Conducting and Evaluating Professional Development Workshops using Experiential Learning

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Abstract

Faculty members are often called upon to design and deliver professional development workshops to a variety of clientele. This clientele could include county extension agents, agriscience teachers, producers, business owners, or local government officials. This article presents an experiential learning format in which faculty can accomplish the task of information dissemination in a manner that is both effective as well as enjoyable to workshop participants. Background information is presented for experiential learning and andragogy, which indicates that experiential learning is a teaching method that addresses the educational needs of adults. In addition, an example is provided for readers to use as a guide in developing their own professional development workshops. A brief discussion on evaluating professional development workshops is also included.

Introduction

Professional development workshops are routinely offered for agricultural education teachers and extension personnel. These educators attend these workshops to maintain their pedagogical and technical expertise. As such, the content presented varies greatly at these workshops. Professional development workshops can range from short workshops that may take only one hour to multi-day intensive workshops. Under the pretense of maximizing the information presented, these workshops often consist of a single or multiple presenter(s) that use a teacher-centered approach, such as a lecture, to deliver the content of the workshop. A teacher-centered approach is one that uses the teacher as the single focal point during the lesson. As such, the teacher is the single source of information and attempts to transfer that information to the participants (Bransford et al., 2000). Although appropriate for some topics, teacher-centered approaches are overused and often not the most effective means in presenting professional development workshops.

Practicing educators have discovered that using student-centered approaches that allow students to become actively involved in their education are more successful in teaching the content and maintaining student interest. Student-centered approaches seek to allow students to actively interact with the phenomenon being studied. The instructor takes more of a facilitator role and guides students as they learn the content. These methods include problem solving, cooperative learning, laboratory activities, and experiential learning. These same methods can be used to effectively deliver professional development workshops to teachers, extension personnel, and other adult audiences. Experiential learning has great potential for delivering professional development workshops and is the focus of this report.

The purpose of this article is to provide a guide to using experiential learning as the methodology to deliver professional development workshops to teachers, extension personnel, or other adult audiences. The material presented in this paper may benefit faculty members, administrators, teachers, extension specialists, and extension agents that are called upon to conduct these professional development workshops.

To facilitate a better understanding of experiential learning, this article contains information on professional development workshops and experiential learning. Also included in this article is an example of how to use experiential learning when conducting a professional workshop and how to evaluate a professional development workshop conducted in this manner. Finally, several resources are listed for further study on this topic.

Professional Development Workshops

Professional development programs have taken many shapes in the past. One of the major questions facing a designer of professional development is selecting a proper format for the workshop. When addressing these design questions, one should begin by defining the term "workshop." This is a term that is commonly used to describe professional development opportunities, yet can take on several meanings. For the purposes of this discussion, "A workshop is a short-term learning experience that encourages active, experiential learning that uses a variety of learning activities to meet the needs of diverse learners" (Brooks-Harris & Stock-Ward., 1999, p. 6). In order to better understand this definition, around which to design a professional development program, it should be broken down into its three major parts.

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A Short-term Learning Experience

The first part that should be examined more closely is "a short-term learning experience" (Brooks-Harris & Stock-Ward, p. 6). Professional development is often delivered in one-shot sessions ranging from one hour to several days in length. These short sessions are chosen due to time and financial considerations. Recent research on learning and cognition has provided new insights into how people learn in various settings. These studies have shown overwhelmingly that short-term and isolated learning experiences fail to produce powerful and long-lasting learning (Stiles & Mundry, 2002).

The length of the experiences is not the greatest concern. Information presented in isolation is divergent from what educators know about teaching "best practices." Professional development should not be taught in isolation; rather presenters should work with participants in making connections between the new information being presented and their prior knowledge and experience. This principle is consistent with theories of teaching and learning for children (pedagogy) and adults (andragogy) (Bransford et al., 2000 and Knowles, 1984). Although some differences have been found in the way youth and adults learn, both are still learners. Therefore, the basic principles of learning and transfer for student learners apply to teachers, extension personnel, and other adult audiences.

To eliminate this isolation, professional development planners should work to design a comprehensive professional development program, rather than just a series of workshops. A professional development program is one in which the topics of the various sessions relate and build upon each other. Each session may be brief ; however, information presented in one session is referred to and built upon in the next.

