



## The ABCs of Fluency Training

By Nic Weatherly, Ph.D.

**A**s existing organizations look to evolve and new organizations look to gain an edge there will be an ever-present demand to maximize the use of training technologies. Successful businesses achieve results through the performance of their employees. High-level employee performance is established and maintained over time by creating a workplace that provides the tools and support essential for success. Paramount to this is ensuring each individual has the knowledge and skills necessary to do their job at optimal performance levels.

**In an American school if you ask for the salt in good French, you get an A. In France you get the salt.**

– B. F. Skinner

## ENTER FLUENCY

Whether you are training new hires or developing the skills of veteran employees, the methods and systems you select to train these skills can make or break the success of these training efforts. With the long history of standard lecture-based training, the popularity of eLearning products, and the rapid technologi-

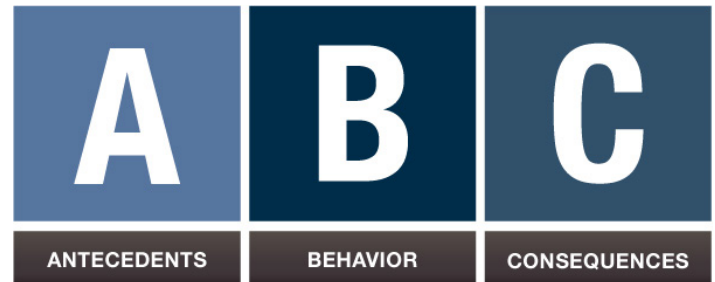


cal advancements in our computer systems there are a vast number of options out there to choose from. However, just like all areas of performance improvement, it takes more than technological advancements and popular opinion to get the most out of your training efforts...it takes an understanding of behavior.

Many traditional training programs focus on providing large amounts of information, with limited opportunities for learner responding and even fewer opportunities for immediate feedback specific to each response. At most, these training programs might train to a level of mastery where the end result is simply a demonstration of accuracy. However, research has shown that using feedback and

frequent reinforcement to train performance to fluency results in faster acquisition, better accuracy, and higher retention (see Bucklin, Dickinson, & Brethower, 2000). Fluency training adds a speed criterion to an established mastery requirement to ensure the learner can respond accurately and without hesitation. Research has also demonstrated that training a skill to fluency will not only impact the acquisition of these initial skills, but it will increase the rate of learning for more complex skills as well (Binder, 1996, Johnson & Layng, 1992).

What we know about behavior can drastically impact the true success of our training programs. And we have nearly a century of research on the laws of behavior to guide the development and application of these training programs. **The foundation of our knowledge of fluency training centers on our ABCs: Antecedents, Behavior, and Consequences.** First, we'll look at what the science tells us about behavior.



## THE SCIENCE BEHIND BEHAVIOR

At the most foundational level, the purpose of any instructional system is to take a learner in need of a particular set of skills and provide them with training that gets them these skills. Complex skills need to be broken down into component behaviors that are **measurable, observable, reliable, and specific**. These skills must serve a function if they are to become habits. **Essential skills that will make**

the work of a participant easier and more productive will add value to any training program. Designing our fluency-based training systems to help participants access these natural reinforcers also helps guide the selection and organization of critical learning objectives to ensure content is consistently delivered and assessed.

Identifying the essential skills that will benefit the participants will not only add

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value to the program for the participants but will also help ensure that the training will effectively transfer to the workplace. If the behaviors being demonstrated and acknowledged during training are similar to the behaviors per-

formed in the workplace then the participant will see the impact of their learning efforts. Often when developing training programs, trainers either overlook these critical behaviors or they are overshadowed by an excessive amount of nonessential content. Once a skill deficit has been identified, the goals and objectives of the training must be established. A learner should be able to demonstrate learning in a meaningful way that increases the chances that this new learned behavior will also occur when they are back at work.

Once you have identified a valued skill and broken it down into specific component behaviors, fluency technologies can allow for these behaviors to be shaped, continuously assessed, and trained to a level of fluent responding. But these behaviors still need to be performed by the participant...so how can the science of behavior help us in this regard? How will a participant demonstrate learning? What type of responding will be required? These are all important questions that are central to evidence-based fluency programs.

#### HOW WILL A PARTICIPANT DEMONSTRATE LEARNING?

Generally speaking, in order to demonstrate learning an individual must make a correct response when presented with a situation that contains correct and incorrect options. So if a learner is given an unsafe situation and asked how to react, there must be a correct safe option and at least one incorrect alternative. If using a computer-based fluency program, there is also the ability to consistently vary the location of the correct answer to ensure that the learner is responding based on the content in the answers and not based on the location of the answers. Fluent responding occurs when these correct selections are made to established accuracy and speed criteria. The purpose here is to demonstrate a fluent level of responding that helps ensure that the learner can tell the difference between a correct option and an incorrect option when presented with this situation in the workplace.

#### WHAT TYPE OF RESPONDING WILL BE REQUIRED?

Advancements in computer technologies allow for the type of responding made during a training program to be generally matched to the type of responding in the workplace. Training content should be developed using



realistic work situations that will occur in the learner's workplace. For example, in the workplace environment are there multiple examples for the worker to select from or simply a pair of examples? Is the worker required to respond to a direction from another individual or to a situation in the environment? Are there a certain number of correct options or a single correct option? The way you present answer options to a learner during a fluency training program can impact how well your training transfers to the workplace.

