

## Chapter 18

# Assistive Technology Solutions for Individuals with Learning Problems: Conducting Assessments Using the Functional Evaluation for Assistive Technology (FEAT)

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### **ABSTRACT**

*Assistive technology (AT) assessments involve a dynamic process among the evaluator, the AT user, and the AT device. When accomplished correctly, these assessments are person-centered and ecological, that is, they actively involve the individual being evaluated and incorporate the collection of data from numerous environments in which the person works, learns, and plays. This chapter provides information about how such an AT assessment can be conducted using the Functional Evaluation for Assistive Technology (FEAT; Raskind & Bryant, 2002). Readers are provided with an overview of the importance of person-centered assessments, and then are given a description of each of the FEAT components. A case study is also provided, wherein the process of an effective and efficient AT assessment is described.*

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## **INTRODUCTION**

Assistive Technology (AT) evaluation is a dynamic process involving AT devices that are continuously being modified and improved and individuals who are in ever-changing environments and contexts. These dynamic influences affect those who are designing educational programs and those who are using the AT devices; and thereby also affect everyone involved with conducting AT evaluations.

The *Functional Evaluation for Assistive Technology* (FEAT; Raskind & Bryant, 2002) addresses the dynamics of AT evaluations by providing an ecological assessment of the student's multiple needs. Ecological assessments are considered a "method of assessing a student's total environment to determine what factors are contributing to learning or behavioral problems" (Overton, 2009, p. 22). An ecological AT evaluation is one designed to comprehensively assess the efficacy of students' interactions and the relationship among the person, technology, and the multiple environments in which the individual lives and works.

This chapter will: (a) introduce the concept of an ecological AT assessment and the need for input from multiple individuals across multiple settings; (b) discuss the importance of a person-centered approach to assessment; (c) describe the framework whereby the FEAT helps identify a person-technology match; and (d) identify the FEAT components while providing a case study that demonstrates how the FEAT helps provide for a person-technology match that is appropriate across multiple contents.

## **BACKGROUND**

### **The Concept of Ecological AT Assessments**

Ecological assessments provide information about the multiple environmental factors (Greenwood

& Carta, 1987; Desouza & Sivewright, 1993) that affect students' interactions as they complete the tasks or learn new behaviors. Ecological assessments allow the special education service team to match a child's performance level and his or her needs with learning tasks, routines, and developmental needs in situated contexts. Thus, ecological assessment provides an all encompassing evaluation that considers all aspects of a student's academic life that affect learning.

Specifically, ecological assessment techniques: (a) allow data-based decision-making on students' progress, product, and process, leading to modification of instruction and home/classroom settings; (b) enhance students' self-determination skills as students develop their own learning preferences (Agran, Blanchard, & Wehmeyer, 2000; Palmer, Wehmeyer, Gibson, & Agran, 2004; Wehmeyer, Palmer, Agran, Mithaug, & Martin, 2000); and (c) enhance students' problem solving skills in various contexts by raising questions, problem solving, and consequence of the solution (Turnbull, Turnbull, & Wehmeyer, 2007).

### **Proactive Person-Centered Approach**

Effective ecological assessment models create a proactive person-centered (student-centered and team-based) approach that allows for continuous adaptability and fine-tuning of all elements involved in the specific learning environment. In this section, we describe a proactive person-centered approach to AT evaluations by presenting two key features of a person-centered approach: (a) student participation and (b) team-based problem-solving.

#### **Student Participation**

The first element of the proactive person-centered approach is student participation (American Educational Research Association, American Psychological Association, National Council

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