Active, Experiential Learning Activities

The second portion of the definition of a workshop states that a quality professional development opportunity "encourages active, experiential learning and uses a variety of learning activities" (Brooks-Harris & Stock-Ward, 1999, p. 6). Professional development must be driven by a vision of effective learning that is based upon the premise that learning is best accomplished by doing and investigating and by participants building their own understanding (Loucks-Horsley et al., 1996). In order to accomplish this, a workshop planner must design activities in which the participants become actively involved with the information to be learned. A designer must remember that a workshop is not just a lecture!

Bransford et al. (2000) cautioned saying "Hands-on experiments can be a powerful way to ground emergent knowledge, but they do not alone evoke the underlying conceptual understandings that aid generalizations" (p. 22). Learning activities should be designed to promote inquiry-based learning, problem solving, student investigation and discovery, and application of knowledge (Loucks-Horsley et al., 1996). In encouraging this, the presenter should assume the role of a facilitator, which requires a slightly different approach to teaching. The presenter should also stretch beyond the role of an expert and work to encourage learning between and among the participants. Participants bring with them a wealth of information and knowledge. If the presenter assumes the role of the all-knowing expert on the topic, this valuable learning resource remains untapped.

Meeting the Needs of Learners

The third and final segment of the definition of a quality workshop states that a workshop is designed "to meet the needs of diverse learners" (Brooks-Harris & Stock-Ward, 1999, p. 6). Not all participants arrive at the workshop with the same level of expertise and experience. By assessing participant prior knowledge, the workshop designer and presenter can provide information that is of value to all participants.

In many instances professional development workshops for teachers are designed to present new curriculum and teaching methods. These workshops are somewhat different than workshops that focus only on technical content. To effectively present this new information, these workshops should focus on both the process and content associated with the new curriculum and teaching methods. Presenting the process or content without the other greatly limits the usability of the new information by the participants.

Quality professional development assists professionals in becoming experts in their field. In addition to pedagogical knowledge, content information must also be an important component. Professional development should include engagement with activities explicitly designed to develop content knowledge, with deep understanding of the underlying principles (Loucks-Horsley et al., 1996; Stiles & Mundry, 2002). Without this deep understanding of content knowledge, teachers will not be able to effectively implement the new curriculum or teaching method. Part of developing this knowledge is addressing the preconceptions that participants have about the topic (Bransford et al., 2000).

For professional development to be effective in helping teachers gain knowledge and skill, the presenter should teach the information using the same methods that the participants would use to present this material to their learners (Loucks-Horsley et al., 1996). This provides teachers with an opportunity to develop greater of confidence in teaching this material by reflecting on their experience in the workshop.

Additionally, ample time should be provided during and after activities to allow participants to conduct in-depth investigations, work collaboratively

with others, and reflect upon the experience individually and with other participants. This assists the participants in understanding how students think about and learn the content. They will be better able to identify areas that may be more difficult for students. Participants can then modify the experience to better address the learning needs of their students. Time for reflection is critical in this process. Without it, the overall impact of the experience may be lost in the rush to complete the next activity.

The Principles of Experiential Learning

Experiential learning is based on the premise that experience is the basis for all learning. Most modern experiential learning theory and practice has ties to original work published by John Dewey in the early part of the 20th century. Dewey is often considered the premier American educational theorist for the 20th century. He was a college professor, a researcher, and director of a laboratory school, where much of his experiential learning theory was formed and tested. In 1938, his landmark text, Experience and Education was published. Both researchers and practitioners cite this text extensively. The main concept that emerges from this text can be summed up by the following quote:

"I assume that amid all uncertainties there is one permanent frame of reference: namely, the organic connection between education and personal experience" (Dewey, 1938, p.25).

This text helped outline the premise of experiential learning, that education is based on the experiences of the learners. Building off the work of Dewey and others, David Kolb (1984) proposed a model of experiential learning that serves as the foundation for the methodology presented here. Kolb presents a model with four distinct phases that encompass the experiential learning process (see Figure 1).

The cyclical process begins with concrete experience for the learners, which is followed by a period of reflective observation. Next, the learners form generalizations about what they experienced in the abstract conceptualization phase and then test their generalizations in the active experimentation phase (see Table 1). The cycle can begin again, building on what learners gained from previous experiences. Each phase is discussed in greater detail below.

