Effective Adult Learning for Oral Health Education

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Continuing Education Units: 1 hour


Disclaimer: Participants must always be aware of the hazards of using limited knowledge in integrating new techniques or procedures into their practice. Only sound evidence-based dentistry should be used in patient therapy.

The purpose of this course is to provide dental practitioners with strategies to effectively educate their adult patients in order to prevent and/or manage dental disease. An overview of adult education principles as well as practical strategies for educating adult learners in the dental setting will be provided.

Conflict of Interest Disclosure Statement
- The authors report no conflicts of interest associated with this work.

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Overview
The purpose of this course is to provide dental practitioners with strategies to effectively educate their adult patients in order to prevent and/or manage dental disease. An overview of adult education principles as well as practical strategies for educating adult learners in the dental setting will be provided.

Learning Objectives
Upon completion of this course, the dental professional should be able to:
• Describe the origins of adult learning theory and the principles of good practice.
• Explain the importance of prior experience in adult learning.
• Provide examples of open-ended questions to elicit information from the patient.
• Describe the Stages of Change and explain how a dental professional would assess a patient’s Stage of Change.
• Explain strategies for moving patients through the Stages of Change.
• Describe how to make learning relevant to the patient.
• Explain locus of control and provide examples of questions that might be used to assess locus of control.
• Describe self-direction and autonomy and how they impact adult learning.
• Describe Gardner’s Multiple Intelligences and Kolb’s Learning Styles and how they might be used to develop patient autonomy.

Course Contents
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• Recognizing Prior Experience of Adult Learners
• Assessing Readiness for Learning or Change
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Introduction
Dental professionals have extensive knowledge of oral health and disease, but often have limited exposure to adult learning theories and strategies. Dental practitioners may not even think of themselves as adult educators, yet it is something that is central to daily practice. A mistake many dental professionals make is to use the same educational methods for both children and adults. It is important dental professionals recognize these populations come to the dental office with very different experiences and motivations for learning.

Background
Learning is an extremely complex process and attempts to understand the way in which people learn and how it affects behavior dates back to Plato and Aristotle. Research and development of theories about the differences between the way in which children and adults learn intensified in the late 1960’s and early 1970’s.1

Malcolm Knowles brought the concept of andragogy to the United States from Europe in 1968. Andragogy refers to “the art and science of helping adults learn.”2 Andragogy is based on the assumptions about adult learners that are viewed as ‘good practices’ when educating adults. These assumptions or principles of good practice are:3

1. Adults come to the learning situation with prior experience.
2. The adults’ readiness for learning or change is socially situated which means it is impacted by cultural context and social role.
3. Adults are more problem oriented and seek out learning that is relevant to their personal needs and goals.
4. Adults are motivated to learn by an **internal locus of control**.
5. People move from being dependent on the 'teacher' toward being **self-directed** and **autonomous** learners.

Other educators have critiqued Knowles theory, but many of the same components are included in a majority of theories of adult learning as well as those of motivational interviewing and health coaching.\(^{3,4,5}\) Even though these principles of good practice for adult education may seem to have little relevance to oral health education, they are in fact critical in the process of effectively educating adult patients. Systematic review articles about clinician-patient communication and effective teaching strategies is appearing with increasing frequency as health care strives to become more patient-centered.\(^{5,7}\)

**Recognizing Prior Experience of Adult Learners**

The first component of any learning situation is to establish an adult teacher-learner relationship. This relationship is developed by creating a climate of **trust** and **mutual respect**.\(^1\) It is the responsibility of the dental professional to provide a safe and supportive environment in order for learning to occur. The critical skills needed for the educator to create the ideal atmosphere for learning are: **accurate empathy, non-possessive warmth and authenticity**.\(^4\) Accurate empathy refers to "skillful reflective listening" that helps the patients clarify their own experiences and needs.\(^4\)

Adults do not like to be treated as though they come to the dental office with 'an empty slate.' Adults have a rich repository of **life experience** that is brought to the dental practitioner-patient interaction. The dental professional can be most effective by linking explanations and instruction with the patient's prior experience.

