FLUENCY DEVELOPMENT

Performance Change	Level of Performance: Business Unit	Process	Work Group	Individual
	Establish	○	○	○	●
	Improve	○	○	○	●
	Maintain	○	○	○	○
	Extinguish	○	○	○	○

Alternative Names

Practice
Fluency Building[1]

Definition

Fluency development consists of procedures and materials that enable performers to achieve fluency, which is the combination of accuracy and speed in performance that optimally supports retention, stability (resistance to distraction), and application (transfer of training).

Description

Educators in the 1960s and 1970s who applied a method known as *precision teaching* (Binder, 1996; Lindsley, 1997) discovered that the rate at which a learner can

1. Fluency Building is a trademark of Binder Riha Associates.

accurately perform a given skill affects the retention and stability of the skill itself as well as the application of that skill to more complex skills. They recognized that daily practice—using brief, timed sessions and immediate performance feedback—enabled learners to achieve higher rates of performance, as long as the individual components of the target behavior were themselves capable of being performed at sufficiently high rates.

This work led to further research and application with schoolchildren and to the development of carefully sequenced learning objectives and materials for primary and secondary education, with a focus on basic skills. Use of this approach yielded dramatic improvements in students' standardized achievement scores.

Ogden Lindsley founded the movement of precision teaching. Other early pioneers in this method were Eric Haughton, Clay Starlin, Ann Starlin, and Ray Beck. In the early 1980s, Carl Binder, a researcher and trainer of teachers, decided to bring fluency-based instruction into the field of performance technology. In the process, he formulated a methodology for building behavioral fluency in adults that integrated the principles of precision teaching with the needs of the workplace.

The development and the support of fluent performance depend on both instructional and environmental factors.

Instructional Factors

One model of learning suggests that the learning process consists of three stages: *acquisition, practice,* and *application.* When learners first acquire a new skill, they achieve the ability to perform accurately but not necessarily rapidly. With efficient practice, though, they achieve the ability to perform quickly and without hesitation—and to do so for extended periods of time, so that they are relatively resistant to fatigue and distraction. By performing rapidly and without hesitation, they retain what they have learned. Finally, after achieving fluency, they are able to apply their skill to more complex performance, including improvisation and creative combinations of behavior. These effects are obvious in some kinds of performance, such as sports, but they are relatively unrecognized in academic and workplace training.

This three-stage model of learning indicates that a learning program should provide practice so that an individual can achieve fluency prior to applying the learning. A common error, however, is to arrange for acquisition, which does not produce fluency, and then to move into role plays, case study activities, or other application exercises. This means that practice is skipped and fluency cannot be obtained. Evidence suggests that skipping practice in this way may be one of

the most significant reasons that educational and corporate training programs do not produce lasting performance change.

Environmental Factors

Environmental factors can either support or constrain performance. Ergonomics and user-interface design aim to ensure smooth, efficient interaction between performer and environment. In addition, structured writing produces reference and learning materials that support fluent access to information. The technology of fluency development, therefore, consists of removing any barriers to fluent performance and creating materials and environments that encourage and support fluency.

Fluency development methods are best used in situations in which learners can engage in *distributed* practice rather than in *cramming*, whether in learning modules that are parts of larger programs or in stand-alone interventions. A self-study program that allows for brief practice sessions each day over a period of several weeks is ideal, as are on-the-job training and self-managed learning labs that are part of longer classroom programs. Field-based coaching in sales and customer service organizations lends itself to informal practice activities involving managers or peers. Practice sessions that take place at larger events such as company conferences can be highly productive and motivating, as long as the scope of the practice is limited. Such sessions produce obvious improvements in skills and knowledge in a short time.

Jobs that require speaking with customers are among the most obvious applications of fluency development procedures (for example, sales and customer service). Those that involve specific physical skills are also good candidates (for example, keyboarding or developing the fine motor skills required in assembly or maintenance). In addition, jobs that involve typing as well as navigating through a system with complex cognitive behavior (for example, diagnosis, responding to requests, analyzing situations) can benefit from efficient practice during initial training. In general, if a task requires repetition to achieve genuine skill and if the criterion is truly mastery, then fluency development can make a practical difference.

