer leaders who indicated their knowledge of experiential learning as *Very Good* or *Excellent* increased from 20% to 58% (Enfield et al., 2007). Not only does training increase a volunteer’s knowledge about experiential learning, but it can also increase their motivation to work with the 4-H program (Fox et al., 2009). Another recommendation would be to create an experiential learning handout that could be given to volunteer leaders when they receive new
project books or emailed as part of a monthly update. This handout would need to be simple to understand and clear in its message to help volunteer leaders build their knowledge of experiential learning. While the experiential learning model and information about the process is included in nearly every 4-H project book, the researcher knows of 4-H clubs within Pennsylvania who elect to use their own curriculum and therefore miss this vital information.

**Objective #4**

**Explore the perceived use of experiential learning within Pennsylvania 4-H clubs.**

When identifying the level of use of experiential learning, Extension educators and volunteer leaders were first asked about the use of hands-on learning to establish a comparison value. Survey results show that 100% (n=52) of Extension educators encouraged the use of hands-on learning by volunteer leaders and nearly all (93.5%, n=86) volunteer leaders incorporated hands-on learning. To begin understanding the perceived use of experiential learning within 4-H clubs, the majority of Extension educators believed that *Most* (44.2%, n=23) or *Nearly All* (25%, n=13) of their volunteer leaders incorporated experiential learning into club activities. This response was in line with the majority (68.1%, n=62) of volunteer leaders self-reporting the use of experiential learning in club activities. Of the volunteer leaders who reported using experiential learning, 45.2% (n=28) said they use this learning method on a frequent basis in 4-H club activities.

To further understand how these volunteer leaders use experiential learning within the 4-H clubs, they provided written examples of incorporation. There were 47 volunteer leaders who provided examples and the majority (57.4%, n=27) focused on some type of animal project.

The steps of experiential learning were broken down into statements that would evaluate the perceived use within 4-H clubs. Both groups were to evaluate the steps on a scale of *Almost*
Never to Always. Extension educators were asked to report what they believed happened while volunteer leaders self reported. The most common response for Extension educators was Sometimes and volunteers reported Frequently providing opportunities of experiential learning. The response to the statements, My 4-H volunteer leaders (or I) provide opportunities... At 4-H meetings that include formal reflective opportunities for youth to draw conclusions and My 4-H volunteer leaders (or I) provide opportunities... At 4-H meetings that include an opportunity for youth to reflect on what they learned had nearly 20 percentage points difference between Extension educators and volunteer leaders. In both cases, the Extension educators perceived the volunteer leaders to provide opportunities for reflection less often than what was self reported by the volunteer leaders.

The final evaluation for the perceived use of experiential learning was conducted by volunteer leaders identifying the frequency, Almost Never to Always, at which different techniques of experiential learning were used within club activities. The overall majority (41.8%, n=342) response was the use of these experiential learning techniques Frequently, or 75 to 99% of the time within club activities. The statements that had over 45% of volunteer leaders indicate Frequently were: I provide hands-on activities for youth; I support youth as they direct their own learning; I ask youth questions during activities such as who, what, why, when, where; I encourage you to have group discussions about experiences. The statement that received the lowest number (27.5%, n= 25) of Frequently reported was I provide opportunities for youth to practice their new skills in another setting.
Conclusions, Discussion, and Recommendations – Objective #4

Both Extension educators and volunteer leaders believed that volunteer leaders used experiential learning in club activities. While the majority of both groups reported volunteer leaders used experiential learning, the researcher must question if this is an accurate account based on the limited knowledge expressed in objective #3. Nearly 49% of the volunteer leaders reported using experiential learning on a frequent basis in club activities and when the examples were provided, the majority involved animal projects. This finding is in line with the demographic of club types as 83.1% (n=74) of volunteer leaders reported working with an animal based club.

After both participant groups responded to the statements My 4-H volunteer leaders (or I) provide opportunities … At 4-H meetings that include formal reflective opportunities for youth to draw conclusions and My 4-H volunteer leaders (or I) provide opportunities … At 4-H meetings that include an opportunity for youth to reflect on what they learned, it was found that there was a 20 percentage point difference between the perceived and self reported experiential learning opportunities provided by volunteer leaders. The volunteer leaders scored themselves at a higher level of use compared to the Extension educators. This survey result was interesting as none of the volunteer leaders identified the theme of Reflect in their definitions of experiential learning. Therefore the researcher is drawn back to questioning the level of knowledge about experiential learning and if that negatively influenced the results of objective #4.