Another aspect of creating a climate where learning can occur is the dental professional must understand and be **non-judgmental** in coming to appreciate the patient's health beliefs. Other cultures and those seeking alternative methods of healthcare may have health beliefs that differ from those held by mainstream America.\(^8\) Learners must feel the educator respects their beliefs even though they may be different from the educator's personal health beliefs. With the diversity that is found in many patient populations, it has also become increasingly important to be aware of the learner's oral health literacy and English language proficiency as this may negatively impact communication of **self-care** information and health outcomes.\(^9\)

The dental professional should ask **open-ended questions** to encourage patients to explain past experiences and how they relate to current oral health issues.\(^10\) Open-ended questions usually start with words like: ‘how,’ ‘why,’ ‘what’ and ‘tell me.’ Examples of open-ended questions include:

- "What concerns do you have about your mouth?"
- "Tell me about your past experiences with dental treatment."
- "What methods have you used in the past to clean between your teeth?"
- "What do you know about how to prevent gum (periodontal) disease?"

**Assessing Readiness for Learning or Change**

One of the most important aspects of providing health promotion education is assessing the patient's stage of change and tailoring the intervention to match. The stages of change are part of the Transtheoretical Model of Change and have been used since 1990 to assist with behavior change from cessation of tobacco, alcohol and drugs to dietary modification exercise, adoption and pregnancy prevention.\(^4,11\)

Stages of change consist of five stages along a continuum that are associated with a person's
interest and motivation to change current behavior. In the stages of change, individuals move from being unaware or unwilling to do anything about a problem to considering the possibility of change, to preparing to make a change, to action to make the change and finally to a maintenance phase.13

At any one time 80% of people are in either the precontemplation or contemplation stages of change, yet a majority of interventions are oriented at those 20% in the action stage.11 This emphasizes the need to develop interventions to assist moving those in precontemplation and contemplation stages to the action stage in order to increase the impact and effectiveness of oral health education. The following diagram (Figure 1) provides an example of the strategies to assist in moving a patient from one stage to the next.

### Relevancy of Learning

In order for learning to be relevant to the patient, it is essential to adapt education to the immediate problems or concerns of the adult learner. Dental providers should encourage patients to work as a partner in setting the educational agenda. An emerging approach to this is called health coaching. It is defined as supporting and enhancing the resources, skills, and knowledge of the patient.5 One way to do this is to work together to decide what topics are of immediate concern to the patient and which can wait until later appointments. In most dental settings patients will be seen for continuing care and those appointments can be used to cover additional information.

Focus on ‘must know’ information. Adult learners want information and skills that can be applied in their everyday lives. It may be helpful to compare and contrast new information with what the patient already knows. When you teach a new procedure, compare it to tasks the patient is already familiar with.

Questions the dental provider might ask the patient to gather information include:

- “How do you see what we have talked about today fitting into your daily schedule?”
- “Tell me how you think ______ daily will affect the gum bleeding that you have been noticing?”

<table>
<thead>
<tr>
<th>Stages of Change</th>
<th>Characteristics of Stages of Change</th>
</tr>
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<tbody>
<tr>
<td>Stage 1</td>
<td>Precontemplation</td>
</tr>
<tr>
<td>Stage 2</td>
<td>Contemplation</td>
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<tr>
<td>Stage 3</td>
<td>Preparation</td>
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<tr>
<td>Stage 4</td>
<td>Action</td>
</tr>
<tr>
<td>Stage 5</td>
<td>Maintenance</td>
</tr>
</tbody>
</table>
Figure 1. Stages of Change and Strategies for Promoting Change.
The answers to these types of questions can help the dental professional in determining whether the patient has an internal or external locus of control.

**Self-direction or Autonomy**
Patient autonomy is an essential factor in motivating effective changes in health behaviors. By providing support of patient autonomy, patients are more motivated to manage their health, feel more confident about managing their health, and showed improvement in health outcomes. In order to develop patient autonomy, the dental professional must be willing to relinquish authority as the ‘expert’ and accept that the patient is the ‘expert’ on what he knows, feels, and is willing to implement. The process of active learning put learners in control of their learning, which leads to the patient taking responsibility for their oral health. It is the responsibility of the dental practitioner to assist patients in developing the skills needed to make informed decisions about healthy behaviors.