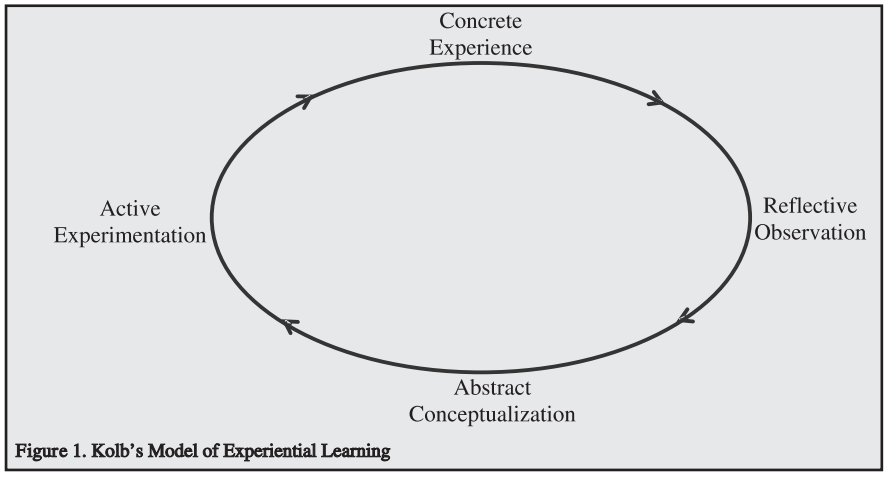

Figure 1. Kolb's Model of Experiential Learning

Concrete Experience

The concrete experience phase is the usual starting place for experiential learning. Experiential learning begins with a student-centered activity, such as a laboratory, that allows learners to directly experience the phenomenon being studied. In contrast, many instructional methods often begin with a teacher-centered activity, such as the instructor giving a lecture or demonstrating a task. If the activity poses a safety risk to the learners or is something with which the learners are very unfamiliar, some initial instruction is necessary. However, this instruction should be minimal. The focus at the beginning of the lesson or workshop should be on creating a concrete experience (direct encounter) for the learner.

When planning a concrete experience it is important to remember that learners enter into an educational setting with various experiences and differing abilities. A key attribute of the concrete experience phase is that it gives learners a common frame of reference to build upon for the remaining portion of the lesson or workshop. The role of the instructor or facilitator is to have a good knowledge of the backgrounds and previous experiences of the learners. This allows the instructor to select the appropriate activity and environment to give the learners an experience that is relevant to their needs and is challenging, yet within their abilities. The key to experiential learning is selecting appropriate experiences and then facilitating learners during the experiences. Dewey (1938) reminds us that all experiences are not educationally valuable. An experience must be carefully selected and tied to the desired educational outcomes to become an educational experience.

Reflective Observation

During the reflective observation phase, learners are given the opportunity to reflect on their experiences from the concrete experience phase. The reflective observation phase is critical for overall learning as it allows learners to internalize what they kinesthetically experienced. Without adequate internalization, learning from the experience is minimal.

Reflection is often overlooked in more traditional teacher-centered instruction; as a result, learners may be unaccustomed to reflecting on their experiences and may need guidance in doing so. Small group

discussions or creating written descriptions of what they experienced are two possible reflective activities. More disciplined learners may be adept at reflecting on their experiences by simply thinking about them. In this case, a short period of time should be given for reflection. As with concrete experience, knowledge of the learners will aid the instructor in determining the appropriate type of reflective activity. During reflection, learners should be guided to think about all they observed during the experience. Allowing learners to share their observations creates a more complete description of the experience that will ultimately create a better understanding of the phenomenon for all learners.

Abstract Conceptualization

During the abstract conceptualization phase, learners form generalizations, rules, and hypotheses about the phenomenon they experienced. More advanced learners may conduct this phase with little input from the instructor. However, many learners are unaccustomed to creating generalizations, rules, and hypotheses. If this is the case, the instructor may need to guide the process to ensure that learners reach a set of generalizations, rules, or hypotheses that are consistent with the objectives of the lesson or workshop. This can easily be accomplished through a series of guiding questions posed to the learners to elicit the desired generalizations, rules, and hypotheses. The abstract conceptualization phase is also the place where the facilitator can introduce new information to the workshop participants. This may be necessary to ensure that the participants gain the necessary knowledge to meet the objectives of the workshop.

