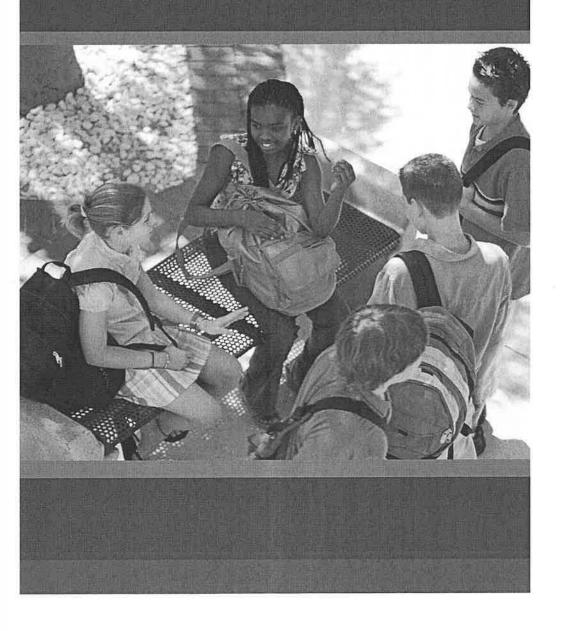# An Introduction to
# Applied Behavior Analysis

# An Introduction
## to Applied Behavior Analysis

Teachers use Applied Behavior Analysis (ABA) principles to:

- Provide effective individual and group instruction;

- Manage classroom behavior;

- Reduce individual behavior problems and teach replacement behaviors; and

- Teach basic communication and language skills.

ABA is used to address behaviors in both general and special education settings.

## What is ABA?

ABA is a scientific approach to behavior. Its principles are used to change and improve behaviors. The effectiveness of these principles has been confirmed by many experimental studies and can be applied in a variety of ways with different types of people – infants to adults.

By analyzing the relationship between the antecedent (what happened before the behavior occurred), the behavior (what behavior actually occurred), and the consequence (what happened after the behavior occurred), educators or educational teams (teachers, principals, counselors, therapists) can begin to develop a comprehensive plan for changing behavior.

An essential element of ABA involves analyzing the function of the behavior (the purpose the behavior serves). A behavior's function can be categorized in two ways: to get something or to avoid something. Determining the function of the behavior is essential in designing an effective plan for behavior change. Knowing why a behavior is occurring helps educators choose an intervention that will eliminate or change that behavior.

The following example illustrates the relationship between the antecedent, the behavior, the consequence, and the function:

During math class, a teacher presents a new strategy and gives an assignment for students to complete independently (antecedent). David is having difficulty with the assignment, so he:

    a) Asks the teacher if he can use the bathroom,

    b) Tells the teacher he doesn't feel well, or

    c) Punches the student next to him.

    (behavior)

The teacher responds to David's behavior by:

    a) Sending him to the bathroom,

    b) Sending him to the nurse, or

    c) Sending him to the principal's office.

    (consequence)

It can be hypothesized that avoiding a difficult task (in this case by leaving the classroom) is the function of David's behavior.

## How is ABA used in education?

ABA principles and procedures can be used with all students to provide positive reinforcement, to teach and maintain appropriate behaviors, and to provide immediate feedback during instruction.

ABA principles and procedures are also used to help students whose behaviors interfere with their learning or the learning of others. This involves identifying the problem behavior, observing and measuring the behavior, developing a comprehensive plan to change the behavior, and monitoring the behavior to make sure the plan is working.

### Identifying, Observing, and Measuring Behavior

An educational team (for example, the student's teacher, the principal, the guidance counselor, the school psychologist, the speech therapist) collects specific, observable, and measurable information regarding the problem behavior. To collect specific, observable, and measurable data, the team must define the behavior. For example, it would be difficult to collect reliable data on what might be described as "tired" or "lazy" behavior. Each team member may have a different idea of what "tired" or "lazy" behavior looks like. To be observable and measurable, the behavior must have a specific definition such as, "The student puts his head down on his desk and closes his eyes." In this way, each team member can observe this behavior and measure how many times he puts his head down and the length of time he keeps his head down. The educational team collects observable and measurable information about the antecedent, behavior, consequence, and function of the problem behavior.

Developing a Comprehensive Plan

The team can then begin to develop a comprehensive plan.
A comprehensive plan addresses all the component areas
(antecedent, behavior, consequence, and function) and pro-
vides strategies for:

- Managing the environment prior to the occurrence of the
  behavior,

- Reinforcing appropriate behaviors and reducing
  inappropriate behaviors,

- Teaching new skills, and

- Adapting instruction and student tasks for success.

Monitoring the Student's Behavior

Once the plan has been implemented, the team monitors
the student's behavior by regularly collecting data. This
data is recorded and presented on a graph to see whether
the intervention is working (the student's behavior is
changing), or whether the plan needs an adjustment or
another intervention.

# Are there different educational approaches that use the principles of ABA?

There are many methods used to educate students that are
based on the principles of ABA. These include:

- Direct Instruction – This explicit teaching method is
  used to accelerate student learning by the design and
  delivery of instruction. It is fast-paced and provides

intense interaction between students and teacher with multiple practice opportunities. The student is provided with immediate feedback regarding correctness of response accompanied by verbal praise for correct responses. In this approach, the task demand is the "antecedent," the student response is the "behavior," and praise or corrective feedback is the "consequence."

- Discrete Trial Teaching – This method views each behavior as a series of discrete skills. Each skill is sequentially taught in a one-to-one format using a system of cues, drills, and rewards. This instructional style emphasizes the breakdown of skills or behaviors into simple, manageable steps with the targeted skill or behavior systematically reached through prompting, chaining (combining simple behaviors to form a complex behavior), and reinforcement of the steps.

- Precision Teaching – This strategy is used to build skill fluency once mastery is achieved. Fluency-based instruction focuses on building speed and accuracy to accelerate student achievement. Student behavior or skill development is monitored on a chart that allows the instructor to record several months' progress on one page.

- The Analysis of Verbal Behavior – This is an extension of the principles of applied behavior analysis to communication. This analysis is used to determine the function of language based upon the student's use of vocalizations, signs, or other augmentative systems. The use of this analysis is helpful in determining under what conditions a child is likely to use certain words and can also guide the development of programs to help children learn to use language effectively for a variety of purposes.