In order to assist patients in developing the skills they need to be successful, dental providers need to be familiar with the various learning styles patients may exhibit. Attention to learning styles can lead to more effective learning and a patient who can make the decisions necessary to make changes in oral health behaviors. There are many inventories of learning styles, but the most common are Gardner’s Multiple Intelligences and Kolb’s Learning Styles.

Gardner’s Multiple Intelligences consists of the following:

- Verbal
- Logical/Mathematical
- Visual/Spatial
- Music/Rhythmic
- Kinesthetic/Body
- Interpersonal
- Intrapersonal

Generally, dental practitioners communicate healthcare information verbally. According to Gardner’s Multiple Intelligences, to be effective providers need to appeal to patients with different learning styles by using several methods to communicate information. To make teaching more effective, supplement verbal information with written materials, audio or videotapes, or

Locus of Control
Locus of control beliefs can be either external or internal. An external locus of control means a patient believes some force from the environment is in control of their behavior. An internal locus of control refers to the belief a person is in control of his or her own behavior. The locus of control belief is an important determinant of whether or not a patient takes responsibility for their oral healthcare. Patients with an internal locus of control are more likely to be successful in implementing changes in oral health habits and place a high value on dental health.

Some examples of questions that might be used to assess the dental locus of control include:

- “What do you feel that you need to know more about in order to start ______ regularly at home?”
- “How do you think using the Interdental brush to clean between your teeth will compare to using a toothpick?”

• Do you believe the dentist or dental hygienist is the only one that can prevent cavities?
• Do you believe by flossing your teeth you can prevent gingivitis?
• Do you believe you can prevent the loss of your teeth?
• Do you believe the health of your teeth is a matter of luck?
resources from the Internet. In a systematic review, demonstration was the only teaching strategy with a large effect on patient outcomes and the recommendation is for a combination of approaches. The advent of cameras that attach to loupes may allow for personalized oral self-care videos to be delivered to patients for review at home.⁶

Kolb’s Learning Styles include the following:¹

- Concrete Experience (CE) refers to being involved in hands on application of new skills.
- Reflective Observation (RO) refers to watching others do a new skill.
- Abstract Conceptualization (AC) refers to creating theories to explain observations.
- Active Experimentation (AE) refers to using theories to solve problems and make decisions.

Some view Kolb’s Learning Styles as a continuum, but patients tend to develop a preference for one style over the others. The patient with a CE learning style prefers active participation when learning new information, i.e., utilizing a toothbrush in his or her own mouth for demonstration. Those with a RO learning style prefer to watch the dental practitioner demonstrate the new skill before attempting it on their own. The AC learner prefers to understand the theory behind a new skill. And finally, the AE learner uses the theory behind a new skill to understand how to apply it his or her own mouth to improve oral health. A systematic review of effective teaching strategies in patient education found demonstration to be the most effective with the following approaches having a small to moderate effect on patient outcomes: traditional lecture, discussion, computer technology, written material, audiotapes, videotapes, and verbal.⁶

Providing the patient with the basic knowledge and skills they need to improve and maintain their oral health will enhance their ability to be self-directed or autonomous in their learning.

**Conclusion**

Dental practitioners receive little training in how to educate adult learners. As a result, the methods routinely employed in the dental office may not result in the desired oral health behavior changes. Providers tend to educate patients in the same way they were educated, which assumes patients come to them with a ‘blank slate’ and the dental practitioner is the ‘expert.’ By utilizing adult learning principles, which include recognizing prior experience, assessing readiness to learn or change, ensuring that information is personally relevant to the patient, assessing the patient’s locus of control and supporting patient autonomy, dental professionals can be more effective in educating adult patients.
Course Test Preview
To receive Continuing Education credit for this course, you must complete the online test. Please go to:

1. **Andragogy refers to:**
   a. The art and science of helping children learn
   b. The art and science of helping everyone learn
   c. The art and science of helping adults learn
   d. The art and science of helping adolescents learn

2. **Components of establishing an adult teacher-learner relationship include all of the following EXCEPT one. Which one is the EXCEPTION?**
   a. Trust
   b. Mutual respect
   c. Authenticity
   d. Offering opinions

3. **Which of the following is an example of an open-ended question?**
   a. Do you have any concerns about your mouth?
   b. Tell me what you have used to clean between your teeth
   c. Did you floss your teeth today?
   d. How often do you brush your teeth each day?