The volunteer leaders response to the statement I provide opportunities for youth to practice their new skills in another setting received the lowest number (27.5%, n= 25) of Frequently reports. This result also indicates that there may be a deficiency in the knowledge and training of experiential learning. If youth are not provided the opportunity to utilize the new information in a different setting the cycle of experiential learning is broken.
When the responses for the questions in objective #4 are analyzed, these numbers also point towards the need for increased knowledge and training of the volunteer leaders in experiential learning. Without the full knowledge of experiential learning, how can volunteer leaders fully implement the use of all components of the experiential learning method? As seen in ranking of several statements, the Extension educators and volunteer leaders disagree on the use of reflection and application opportunities within the 4-H clubs. By increasing the levels of communication between the two groups, this discrepancy can be lessened. As reported in the conclusions for objective #3, a short, clear handout describing the process and terminology of experiential learning should be included with the dispersion of new project books to volunteer leaders.

**Objective #5**

**Explore the perceived effectiveness of experiential learning within Pennsylvania 4-H clubs.**

To determine if Extension educators and volunteer leaders believed the learning model of experiential learning was effective, they were asked their opinions on the perceived effectiveness for seven different experiential learning techniques. Each statement was ranked based on a scale of Very Ineffective to Very Effective with a Don’t Know option. The majority of overall responses for Extension educators fell into the Very Effective (61.4%, n= 223) category while the volunteer leaders were more closely split between Very Effective (47.7%, n=290) and Effective (45.1%, n=274). The highest ranked Very Effective statement from the Extension educators was Experiential learning is a(n) ______ way to educate youth (71.2%, n=37). The highest ranked Very Effective statement for the volunteer leaders was Field trips are ______ in enhancing youth learning (55.7%, n=49). For the volunteer leaders, two statements had the majority of results in the Effective category: Asking youth to share their observations is a(n) ______ way to understand
content (53.4%, n=47), and Questioning youth about what is occurring/experiencing is a(n) ____ process (51.2%, n=44).

**Conclusions, Discussion, and Recommendations – Objective #5**

The Extension educators and volunteer leaders who responded to this survey perceived that experiential learning was an **Effective** or **Very Effective** way to educate youth. The Extension educators indicated that all seven of the experiential learning techniques were **Very Effective** ways to educate youth. The volunteer leaders ranked all techniques as either **Very Effective** or **Effective**. The responses of the volunteers were also more evenly split with smaller differences in the percentages between the first and second ranked values. The closeness of rankings in the statements for the volunteer leaders again indicates a question of knowledge and training. Pennsylvania 4-H state staff must determine if this group has been provided with enough information to evaluate the effectiveness of these experiential learning techniques. The state staff must also evaluate if these learning techniques are being applied correctly and not partially executed. Because the Extension educators feel so strongly about these techniques, they could attend club meetings and observe the experiential learning process in action. Constructive advice could then be given to the volunteer leader to increase the effectiveness of experiential learning within the Pennsylvania 4-H program.

In a 2007 survey by Diem, 80% of 4-H volunteer leader survey respondents indicated experiential learning was an essential subject in preparing the best volunteer leaders (2009). If both the volunteer leaders and the Extension educators recognize experiential learning as essential, why are there not more training and information programs available? Does 4-H need to encourage more education on the pedagogy that is used in delivering the content to their members? By having a lesser knowledge about experiential learning, the volunteer leaders were
less confident in the effectiveness of experiential learning methods. Training materials, related to
experiential learning, should be developed for volunteers that highlight the effectiveness of
experiential learning; especially when incorporated with the current hands-on learning that
appears to be taking place in their clubs.

Objective #6

Determine the differences, if any, in perceived knowledge, use, and effectiveness of
experiential learning between Pennsylvania 4-H extension educators and Pennsylvania 4-H
volunteer leaders.

The results of the independent t-tests to compare the scores of Extension educators and
volunteer leaders resulted in two not significant values and one value approaching significance.
The knowledge of each group was evaluated by calculating mean scores for the responses to five
statements on a scale of Strongly Disagree to Strongly Agree. The Extension educators had a
mean score of 3.71 and the volunteer leaders calculated a score of 3.64 Both of these mean score
values indicated a level of Agree. The difference between Extension educators and volunteer
leaders was determined to be not significant. The result of the independent t-test for use of
experiential learning was also determined to be not significant. The Extension educators reported
a mean score of 3.19 and volunteer leaders recorded a higher use mean score of 3.35.

The final independent t-test evaluated the differences between Extension educators and
volunteer leaders on the effectiveness of experiential learning. To calculate the mean scores for
each group, the following statements were used:

1. Experiential learning is a(n) ____ way to educate youth.
2. Experiences are a(n) _____ strategy to use with youth.
3. Field trips are _____ in enhancing youth learning.
4. Asking youth to share their observations is a(n) _____ way to understand content.

5. Helping youth find connections between a current experience and future situations is a(n) _____ means of learning.

6. Questioning youth about what is occurring/experiencing is a(n) _____ process.

7. Providing multiple scenarios to practice a new skill is a(n) _____ learning strategy.

The mean score for the Extension educators was 3.61 and the volunteer leaders mean score was 3.45. Both groups reported scores within the Effective range. The significance value for effectiveness of experiential learning was found to be approaching significance at 0.087.