Unlike an experiential learning lesson, the abstract conceptualization phase is the typical starting point in a traditional teacher-centered lesson. This often occurs as a lecture or demonstration where the instructor gives a set of generalizations, rules, or hypotheses to the learners. The learners have little or no input or ownership of the content. In contrast to experiential learning, they are passive recipients of the information.

Active Experimentation

The last phase of the experiential learning process is active experimentation. During this phase, learners are allowed to test the generalizations, rules, and hypotheses they formed during the abstract conceptualization phase. Unlike the concrete experience phase, learners now have some direction or guidance in interacting with the phenomenon. This can occur as guided practice or less structured independent practice.

Depending on the nature of the phenomenon being studied, the objectives of the lesson or workshop, the progress of the learners, and the available time, the active experimentation phase may be the conclusion of the experiential learning process. However, if further learning is required, the cycle can be repeated as many times as necessary. Obviously in a workshop setting with limited time, this may not be possible. Therefore, selecting the appropriate objectives and experiences is critical to the success of the workshop.

Table 1: Example Workshop Plan Using Experiential Learning

Audience:	Secondary Agricultural Education Teachers
Topic:	Integrating Science Skills in Agricultural Education
Objectives:	1. Identify the steps involved in the scientific method of investigation. 2. Define common terms used in agriscience research. 3. Properly report scientific findings.
	Learning Activities
Concrete Experience:	Have participants to conduct the laboratory exercise on Determining Mass Have participants write down their observations regarding the laboratory activity. (Provide guidance to participants. Do not directly answer questions. Rather, use guided questions to help direct participants.)
Reflective Observation:	Ask participants to review their notes regarding the exercise. Have them add more if needed. Ask them to record their feelings as a student conducting the exercise. What did I like about the activity? What was the most difficult part? Was enough information provided? What happened as they performed the activity? After short time of individual reflection, lead group discussion summarizing responses to the questions above. (Assist participants in the reflective process by asking questions. Act as a moderator of the group discussion. At end of discussion, state your observations.)
Abstract Conceptualization:	Individually or in a group, have participants answer the following questions: What do I conclude about: (1) this activity and how it works? (2) how to best use this activity in my teaching?
Active Experimentation:	As a group or individually, have participants redesign this activity using the suggestions/ideas brought up in the previous discussion. Use the following questions/statements as a guide. How would I change this activity? Where do I integrate this activity into my curriculum? If/since I know or believe _____, then I will do _____.

Adults as Learners

Two main theories guide teaching adults. These include constructivist learning theory and adult learning theory, or andragogy. Experiential learning is consistent with both theories. Although not a single theory attributable to one person, all constructivist theories are based on the premise that learners are actively involved in constructing their own knowledge (Doolittle & Camp, 1999). Throughout the experiential learning cycle, learners are actively involved in every aspect of constructing their knowledge in a manner that is meaningful to them. If experiential learning is properly implemented,

learners are definitely not passive recipients of knowledge.

Malcolm Knowles (1984) outlined an adult learning theory, which he called andragogy. Within this theory, he presented key characteristics of adult learners and several principles for teaching adults. A major principle of adult learning is that adults should be involved in planning and organizing their own instruction. Experiential learning can achieve this through the reflective observation, abstract conceptualization, and active experimentation phases. Another principle proposed by Knowles is that experiences are important in teaching adults. Obviously, the concrete experience and active experimentation phases provide "here and now" experiences for learners. A third principle proposed by Knowles is that adults are more concerned in learning material that has immediate, direct relevance to them.

Experiential learning can accomplish this if the instructor or facilitator has taken the time to discover the characteristics and needs of the learners that will be participating in the lesson or workshop. This allows the presenter to make a direct connection between the new information and the participant's needs. A final principle presented by Knowles is that adults prefer to learn in a problem-solving approach, rather than a content-based approach. Problem-solving approaches present experiences or situations that participants are required to work to solve. In contrast, a content-based approach focuses on the content, not the needs of the participants. By giving learners a concrete experience with the phenomenon being studied, experiential learning can easily be used to develop a problem-based learning environment. Given these principles of andragogy, experiential learning can be an effective methodology for teaching adults.