4. **A patient’s prior experience has little to do with their expectations for oral health care. Most patients seen in dental offices in the United States have the same health beliefs.**
   a. Both statements are TRUE
   b. Both statements are FALSE
   c. The first statement is TRUE; the second statement is FALSE
   d. The first statement is FALSE; the second statement is TRUE

5. **It is important to assess the patient’s readiness for change for all of the following reasons EXCEPT one. Which one is the EXCEPTION?**
   a. Knowing the patient’s readiness to change impacts the effectiveness of the oral health intervention
   b. Knowing the patient’s readiness to change affects the handouts you may give the patient
   c. Knowing the patient’s readiness to change affects the kind of debridement that will be planned
   d. Knowing the patient’s readiness to change affects the recommendations made for oral healthcare

6. **The precontemplation stage of change is most consistent with:**
   a. Being aware of a problem and thinking of ways to solve it
   b. Learning new coping methods to sustain change
   c. Substituting healthy responses for problem behaviors
   d. Demonstrating denial and/or active resistance to change

7. **At any one point in time, 80% of patients at which of the following stages of change:**
   a. Precontemplation
   b. Preparation
   c. Action
   d. Relapse/Maintenance
8. Patients in the Preparation stage of change are ready to set a target date within:
   a. 1 month
   b. 2 months
   c. 3 months
   d. 6 months

9. Patients prefer to be told which home care aids to use. The patient and the dental professional should work together to decide the most immediate problem to address.
   a. Both statements are TRUE
   b. Both statements are FALSE
   c. The first statement is TRUE; the second statement is FALSE
   d. The first statement is FALSE; the second statement is TRUE

10. An example of how a dental practitioner might determine what information is relevant to the patient is:
    a. Tell me how you think flossing daily will affect the gum bleeding that you have been noticing?
    b. You will lose teeth if you don’t floss.
    c. You are going to have to floss even if you have a hard time.
    d. Why didn’t you come in 3 months ago like I told you?

11. An external locus of control refers to a patient flossing daily because it will make their dental hygienist happy. An internal locus of control refers to a patient who dictates their treatment even when it is not in their best interest.
    a. Both statements are TRUE
    b. Both statements are FALSE
    c. The first statement is TRUE; the second statement is FALSE
    d. The first statement is FALSE; the second statement is TRUE

12. All of the following are true of studies of patient autonomy EXCEPT one. Which one is the EXCEPTION?
    a. Autonomy is not relevant to a patient’s health
    b. Patients are more motivated to manage their health
    c. Patients feel more confident about managing their health
    d. Patients showed improvement in health outcomes

13. In order to appeal to different learning styles, which of the following is appropriate:
    a. Give the patient a handout on tooth brushing
    b. Demonstrate tooth brushing in the patient’s mouth
    c. Give the patient internet resources to learn more information
    d. All of the above
References


About the Author

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Dr. Boyd received her ASDH from Mt. Hood Community College, BS in Nutrition and Food Management from Oregon State University, MS in Nutrition Science and Policy from Tufts University, Dietetic Internship at New England Medical Center in Boston and EdD in Educational Leadership with a Specialization in Postsecondary Adult and Continuing Education at Portland State University. Dr. Boyd has received awards from the American Dental Education Association for her work in assessing critical thinking outcomes. Prior to entering education, she worked in general and periodontal dental practices for 20 years. She was the Director of Predoctoral Periodontics at Oregon Health and Sciences University for five years and Chair, Department of Dental Hygiene at Georgia Perimeter College for the past two years. Dr. Boyd is now Dean in the Forsyth School of Dental Hygiene at MCPHS University where she teaches clinical, graduate education courses and supervises thesis research.

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