**Conclusions, Discussion, and Recommendations – Objective #6**

Extension educators believe that experiential learning techniques are more effective in comparison to volunteer leaders. The researcher found that this difference in effectiveness of experiential learning was approaching a significant difference. The mean composite score for Extension educators was higher which may be attributed to advanced knowledge and training within experiential learning. In order to advance the volunteer leaders to the same level of understanding as Extension educators, further training, information sessions, and experiential learning materials should be provided to all 4-H volunteer leaders.

There was no significant difference between the mean composite scores for the perceived knowledge or use of experiential learning. Because both the Extension educators and volunteer leaders had similar mean composite scores, those who provide training in experiential learning will be able to start further along in the workshop process. Through the use of workshops and training sessions, the difference in scores between the Extension educators and volunteer leaders can be lessened. Through education about experiential learning volunteer leaders may also become familiar with the benefits of experiential learning techniques (Enfield, 2001). The
Pennsylvania 4-H staff should also observe 4-H clubs to ensure that the process of experiential learning is being used correctly to maximize its effectiveness.

**Recommendations for Further Research and Practice**

Based on the findings and conclusions of this study, the following recommendations are made.

1. A follow-up study should be conducted with more volunteer leaders to generalize the study findings to the Pennsylvania 4-H volunteer leaders. When the sample was taken for this study, the entire volunteer database was not complete. Again, a proportional stratified random sample should be used to allow for further analysis by region in the state. The survey could be distributed with new project materials to encourage participation.

2. The current study found that while there was a low familiarity with experiential learning terms, volunteer leaders indicated that they use experiential learning frequently. Further research should be conducted, possibly through interviews of focus groups, to determine the level of knowledge of experiential learning by 4-H volunteer leaders.

3. A short, easy to understand handout should be created to outline the purpose of experiential learning and why it is beneficial to youth learning. This handout must demonstrate how experiential learning is already incorporated into the National 4-H curriculum. Every 4-H volunteer in the state should receive this document.

4. As Pennsylvania 4-H state staff moves towards increasing volunteers’ knowledge and use of experiential learning, they should investigate why volunteer leaders do not attend training or workshop sessions. The use and feasibility of online trainings and resources should be investigated.
5. Case studies could be conducted and video taped. Through these observations, 4-H Extension educators could assess if the responses on paper surveys matched practice. Examples of experiential learning in practice could be shown to volunteer leaders as part of their training.

As recommended throughout chapter five, state 4-H staff should consider implementing experiential learning training sessions for volunteer leaders across the state of Pennsylvania. Through effective training, volunteers are motivated and encouraged to work towards the mission and vision of the association with which they work (Fox et al., 2009). A survey by Fox et al., (2009), revealed that the top two ways volunteers preferred to receive information was group training and email. There are many formats for disseminating information and training volunteer leaders. One sample in class training session, based on the National 4-H curriculum and work at UC Davis, is provided in Appendix A. A similar online training could be developed and made available across the state of Pennsylvania.

Summary

Through this study, it was found that most Pennsylvania 4-H Youth Extension educators and volunteer leaders were white females with at least a high school or college degree. The Extension educators had experience with all types of 4-H projects while the majority of volunteer leaders focused on Animal based projects.

The National 4-H curriculum is designed with the 4-H model of experiential learning. Because the volunteer leaders are responsible for educating the 4-H youth, these individuals need to understand the experiential learning theory. Of the survey respondents, only 16.3% (n=15) of the volunteer leaders indicated they had received training in experiential learning. In order to
increase the number of volunteer leaders who have received training, the Extension educators must assess the means of communication deemed most preferred by volunteer leaders.

While 96% (n=49) of Extension educators were knowledgeable of the term experiential learning, only 47.8% (n=44) of volunteer leader survey respondents indicated familiarity. Even fewer volunteer leaders knew how the phrase *Do, Reflect, Apply* related to 4-H learning. The most common theme used to define experiential learning was *Learn by Doing*. In terms of use, 68.1% (n=62) of volunteer leaders indicated using experiential learning within club activities. Extension educators perceived that 4-H volunteer leaders provided fewer opportunities for club members to learn through the experiential learning model than what was self-reported by volunteer leaders. Both groups of survey participants felt that various opportunities for experiential learning were *Effective* or *Very Effective* in educating youth. However, the conclusions for use and effectiveness of experiential learning must be analyzed carefully due to the low numbers of volunteer leaders trained and familiar with experiential learning.