Evaluating a Professional Development Workshop

Upon completing a professional development workshop, evaluation is often the next step. Frequently overlooked, some form of evaluation is necessary to determine the success of the workshop. The evaluation can be conducted by the workshop instructor or by the group sponsoring the workshop. Regardless of who conducts the evaluation, the objectives or intended outcomes of the workshop should guide the evaluation and be the measuring stick to determine success.

There are many ways that a professional development workshop can be evaluated. Kirkpatrick (1998) proposed that evaluation can take place at four levels. These include participant reaction, actual learning, participant behavior change, and results. Each level builds upon the previous level and becomes more difficult to achieve. However, the higher levels provide more valuable information. The level chosen depends upon the focus of the evaluation and available time and money available. Each level is briefly discussed below.

The first level of evaluation assesses participant reaction or attitudes towards the workshop. Similar to customer satisfaction, this is often accomplished by a questionnaire that allows learners to state their level of agreement to a series of items about the workshop. Questionnaires can be administered directly at the conclusion of the workshop or mailed to participants following the workshop. Care should be taken to include all the necessary items needed to assess the workshop.

The second level of evaluation seeks to assess the actual learning that occurred in the workshop. This is the appropriate level in the evaluation to determine if the participants had an increase in content knowledge, gained any new skills, or altered their attitudes as a result of the workshop. This can be easily accomplished by using a test that assesses these items. This is often administered directly after the conclusion of the workshop. A pre-test may be required if the prior knowledge of some of the participants is high. If this evaluation method is chosen, the evaluation should be closely tied to the intended outcomes or objectives of the workshop.

The third level of evaluation seeks to determine the behavior change of the participants as a result of their participation in the workshop. In other words, have the participants changed the way they do things as a result of their attendance in the workshop? Obviously, this cannot be assessed immediately after the workshop. Therefore, a predetermined amount of time should pass before distributing this type of evaluation. This may be a few weeks or a few months, depending on the nature of subject covered in the workshop.

The fourth level of evaluation goes beyond participants' perceptions and knowledge and seeks to determine the actual impact of the workshop. For example, if a workshop is conducted to demonstrate to teachers a new teaching method designed to increase student achievement, did the students actually achieve at a higher level? It may take several weeks, months, or even years to truly measure the impact of a workshop

Summary

The workshop format is a flexible and effective means by which to instruct teachers and extension personnel on a number of topics, including technical content, new curricula, and teaching methods. To be most effective, a total professional development program should be developed. This program would consist of any number of professional development opportunities that are delivered in a sequential manner. Presenters need to assist participants in connecting the new information presented with information from prior sessions and to the individual's previous experience.

In keeping with adult and constructivist learning theories, workshop activities should be designed in a manner that encourages participants to actively encounter the content being presented. If the participants are teachers, the subject matter should include both content knowledge as well as pedagogical strategies. This content should be presented to teachers using methods that they will use in teaching these concepts, principles, and procedures to their students. The content should also be of relevance to workshop participants.

Experiential learning is an appropriate methodology to use to achieve the above-mentioned objectives. Experiential learning begins with a concrete experience that gives participants immediate and personal contact with the focus of the workshop. This is followed by reflective observation, which enables participants to think about what they just experienced. The third phase in abstract conceptualization, which is characterized by the participants formulating rules and generalizations related to the content. Finally, participants are able to test their rules and generalizations during the active experimentation phase. Throughout this process, the workshop presenter acts as a facilitator, rather than a lecturer.

Professional development is critical for teachers and extension personnel to stay current in their fields. It is the responsibility of professional development planners to make sure that the time and resources that are spent on these activities are used to make the greatest impact possible. Measuring this impact can be undertaken at four levels. This first targets the attitudes of the participants about the workshop. The second level seeks to measure knowledge gain by the participants. In the third level, behavior changes by the participants are measured. Finally, the fourth level seeks to measure the actual societal impact of the workshop.

The next time you are called on to deliver a workshop to agricultural education teachers or extension personnel, consider experiential learning as the methodology. The information presented in this article provides a guideline to successfully doing so. You will likely find that the workshop participants, as well as yourself, will respond favorably.

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