# Moving Beyond the Demonstration Model: The Importance of Experiential Learning in the 4-H Youth Development Program

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Experiential learning is a pedagogical strategy that focuses on providing learners with opportunities to construct meaning through hands-on experiences that are highly social in nature. Although 4-H emphasizes the use of hands-on, "learn-by-doing" projects and activities, and 4-H educators have developed and provided materials that have been designed in an experiential manner, demonstrations remain the principal educational method used in the 4-H Youth Development Program. Thus, the goal of this chapter is to provide: an overview of the history of learning in 4-H; a description of the experiential learning process; a summary of the research, development, and extension of experiential learning workshops that include materials for 4-H educators; and strategies that can expand volunteers' knowledge and improve their abilities to deliver effective educational programming using experiential learning.

Professional development for staff and volunteers is an important component of the 4-H Youth Development Program. Ensuring that program staff are current on effective pedagogical methods, as well as important content can help ensure staff have the skills and capacity to successfully train volunteers, which can lead to the delivery of high quality programs for youth participants. Additionally, volunteers are often parents and not professional educators, and thus may not be cognizant of the research surrounding the best methods associated with nonformal learning. Therefore, volunteer development is critical to help ensure success in their role as nonformal educators facilitating youth programs. The project described here developed and evaluated trainings for staff and volunteers on the experiential learning cycle and on methods for working most effectively in delivering nonformal programming to young people.

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## History of Cooperative Extension and the 4-H Youth Development Program

The origins of the Cooperative Extension System can be traced to the Morrill Act of 1862 which established land grant universities in every state with the purposes of providing agricultural and mechanical education and teaching military tactics (Comer, Campbell, Edwards, & Hillison, 2006). In 1887, the Hatch Act linked land grant universities and the United States Department of Agriculture (USDA) through the allocation of federal funds for agricultural research in an effort to improve farming productivity (Comer et al., 2006). The Smith-Lever Act of 1914 formally established Cooperative Extension with the goal of advancing agricultural techniques based on local needs and disseminating information on agriculture to the public (Comer et al., 2006). Today, research and education in agriculture remain foundational elements of the Cooperative Extension System; however, through efforts to respond to the expanding needs of society, Cooperative Extension has diversified and also includes a wide variety of programs in the areas of human and natural resources.

The 4-H Youth Development Program is a national nonformal education organization for youth aged

5-19 that is directed by Cooperative Extension in each state. The origins of 4-H can be found in Boys and Girls Agricultural Clubs that appeared in different parts of the country around the turn of the 20th century (Enfield, 2001). These clubs emphasized practical and relevant education for youth around issues related to agriculture and utilized a "learn by doing" strategy. Although the 4-H Program in the 21st century maintains a strong agricultural component it offers a much wider variety of projects and programs, ranging from animal science to aviation and rocketry and from plant science to citizenship and computers (United States Department of Agriculture, 2003). Guided by adult volunteers who serve as nonformal educators (Boyd, 2004; Stedman & Rudd, 2006), 4-H members were traditionally organized into neighborhood or community-based clubs; however, as enrollment has shifted over the decades from a rural to a more urban base, afterschool programs, summer camps, and other shorter-term opportunities for participation have become common within the 4-H membership structure (Enfield, 2001).

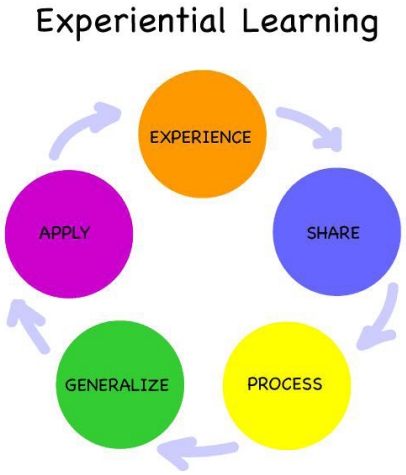
### Learning in Cooperative Extension and 4-H

From its beginnings, Cooperative Extension has capitalized on a distinct learning approach – demonstrations (Enfield, 2001). To help accomplish its mission of extending new knowledge to the public, Cooperative Extension educators would hold demonstrations with farmers on innovative agricultural practices (Comer et al., 2006). This learning approach involved the introduction of new methods and ideas by Extension educators to their constituency on their own property, with the idea that through the authentic application of this new knowledge these individuals would be more likely to adopt novel practices and improve their agricultural productivity (Comer et al., 2006; Enfield, 2001). The demonstration model was, and still is, the principal educational method used throughout Cooperative Extension and is the key approach to learning in the 4-H Youth Development Program (Enfield, 2001).