### THE SCIENCE BEHIND ANTECEDENTS



Fluency training builds skills from mastery up through the quick, accurate responding that will maintain in the workplace. In order for the training to be effective, the behaviors must be specific and there must

be frequent opportunities for the learner to respond. Like all behavior, each of these behaviors occur because something came before it to prompt it (antecedents) and something came after it to keep it going (consequences). Once an organization selects the training content that they deem essential for an employee to know, this information must be presented to the employee in the form of developed instructional materials. In this regard, the training content is an antecedent and functions to prompt the learner to respond correctly throughout the training.

With properly designed antecedent information, fluent responding will help ensure the learner responds correctly to similar situations in the workplace. The science of behavior shows us that antecedents will serve two purposes in our instructional systems: 1. to help the learner distinguish correct

options from incorrect; and 2. to help motivate the learner. Given that instructional systems contain a wealth of critical information (i.e., antecedents) our training programs need to be developed according to these principles.

### SEEING RIGHT FROM WRONG

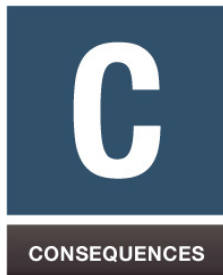
The ultimate purpose of an antecedent in instructional systems is to prompt a learner to make a correct response. You have identified the need for training because there are certain situations that arise in which a particular correct response must be made. The best training programs will break down the critical skills being taught and set up real-life situations that directly relate to these skills. For example, if you want an employee to respond in a certain way to an unsafe situation then the training content for this behavior should include specifics from this unsafe situation that the learner can respond to. The learner will be trained to recognize this type of situation and respond accurately and without hesitation. We are trying to give learners the tools that will help them perform at a higher level. This means that we are trying to present the learner with a specific piece of information that is designed to prompt the learner to make a correct response. Poorly designed instructional content will have vague and lengthy content with limited opportunities for the learner to respond. This does not allow learners to respond to particular information, thus will not allow for the high rate of learning and retention offered through properly-designed fluency training programs.

### “WHAT’S IN IT FOR ME!?”

The second purpose of antecedents is to show the learner that there is value in making a correct response. Training content can create situations that motivate learners to respond correctly. A perceived positive consequence for a training program is that the learner will now

know something that they previously did not know. But this is only positive if the learner feels that they need to know this information and that this will benefit their work. Training content can be delivered in a way that sets up this need for the learner. Instead of simply showing a participant a new way of doing something, you can present a situation to the participant in which they can see the need for this and react accordingly. By using antecedents properly in fluency training you can alter the value of the training. Research on motivation has shown that this will increase the rate of learning, thus creating a more efficient training program.

## THE SCIENCE BEHIND CONSEQUENCES



The last component in the ABC tool-box offered by the science of behavior is an understanding of the consequences needed for effective training programs. When a learner begins a fluency training

program, the information will be new to the learner thus the accuracy of the behavior will start out low. The science tells us that if these new behaviors are not positively reinforced then they will not continue. There is always a need for the frequent use of positive reinforcers directly following behavior when building any new skill.

### INTERACTIVITY IS THE KEY TO SUCCESS...

The use of computer-based fluency training allows for frequent positive reinforcement and specific feedback to be integrated into an initial mastery phase that precedes the addition of a speed component. And it also allows for one of the fundamental learning tools we have in the science of behavior: Interactive

programmed instruction. When building new behaviors, there is always a crucial need for outcomes that are positively reinforcing to the learner. Computers can be used to add to the learner experience, antecedents can be used to show value in the training, and critical behaviors can be selected that lead to easy and improved work performance. **The science tells us that if these new behaviors are not positively reinforced then they will not continue.** But inherent to the proper development of computer-based instructional technologies is the programming of the instructional content in a way that ensures a learner must make a correct response before going on to the next question. This not only increases the opportunity for accurate responding, but also makes the simple progression of the training serve as a positive reinforcer. This interactive programmed instruction has a proven history of success (e.g., Ingvarsson & Hanley, 2006; Skinner, 1958; Tudor & Bostow, 1991) and offers an efficient way to add positive reinforcers to computerbased fluency training.

When the speed component is added after reaching mastery, fluent responding must take place quickly and without hesitation. Thus, the time between questions must be short, allowing for a brief affirmation of the accuracy of a response prior to moving on to the next question. As fluent responding emerges, learners should also be starting to see the value of the training through the positive results achieved at the workplace and through the praise received from supervisors and peers responding to their successes.

## USING THE ABCS TO BENEFIT YOUR ORGANIZATION

Fluency training programs can integrate the exponential advancements in computer

technologies and the tools offered through the science of behavior to create an invaluable training resource. Benefits such as faster acquisition and long-lasting results make fluency training an incredibly efficient tool that can produce consistent results that transfer to your workplace. By understanding and applying the ABCs of fluency training your training programs can be based on scientific standards that are sure to lead to the results you're looking for.

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## [About the Author]

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Nic is a consultant with Aubrey Daniels International, has provided consulting support to clients across a number of industries with a focus on organizational assessments, eLearning, and performance measurement systems. Nic received his Ph.D. from Western Michigan University's Applied Behavior Analysis Program, with a particular emphasis on performance management interventions, behavior-based safety, behavioral systems analysis, and programmed instruction. Nic is the President-elect of the Association of Professional Behavior Analysts.

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## [About ADI]

Regardless of your industry or expertise, one thing remains constant: People power your business. Since 1978 Aubrey Daniels International (ADI) has been dedicated to accelerating the business and safety performance of companies worldwide by using positive, practical approaches grounded in the science of behavior and engineered to ensure long-term sustainability. ADI provides clients with the tools and methodologies to help move people toward positive, results-driven accomplishments. Our clients accelerate strategy execution while fostering employee engagement and positive accountability at all levels of their organization.

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