In order to address the low number of volunteer leaders in this survey with knowledge of experiential learning, several steps must be taken. First, a second survey should be conducted with the complete Pennsylvania 4-H volunteer database in order to make larger generalizations. Second, an easy to read handout explaining the process and value of experiential learning should be created by the Pennsylvania 4-H state staff that can be distributed to all volunteer leaders. The Extension educators should investigate why so few volunteer leaders have attended training in experiential learning and find ways to reach out to the volunteer leaders in their counties. Finally, case studies can be used to see if experiential learning is being implemented fully in the 4-H education setting.
References


Penn State College of Agricultural Sciences (2010). *How to become a 4-H volunteer*. Retrieved from http://extension.psu.edu/4-h/leaders


Appendix A

A Sample Professional Development Workshop on Experiential Learning
A Sample Professional Development Workshop on Experiential Learning

This workshop is designed using the following resources:


Goals of Workshop

- Share what steps and questions make experiential learning
- Explain how to use experiential learning within 4-H clubs
- Explain how to modify activities into experiential learning opportunities

Materials Required

- Tower building materials
  - Newspaper, straws, tape, pipe cleaners, paper towel rolls, etc
- Poster paper
- Markers
- Photocopied pages from Heads-on, Hands-on
  - 9 though 11, 21 through 24
- Photocopied UC Davis experiential learning check list
- Shoe for non-experiential learning demonstration
- Tennis ball activity materials
  - One tennis ball per group
  - Rope, yardsticks, newspaper, cups, toilet paper, etc
- 4-H curriculums to look at the incorporation of experiential learning
- Use of experiential learning contest handout
- Photocopied UC Davis survey
- PowerPoint slides for presentation
- Projector and screen
- Computer

Physical Setting

- A room that has tables and chairs that can be rearranged for small group work
I. Welcome
   a. Welcome to the workshop
   b. Before explaining anything about experiential learning, have participants work in
groups to complete the Tower Building exercise in Heads-on, Hands-on: The
Power of Experiential Learning. (building materials will be required)
   i. Participants will become familiar with one another
   ii. Participants will now share a common experiential learning example to
reference throughout the workshop
II. Importance of youth education and value of educators, leaders, volunteers
   a. Benefits for youth of informal education, adult interaction, leadership
opportunities
   b. 4-H wouldn’t exist without adult support, key to success
III. Share the goals and purpose
   a. To understand what is experiential learning
   b. How to use experiential learning within 4-H clubs
   c. How to modify existing club activities into experiential learning opportunities
IV. What is experiential learning?
   a. Have participants share ideas, thoughts and experiences
      i. Make suggestions to get ideas flowing if necessary
      ii. Write responses onto an overhead, white board or projected document
   b. Introduce the experiential learning cycle (Heads-on, Hands-on)
      i. Discuss each step of the learning cycle – pages 9 through 11 and 21
through 24
         1. explain the Do, Reflect, Apply grouping
      ii. Ask participants to work in small groups to categorize the ideas
suggested into experiential learning steps and not included using a poster
board and markers
      iii. Groups can then share their ideas
      iv. Ask participants to apply this information to the icebreaker tower activity
and identify different steps of the learning cycle and share thoughts
V. What experiential learning is not (UC Davis)
   a. Present participants with the experiential learning checkoff list
   b. Trainer presents a lecture on how to tie shoe, participants evaluate
   c. Discuss participant observations
   d. Ask participants how they could utilize checkoff list in future situations
VI. Practice using experiential learning
   a. Experience – participants break into small groups for this activity
      i. Inform the groups that they are to move a tennis ball from one side of the
room to the other with only the supplies available, no hands
(Supplies may include rope, yardsticks, newspaper, cups, toilet paper,
   etc)
      ii. Ask a participant to serve as the facilitator and use their Heads-on,
Hands-on worksheets to ask questions during the experience.
      iii. Review that experience is:
1. some type of doing, either group or individual
2. meant to be new and unfamiliar for learner
3. not guaranteed, potential to get undesired results
b. Share – participants discuss what happened
   i. Ask another participant to serve as facilitator and work through the sharing process in Heads-on, Hands-on
   ii. Review that sharing is:
        1. discussion of observations and reactions
        2. group members should be discussing ideas together

c. Process – participants share decisions they had to make, problems that arose
   i. Ask another participant to serve as facilitator and work through processing in Heads-on, Hands-on
   ii. Review that processing is:
        1. reflection of what worked and didn’t work
        2. finding similarities between new and existing situations

d. Generalize – participants discuss what they learned, relationship with real life
   i. Ask another participant to serve as facilitator and work through generalizing in Heads-on, Hands-on
   ii. Review that generalizing is:
        1. finding connections with real life situations
        2. discussing what individuals learned about themselves

e. Apply – participants share ways to apply their new knowledge to future situations
   i. Ask another participant to serve as facilitator and work through applying in Heads-on, Hands-on
   ii. Review that applying is:
        1. finding ways to use new skills in another situation
        2. discussing how this could be useful in the future