The demonstration model of learning in Cooperative Extension and 4-H most closely resembles the Traditional Learning Approach that is described by Lambert et al. (2002). The educator demonstrates the knowledge that is the source of information; the individuals who receive the information are the knowledge recipients. However, Cooperative Extension/4-H faculty and county-based academic staff have also been promoting experiential learning and developing the capacity for its use in 4-H for several decades (McArthur, Shields, & Zurcher, 1987; Horton & Hutchinson, 1997; Horton, Hutchinson, Barkman, Machtmes, & Myers, 1999).

Through experiential learning, youth are provided opportunities to construct meaning through hands-on "learn by doing" experiences that are highly social in nature, and encompass the qualities of constructivist learning. Although a variety of models have been utilized in designing curricula and in developing training for 4-H volunteers and staff (Enfield, 2001), an experiential learning model using a five-step learning cycle (Figure 1) based on the work of Kolb (1984) and Pfeiffer and Jones (1985) is the most common one currently used in the 4-H Youth Development Program.

FIGURE 1
5-Step Learning Cycle (UC-STEL, 2005)




## EXPERIENTIAL LEARNING AND LEARNING IN 4-H

### Experiential Learning

The basis of all experiential learning lies in the participants' experience. It is the experience that

creates the foundation by which deep and purposeful learning can occur. In fact, many educators believe that without an experience there can neither be true learning nor real understanding of a concept or situation (Andresen, Boud, & Cohen, 2000; Kolb, 1984; Dewey, 1938). However, not all experiences are equally educative (Dewey, 1938); an isolated experience without the opportunity for the individual to reflect upon the learning and apply new knowledge may be miseducative (Dewey, 1938). Thus, educators need to craft environments whereby learners have opportunities to reflect upon their experiences and apply their knowledge such that their learning can become meaningful and positive (Dewey, 1938; Enfield, 2001).

To ensure that a learning experience leads to knowledge and comprehension, a progression of three distinct elements is needed: 1) A "*concrete experience*" (Enfield, 2001; Kolb, 1984) where the learner is engaged in an investigation by executing an activity of some kind; 2) a "reflection" stage (Enfield, 2001; Kolb, 1984; Pfeiffer & Jones, 1985) where the learner can *share* thoughts and feelings with others, *process* the experience through contemplation and dialogue, and make *generalizations* to real world examples; and 3) an "*application*" phase (Carlson & Maxa, 1998) that aids the learner in gaining a full and extended understanding of a concept or situation through authentic practice.

Another key feature of the experiential learning process is that it is a "recurring cycle" (Kolb, 1984) which builds upon itself and leads to additional ideas and questions that guide the learner to further explorations, thus resuming the experiential learning cycle. As John Dewey discussed in *Experience and Education* (1938), previous experiences influence current experiences, and thus impact future experiences. Therefore, by providing learners with opportunities to fully engage in the experiential learning cycle, the knowledge and understanding gained through one experience will progress toward future learning.

While there are several published experiential learning cycles with diverse numbers of stages (three, four, or five) (Kolb, 1984; Pfeiffer & Jones, 1985; Marek & Cavallo, 1997; Usher, Bryant, & Johnston, 1997), they all share similar attributes, and the number of stages is not imperative. What is important is that each cycle provides opportunities for connections between previous, current, and future experiences and between the learner and the environment (Dewey, 1938). Furthermore, the active reflection and the application of knowledge to authentic situations, essential components of the process, are attributes that make experiential learning distinct and more compelling than the models commonly referred to as "learn-by-doing" or "hands-on-learning" (Proudman, 1995).

## Addressing 4-H Volunteers' Understanding and Use of Experiential Learning through Effective Professional Development

The utilization of the experiential learning model in 4-H programming efforts is one of the long-standing tenets promoted by faculty and county-based staff within the 4-H Youth Development Program (McArthur, Shields, & Zurcher, 1987; Horton & Hutchinson, 1997; Horton, Hutchinson, Barkman, Machtmes, & Myers, 1999). However, according to Diem (2001), 4-H volunteers need to understand the experiential learning process in order to use it effectively. Thus, Cooperative Extension academics from the University of California assessed volunteers' understanding and use of experiential learning in their county programs. Interview data were collected from 4-H volunteers in San Diego, Santa Barbara, and Santa Cruz Counties. Interviews queried volunteers about specific activities, projects, or programs they led, how they were delivered to youth, and the volunteers' roles in the learning process. Representative interview responses included:

- "Have a leader demonstrate ..."
- "I answer questions; I supervise."
- "I demonstrate; kids observe; they try it; and then we discuss."
- "I do; they do."
- "I orally go through the process [and then] demonstrate."
- "Watch me, I'll help you, [then] you'll do it."

The analysis of interview data led researchers to concur with Enfield (2001) who reported that the demonstration model prevalent in the early stages of

the 4-H Program over 100 years ago still shapes the way 4-H projects and programs are delivered today.