VII. Take time for a group reflection on the experiential learning process

VIII. Ask participants to share ideas on how to apply experiential learning within their 4-H clubs
   a. Use group discussion
      i. Ask participants to offer topics and work together to create ideas
   b. Provide 4-H curriculum examples

IX. Take time to answer any questions

X. Introduce contest for experiential learning use
   a. Any club leader or volunteer that uses experiential learning activities for six consecutive meetings can submit descriptions and photos to be eligible for club prizes
   b. Any county educator who sends out monthly experiential learning ideas for six consecutive months can receive resources to use with county program
   c. Participation in the online discussion group will also result in eligibility for prizes

XI. Provide summarizing comments
   a. Encourage participants to use experiential learning
   b. Offer to set up individual or small group conversations

XII. Thank participants for attending
   a. Complete UC Davis survey
Appendix B

Survey Questionnaire
Welcome to the Pennsylvania 4-H Survey for Experiential Learning. Your responses will help with improving youth education in the Pennsylvania 4-H Program.

- Next (Survey pg 2)
Survey Page 2 – Experiential Learning in the Pennsylvania 4-H Program

Implied Informed Consent Form for Social Science Research The Pennsylvania State University

Title of Project: Analyzing the Use, Effectiveness and Understanding of Experiential Learning in Pennsylvania 4-H Clubs

Principal Investigator: Robyn Bechtel, Graduate Student
009 Ferguson Building
University Park, PA 16802
reb5059@psu.edu
814-863-0416

Advisor: Dr. John Ewing
215 Ferguson Building
University Park, PA 16802
814-863-7463
jce122@psu.edu

1. Purpose of the Study: The purpose of this research is to measure the use and effectiveness of experiential learning within Pennsylvania 4-H clubs. It will also determine the perceived knowledge of 4-H educators and volunteer leaders about experiential learning. Finally, the survey will determine if there is a difference between types of clubs and use of experiential learning.

2. Procedures to be followed: You will be asked to click on the link below to enter the online survey website. There are 22 to 30 questions to answer, depending on how you respond.

3. Duration/Time: This survey will require 15 to 30 minutes to complete.

4. Statement of Confidentiality: Your participation in this research is confidential. The survey does not ask for any information that would identify who the responses belong to. In the event of any publication or presentation resulting from the research, no personally identifiable information will be shared because your name is in no way linked to your responses. Your confidentiality will be kept to the degree permitted by the technology used. No guarantees can be made regarding the interception of data sent via the Internet by any third parties.

5. Right to Ask Questions: Please contact Robyn Bechtel at (814) 863-0416 or reb5059@psu.edu or Dr. John Ewing at (814) 863-7463 or jce122@psu.edu with questions or concerns about this study.

6. Voluntary Participation: Your decision to be in this research is voluntary. You can stop at any time. You do not have to answer any questions you do not want to answer.

You must be 18 years of age or older to take part in this research study.

Completion and submission of the survey implies that you have read the information in this form and consent to take part in the research. Please print and keep this form for your records or future reference.

By selecting yes, you agree to participate in this survey.

- Yes (go to Question 1- Survey pg 3)
- No (go to Thank you – Survey pg 24)
1. How would you describe your interaction with the Pennsylvania 4-H program?

(Select one answer)

 o 4-H Youth Educator (go to Question 2 – Survey pg 4)
 o 4-H Club Leader (go to Question 14 – Survey pg 10)
 o No Longer Involved with 4-H Program (go to Thank you - Survey pg 24)
Survey Page 4 - 4-H Extension Educator

Begin Extension Educator Questions

2. As of January 1, 2011, how many years have you been a 4-H youth educator? 
(Please type response) 
____________

3. In your role as 4-H youth educator, how frequently do you hold workshops/training sessions (including face-to-face, webinars, phone conferences, etc.) for 4-H volunteer leaders? 
(Select one answer) 
   o More than 2 per year 
   o 1 or 2 per year 
   o Less than 1 per year 

4. On average, how many 4-H club meetings do you attend annually? 
(Select one answer) 
   o More than 12 per year 
   o 9 – 11 per year 
   o 6 – 8 per year 
   o 3 – 5 per year 
   o 2 or fewer per year 

5. How would you describe your level of interaction with 4-H volunteers? 
(Select one answer per type) 

<table>
<thead>
<tr>
<th>Face to Face</th>
<th>Very Low</th>
<th>Low</th>
<th>Average</th>
<th>High</th>
<th>Very High</th>
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<tbody>
<tr>
<td>Phone</td>
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<td>Email</td>
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<td>Newsletter</td>
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<td>Text Message</td>
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</table>

6. Do you encourage 4-H volunteer leaders to use hands-on learning at club meetings? 
(Select one answer) 
   o Yes 
   o No 
   o Not Sure 

7. Are you familiar with the term “Experiential Learning”? 
   o Yes (go to Question 7 A – Survey pg 5) 
   o No (go to Question 8 – Survey pg 6) 
   o Not Sure (go to Question 8 – Survey pg 6)
7 A. Please type your definition of experiential learning.

______________________________
Survey Page 6 – 4-H Extension Educator

8. Have you ever attended a workshop or professional development session on “Experiential Learning”?  
(Select one answer)  
  o Yes  
  o No  
  o Not Sure

9. Based on your understanding of “Experiential Learning,” please indicate your level of agreement for the following statements.  
(Select one answer per statement)

<table>
<thead>
<tr>
<th>It is important to provide opportunities for youth to….</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>To have actual experiences (not just demonstrations and lectures).</td>
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<tr>
<td>To share their understanding of the experience.</td>
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<tr>
<td>To reflect on an experience.</td>
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<td>To generalize the content to other situations.</td>
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<td>To apply the content.</td>
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</table>

10. In your role as 4-H Extension educator, have you offered training in “Experiential Learning” to 4-H volunteer leaders?  
(Select one answer)  
  o Yes (go to Question 10 A – Survey pg 7)  
  o No (go to Question 11 - Survey pg 8)
Survey Page 7 – 4-H Extension Educator Most Recent Training Session

10 A. – When was your most recent training session?
(Select one answer)

- Within past year
- 1 – 2 years
- 3 – 4 years
- More than 4 years ago
11. Please rate the following statements.  
(Select one answer per statement)

**My 4-H volunteer leaders...**

<table>
<thead>
<tr>
<th>Statement</th>
<th>Nearly none of the leaders</th>
<th>Few of the leaders</th>
<th>Most of the leaders</th>
<th>Nearly all of the leaders</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incorporate “Experiential Learning” in club activities.</td>
<td>50%</td>
<td>74%</td>
<td>99%</td>
<td>100%</td>
<td>24-0%</td>
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<tr>
<td>Are aware of the 4-H Learning Process “Do, Reflect, Apply”?</td>
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</table>

12. Please rate the following statements.  
(Select one answer per statement)

**My 4-H volunteer leaders provide experiential learning opportunities...**

<table>
<thead>
<tr>
<th>Statement</th>
<th>Almost Never (24-0%)</th>
<th>Rarely (49-25%)</th>
<th>Sometimes (74-50%)</th>
<th>Frequently (99-75%)</th>
<th>Always (100%)</th>
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</thead>
<tbody>
<tr>
<td>In the 4-H program.</td>
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<tr>
<td>At 4-H meetings that include an actual experience.</td>
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<tr>
<td>At 4-H meetings that include an opportunity for youth to reflect on what they learned.</td>
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<tr>
<td>At 4-H meetings that include formal reflective opportunities for youth to draw conclusions.</td>
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<tr>
<td>At 4-H meetings that include discussions about how to use their new knowledge for future situations.</td>
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**Survey Page 9 – 4-H Extension Educator**

13. Please select the description for the level of perceived effectiveness for each of the following statements.
(Select one answer per statement)

<table>
<thead>
<tr>
<th></th>
<th>Very Effective</th>
<th>Ineffective</th>
<th>Effective</th>
<th>Very Effective</th>
<th>Don’t Know</th>
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</thead>
<tbody>
<tr>
<td>Experiential learning is a(n) _____ way to educate youth.</td>
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<tr>
<td>Experiences are a(n) _____ strategy to use with youth.</td>
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<tr>
<td>Field trips are _____ in enhancing youth learning.</td>
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<tr>
<td>Asking youth to share their observations is a(n) _____ way to understand content.</td>
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<td>Providing multiple scenarios to practice a new skill is a(n) _____ learning strategy.</td>
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</tbody>
</table>

Skip to Question 29 - Survey pg 22 for Demographics
Survey Page 10 – 4-H Volunteer Leader

Begin 4-H Volunteer Club Leader Questions

14. As of January 1, 2011, how many years have you been a 4-H volunteer leader? (Please type response)

____________

15. In your role as 4-H volunteer leader, about how frequently do you attend workshops/training sessions offered by the 4-H extension system? (Select one answer)
   o More than 2 per year
   o 1 or 2 per year
   o Less than 1 per year

16. On average, about how many 4-H club meetings do you hold per year? (Select one answer)
   o More than 8 per year
   o 6 – 8 per year
   o 3 – 5 per year
   o Less than 3 per year

17. How would you describe your level of interaction with 4-H Extension educators? (Select one answer per statement)

<table>
<thead>
<tr>
<th></th>
<th>Very Low</th>
<th>Low</th>
<th>Average</th>
<th>High</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face to Face</td>
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<td>Phone</td>
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<td>Email</td>
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<td>Newsletter</td>
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<td>Text Message</td>
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</tbody>
</table>