### 4-H Volunteer Development: Understanding and Applying Experiential Learning

Based on results from the interviews with 4-H volunteers, and with the goal of increasing 4-H volunteers' awareness, knowledge, and use of experiential learning, participating researchers tested, evaluated, and published a series of three experiential learning workshops (Enfield, Schmitt-McQuitty, & Smith, 2007; UC-STEL, 2005). The workshops scaffolded upon one another and provided volunteers with essential information and experiences necessary to enhance their knowledge and abilities to more effectively integrate experiential learning opportunities in the projects and programs they led. The workshops were content area independent, used the five-step learning cycle, and followed an incremental design that targets the scaffolding of participants' confidence and competence (Smith & Enfield, 2002). Each workshop ranged in length from 2 to 3 hours and provided participants with relevant experiences to hone their understanding and application of experiential learning.

### Workshop I: Understanding Experiential Learning

The focus of Workshop I was on participants' understanding of experiential learning and the five-step learning cycle through the use of hands-on activities, structured reflection, and modeling through practice. The organization and subject matter of the workshop were adapted from McArthur, Shields, & Zurcher (1987), and provided participants with opportunities to relate experiential learning and the learning cycle to the delivery of projects and programs with youth audiences.

### Workshop II: Inquiry-Based Learning and the Experiential Learning Cycle

Workshop II was designed as a sequential follow-up to Workshop I. Workshop II reinforced the concepts of experiential learning and the learning cycle while focusing on strategies to incorporate inquiry into the experiential process. The workshop targeted participants' understanding and use of inquiry-based instructional methods and differentiated between hands-on learning and hands-on learning using inquiry.

### Workshop III: Developing and Adapting Curricula to Integrate Experiential Learning

Workshop III built upon participants' understanding of the concepts put forth during Workshops I and II. Participants applied their knowledge by reviewing and evaluating published curricula for elements essential to experiential learning and inquiry strategies (e.g., open-ended questions, opportunities for reflection, authentic applications). Furthermore, they learned to make modifications to existing curriculum materials in order to include elements of inquiry and experiential learning by using the "Backward Design" approach (Wiggins & McTighe, 1998).

## METHOD

### Sample

A total of 120 volunteers participated in Workshop I, 41 participated in Workshop II and 29 participated in Workshop III.

### Data

Surveys inquired into whether participants improved their knowledge of experiential learning, their understanding of inquiry, and their knowledge of curriculum development strategies. Open-ended questions were also included for all three surveys.

### Analysis

Descriptive statistics was used to measure participant ratings of workshops. Qualitative data from the open-ended questions was analyzed for main themes that elaborated participant assessments regarding improvements in knowledge, understanding of inquiry and knowledge of curriculum development strategies.

## RESULTS

Survey data were used to assess the efficacy of Experiential Learning Workshops I, II, and III

(Enfield, Schmitt-McQuitty, & Smith, 2007). Outcome data indicated that 99% (n = 120) of the individuals who participated in Workshop I improved their knowledge of experiential learning, and that 94% of the participants were confident in their abilities to apply experiential learning to their own work with youth. Participant responses from open-ended questions included:

> *I feel more confident about applying the experiential learning model.*
> *Now that I've done [the workshop] I feel confident enough to try it [EL] out.*

Individuals who participated in Workshop II also showed strong gains in their understanding of targeted concepts. Prior to Workshop II, only 8% of the participants (n = 41) rated their understanding of inquiry as "very good" or "excellent," whereas after the workshop this increased to 67%. Additionally, 80% of the participants indicated confidence in applying inquiry-based methods to activities in their 4-H program as a result of taking part in Workshop II. Representative feedback from participants consisted of:

> *I feel confident enough to begin applying inquiry-based instruction at project level and would like to share what I learned with other project mentors in my club.*

> *I feel that I can go and do a presentation on it [inquiry] with my own group.*

Outcome data from Experiential Learning Workshop III revealed that 97% (n = 29) of the participants increased their knowledge of curriculum development strategies. Furthermore, those individuals who ranked their knowledge of curriculum development as either "very good" or "excellent" increased from 7% on the pre-survey to 62% on the post-survey. Participants' comments included:

> *It actually makes sense to work backwards. If you know what your goal is you can establish the steps to get there.*

> *Because it makes me think of the end result and what the kids will get out of it.*

> *It will help me to evaluate curriculum and design activities.*

## Extension Efforts

The extension of knowledge is a critical component of the Cooperative Extension model and in developing best practices around effective training methodologies and professional development. Since the initial outcome evaluations were conducted, experiential learning workshops have been presented to more than 600 additional educators representing formal and non-formal education programs in the fields of youth development, nutrition education, environmental education, and in university teaching methods courses. Additionally, to help maximize the exposure and reach of Experiential Learning Workshops I, II, and III, a comprehensive website was developed (http://www.experientiallearning.ucdavis.edu/default.shtml) to further extend efforts beyond the California 4-H Youth Development Program, and to expose other educators and programs to these resources. The multifaceted website features pedagogical and theoretical information about experiential learning and provides tools, resources, and module outlines for use by other educators.