18. How would you describe your level of interaction with 4-H members? (Select one answer per statement)

<table>
<thead>
<tr>
<th></th>
<th>Very Low</th>
<th>Low</th>
<th>Average</th>
<th>High</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face to Face</td>
<td></td>
<td></td>
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<td>Phone</td>
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<td>Newsletter</td>
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<tr>
<td>Text Message</td>
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</tbody>
</table>

19. Do you use hands-on learning experiences at club meetings? (Select one answer)
   o Yes (go to Question 19A – Survey pg 11)
   o No (go to Question 20 – Survey pg 12)
Survey Page 11 – 4-H Volunteer Leader Frequency of Hands-On Learning

19 A. – How frequently do you utilize hands-on learning at club meetings?  
(Select one answer)

- Always (100% of meetings)
- Frequently (99 – 75% of meetings)
- Sometimes (74 – 50% of meetings)
- Rarely (49 – 25% of meetings)
- Almost Never (24 – 0% of meetings)
Survey Page 12 – 4-H Volunteer Leader

20. Are you familiar with the term “Experiential Learning”? (Select one answer)

   o Yes (go to Question 20 A – Survey pg 13)
   o No (go to Question 21 – Survey pg 14)
20 A. – What is your definition of experiential learning?
(Please type your response)

__________
Survey Page 14 – 4-H Volunteer Leader

21. Have you ever attended a workshop or professional development session on “Experiential Learning”?
(Select one answer)

- Yes
- No

22. Based on your understanding of “Experiential Learning,” please rate the following statements.
(Select one answer per statement)

It is important to provide opportunities for youth to:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>To have actual experiences (not just demonstrations and lectures).</td>
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<tr>
<td>To share their understanding of the experience.</td>
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<tr>
<td>To reflect on an experience.</td>
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<tr>
<td>To generalize the content to other situations.</td>
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<tr>
<td>To apply the content.</td>
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</tbody>
</table>

23. In your role as a 4-H volunteer leader, have you received training in “Experiential Learning” from 4-H Extension educators?
(Select one answer)

- Yes [go to Question 23A – Survey pg 15]
- No [go to Question 24 – Survey pg 16]
23 A. – When was your most recent training session?  
(Select one answer) 
- Within past year 
- 1 – 2 years 
- 3 – 4 years 
- More than 4 years ago
24. Do you incorporate “Experiential Learning” in club activities? (Select one answer)

- Yes (go to Question 24 A - Survey pg 17)
- No (go to Question 25 - Survey pg 20)
Survey Page 17 – Frequency of 4-H Volunteer Experiential Learning Use

24 A. – How frequently do you utilize “Experiential Learning” at club meetings? (Select one answer)

- Always (100% of meetings)
- Frequently (99 – 75% of meetings)
- Sometimes (74 – 50% of meetings)
- Rarely (49 – 25% of meetings)
- Almost Never (24 – 0% of meetings)
24 B. Please type a specific example where you used experiential learning in your program.

Example of Experiential Learning:
   Do: Youth are given $20 to spend at the grocery store to create a meal.
   Reflect: Ask youth what they purchase, why they bought the food, how did they decide what to buy, etc.
   Apply: Ask youth what they learned, where else they could use these decision making skills?

_____________
Survey Page 19 – 4-H Volunteer Leader Use of Experiential Learning

24 C. Please rate the following statements.
(Select one answer per statement)

I provide experiential learning opportunities…

<table>
<thead>
<tr>
<th>In the 4-H program.</th>
<th>Almost Never (24-0%)</th>
<th>Rarely (49-25%)</th>
<th>Sometimes (74-50%)</th>
<th>Frequently (99-75%)</th>
<th>Always (100%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>At 4-H meetings including an actual experience.</td>
<td></td>
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<tr>
<td>At 4-H meetings including an opportunity for youth to reflect on what they learned.</td>
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<tr>
<td>At 4-H meetings including formal reflective opportunities for youth to draw conclusions.</td>
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<tr>
<td>At 4-H meetings including discussions about how to use their new knowledge for future situations.</td>
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</tbody>
</table>
**Survey Page 20 – 4-H Volunteer Leader**

25. Have you heard the phrase “Do, Reflect, Apply” with 4-H learning? (Select one answer)

- Yes
- No

26. Please rate the following statement. (Select one answer)

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>I understand what the terms “Do, Reflect, Apply” mean related to 4-H learning.</td>
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</table>

27. Please rate the following statements. (Select one answer per statement)

<table>
<thead>
<tr>
<th></th>
<th>Almost Never (24-0%)</th>
<th>Rarely (49-25%)</th>
<th>Sometimes (74-50%)</th>
<th>Frequently (99-75%)</th>
<th>Always (100%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I provide hands-on activities for youth</td>
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<tr>
<td>I arrange field trips, guest speakers, and other outside sources of learning for youth</td>
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<tr>
<td>I encourage youth to try new ideas and methods at club meetings</td>
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<tr>
<td>I support youth as they direct their own learning</td>
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<tr>
<td>I ask youth questions during activities such as who, what, why when, where</td>
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<tr>
<td>I encourage youth to have group discussions about experiences</td>
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<td>I utilize think, pair, share techniques within my club</td>
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<tr>
<td>I ask youth to find similarities between the experience and real life situations</td>
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<td>I provide opportunities for youth to practice their new skills in another setting</td>
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**Survey Page 21 – 4-H Leader Perceived Effectiveness**