Feedback from educators who have participated in extension efforts and/or used the experiential learning website have shared the following:

> *... Skills acquired [for] experiential learning and inquiry are in many ways, more important than the content. This is an important point that should be highlighted even more. Teachers often get swept away with content and forget the skills.*

> *I just wanted to thank you for the wonderful information on your website! It looks like you are all doing incredible work. I was looking for information on Malcolm Knowles and Google sent me to your site. As an educator for professional dementia caregiver I use the theories of experiential learning in my learning opportunities, I was thrilled to read about how you all are using them with children.*

> *I learned to ask children more questions instead of just giving answers.*

> *I really appreciate your website about experiential learning. In particular, I like the steps and explanations of the experiential learning process*

*and the characteristics of students by age group and tips for teaching experiential learning.*

*I've gained an understanding of the difference between hands-on and experiential learning. Experiential learning puts the experience in a relevant context for students through incorporating reflection and application.*

*I'm struggling to make a very different looking special education classroom fit the requirements of a more traditional high school. I was going to develop my own lesson plan form based on what I've read/found but yours is perfect.*

*It became clearer to me on how to let the learners solve problems and find their own solutions.*

*It is [the website] by far the best resource for experiential learning I have seen to date!*

*This workshop gave me a broader focus on what I can do and methods I can use to teach my projects.*

## DISCUSSION

The 4-H Youth Development Program has exhibited and continues to display limitations with respect to its use of experiential learning. For many years, 4-H educators have developed and provided project materials for 4-H members and volunteers that have been designed in an experiential manner that allow learners to engage in hands-on activities in order to both practice and apply skills. However, Horton and Hutchinson (1997) state that most of these project materials have focused primarily on instructing 4-H members to do or make something. Enfield (2001) posits that this is a result of the continuation of the demonstration model that was prevalent in the early stages of the 4-H Program detailed earlier in this chapter. Enfield (2001) states that, "Young people involved in Boys and Girls Agricultural Clubs and early 4-H Clubs were certainly involved in producing things of value to them, their families, and in many cases, their communities; additionally, they were undoubtedly involved in 'hands-on' or 'learn-by-doing' activities and projects." Enfield goes on to discuss that Dewey and other educators (e.g., Proudman, 1995) have indicated that experiential education goes beyond "hands-on" learning or "learning-by-doing," and that "hands-on" does not always translate to experiential learning. Experiential learning must, by design and through implementation, include opportunities for reflection and application that help lead learners to a deeper and more thorough understanding of targeted learning objectives.

As the 4-H Youth Development Program moves further into the 21st century it will be increasingly important to continue to address the diverse needs of 4-H Youth Development Program participants while learning from and building upon foundational elements that have made 4-H successful in the past. One need among all youth audiences is to effect true learning and real understanding through the use of experiential learning opportunities. However, to achieve this will require well-trained and skilled volunteers. This can be accomplished through a systematic and intentional approach to professional development focused on experiential learning involving the use of sequential workshops that model effective practice and scaffold knowledge and skills over time. Thus, by drawing upon their current understanding of "learning by doing," we can expand volunteers' knowledge and improve their abilities to deliver effective educational programming through self-discovery and self-affirmation (Enfield, Schmitt-McQuitty, & Smith, 2007). This approach is supported by research outcomes (Enfield, Schmitt-McQuitty, & Smith, 2007) and is consistent with Dr. Seaman Knapp's philosophy on extension education from the early 1900s (Bull, Cote, Warner, & McKinnie, 2007; Enfield, 2001).

## CONCLUSION

Volunteers are essential to the 4-H Youth Development Program, serving most commonly as nonformal educators who lead projects and activities with youth (Boyd, 2004; Stedman & Rudd, 2006). Approximately 14,300 adults are involved as 4-H volunteers in California on an annual basis (California State 4-H Office, 2010), and in order for them to be successful in their role as nonformal educators using experiential learning, they must have access to and

participate in effective professional development opportunities (Diem, 2001; Hoover & Connor, 2001). The workshops outlined in this chapter represent research-based strategies that can be used by 4-H staff to help volunteers improve their knowledge and skills associated with experiential learning and apply them to their work with youth audiences. Furthermore, the contents of these workshops have become foundational components of other volunteer training opportunities in California 4-H (e.g., Junge, Mahacek, Schmitt-McQuitty, & Smith, 2008; Junge, Manglallan, Reilly, & Killian, 2009) and have also been used to guide the development of new experientially-based curriculum materials (e.g., Smith et al., 2009; Smith et al., 2010).

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