28. Please select the description for the level of perceived effectiveness for each of the following statements.  
(Select one answer per statement)

<table>
<thead>
<tr>
<th></th>
<th>Very Ineffective</th>
<th>Ineffective</th>
<th>Effective</th>
<th>Very Effective</th>
<th>Don’t Know</th>
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</thead>
<tbody>
<tr>
<td>Experiential learning is a(n) _____ way to educate youth.</td>
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<tr>
<td>Experiences are a(n) _____ strategy to use with youth.</td>
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<td>Field trips are _____ in enhancing youth learning.</td>
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<tr>
<td>Asking youth to share their observations is a(n) _____ way to understand content.</td>
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Survey Page 22 – Demographics

29. Please select your home county

Please Select. (Drop Down Menu)

30. Age: _____ years at last birthday

31. Gender

- Male
- Female

32. How do you describe yourself?

- White
- Black or African American
- American Indian or Alaskan Native
- Asian
- Native Hawaiian or other Pacific Islander

White and Black or African American
White and American Indian or Native Alaskan
White and Asian
Other

33. Highest level of education completed

- High School
- Some College
- 2 year College/Technical School
- 4 year College
- Masters Degree
- Doctorate (PhD, D.Ed, etc)
34. Type(s) of projects with which you work (select all that apply)

- Arts and Crafts
- Babysitting
- Beef
- Bicycle
- Career Education
- Cats
- Citizenship (Civic Engagement)
- Cloverbuds
- Collectibles
- Communications
- Computer/Web Technology
- Dairy Cattle
- Discovering Me
- Dogs
- Electricity
- Embryology
- Entomology
- Exercising Character
- Exploring 4-H
- Family Strengths
- Financial Champions
- Fishing
- Foods and Nutrition
- Forestry
- Generation Celebration
- Global Connections
- Goats
- Health
- Horse
- Intro to Animal Science
- Kids and Kash
- Landscaping
- Leadership
- On My Own and OK
- Orienteering
- Outdoor Adventure
- Pet Care
- Photography
- Plants
- Poultry
- Rabbits
- Resource Management
- Rocketry
- Sewing
- Sheep
- Shooting Sports
- Small Engines
- Swine
- Theatre Arts
- The Rent Event
- Vet Science
- Water
- Wildlife Conservation
- Wood Science

35. Any other unlisted projects, please specify.

________________________

36. Were you a member of 4-H as a youth?
- Yes
- No
Thank you for volunteering and completing this survey. Your input will help us to improve the Pennsylvania 4-H program.

- Submit
Appendix C

IRB Approval
Robyn Bechtel,

The Office for Research Protections (ORP) has reviewed the eSubmission application for your research involving human participants and determined it to be exempt from IRB review. You may begin your research. This study qualifies under the following category:

**Category 2**: Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observations of public behavior unless: (i) information obtained is recorded in such a manner that human participants can be identified, directly or through identifiers linked to the participants; and (ii) any disclosure of the human participants’ responses outside the research could reasonably place the participants at risk of criminal or civil liability or be damaging to the participants’ financial standing, employability, or reputation. [45 CFR 46.101(b)(2)]

**PLEASE NOTE THE FOLLOWING:**

- The principal investigator is responsible for determining and adhering to additional requirements established by any outside sponsors/funding sources.

**Record Keeping**

- The principal investigator is expected to maintain the original signed informed consent forms, if applicable, along with the research records for at least three (3) years after termination of the study.
- This correspondence will also be available to you in PRAMS at www.prams.psu.edu.

**Consent and Recruitment Document(s)**

- The exempt consent form(s) will no longer be stamped with the approval/expiration dates.
- The most recent consent form(s) that you uploaded for review is the one that you are expected to use.

**Follow-Up**

- The Office for Research Protections will contact you in five (5) years to inquire if this study will be on-going.
  - If the study is completed within the three year period, the principal investigator may complete and submit a Project Close-Out Report: http://www.research.psu.edu/orp/areas/humans/applications/index.asp#other

**Revisions/Modifications**

- Any changes or modifications to the study must be submitted through the eSubmission application for this protocol in PRAMS (www.prams.psu.edu).

Please do not hesitate to contact me if you have any questions or concerns.

Thank you,

Amanda E. Brown, CIP
Research Compliance Coordinator II

The Pennsylvania State University | Office for Research Protections | The 330 Building, Suite 205 | University Park, PA 16802