See Figure 1 for factors that obstruct fluency as well as those that support it.

When to Use

Consider using fluency development methods when any of the following conditions exist.

FIGURE 1. FACTORS THAT OBSTRUCT AND SUPPORT FLUENCY.

Category	Factors That Prevent Fluency	Factors That Support Fluency
Measurement	Measurement procedures that ignore the time dimension	Time-based performance measurement and evaluation
	Measurement procedures with too few response opportunities for the allotted time	More response opportunities than an expert can complete in the time allowed
Procedures	Too few practice opportunities	Sufficient practice to attain fluency
	Preventing learners from moving at their own pace	Self-paced learning and practice procedures
	Limited response opportunities per minute	Many opportunities per minute
	Emphasis on preventing errors during learning	Treating errors as learning opportunities
Materials	Too few examples	Many examples
	Materials that are difficult to use or that waste paper, movement, and so on	Easy to manipulate or use; efficient use of paper, space, and movement
	Unnecessarily wordy work sheets and directions	Succinct work sheets and directions
	Difficult to read and comprehend	Easy to read and comprehend
Skill elements	Critical steps in procedures or chained skills that are not fluent	Fluent steps in procedures
	Tool skills or elements that are not fluent	Fluent tool skills or elements
Knowledge elements	Prerequisite knowledge that is not second nature or fluent	Fluent prerequisite knowledge (facts, concepts, structures, principles, classifications, or processes)
	Inability to fluently locate critical information	Ability to use reference systems or job aids fluently, automatically

When Behavior Must Be Performed Without Hesitation

In situations in which the target behavior (including the use of job aids) must be performed smoothly and without hesitation, the person must be able to perform a skill or exhibit knowledge in a competent and confident manner. If the initial learning does not produce such predictably fluent performance, then efficient practice should enable the learner to achieve it. For example, salespeople must be able to deliver presentations confidently and smoothly and would therefore benefit from fluency development methods.

When Behavior Is Part of Activity to Be Performed Without Hesitation

When the target behavior is a component of a more complex activity that must be performed fluidly and without hesitation, fluency development methods are appropriate. Sometimes the acquisition of a complex behavior is difficult or impossible unless the person first acquires and then practices each separate component of that activity until fluency is achieved. For example, the inability to use touch typing fluently might keep customer service representatives from using service automation software while diagnosing and recording problems over the telephone.

When Behavior Must Be Performed at Length Without Fatigue or Loss of Attention

Achieving fluent performance in relatively short intervals increases *endurance* and resistance to distraction when the required duration of performance increases. For example, consider the case of beginning instructional designers, whose job is to produce modules of training day after day. To reduce the likelihood of mental fatigue in their first few weeks on the job, they can benefit from practice in writing clear instructional objectives, in matching types of learning activities to objectives, and in performing other key components of the process until they can do so for short intervals at a rate of five to fifteen items per minute (depending on the specific activity).

When Creative or Improvisational Behavior Must Be Produced

Research shows that creative or improvisational behavior benefits from fluent performance of the components of such behavior. By increasing their performance of components to high levels, learners increase the likelihood that these compo-

nents will be available to them to combine in new ways. For example, being able to improvise playing the guitar depends on a fluent repertoire of playing scales, chord changes, and riffs. Similarly, supervisors who must provide feedback to difficult employees need a fluent repertoire of phrases and tactics that enable them to adapt effectively to a range of situations.

Case Studies

Two examples illustrate fluency development in different situations.

Fluency in Sales

Sales representatives in a medical equipment company needed to engage effectively in a number of behaviors: speaking about scientific topics with doctors, discussing health care economics with hospital administrators, identifying specific customer needs, matching those needs with features of their products that addressed those needs, presenting information about their products to groups of nurses, and answering a broad array of questions. The sales development department prepared a set of flash cards—easy-to-use, structured reference and self-study materials—to introduce the sales representatives to key information. The flash cards covered basic facts and bits of knowledge and the sales representatives practiced with them daily, with a goal of saying correct answers to thirty-five cards in one minute.

The sales representatives also engaged in rapid-recall exercises. They blurted out as many facts as they could about a particular topic, aiming to generate twenty to thirty such facts per minute, and practiced talking through selected overhead slides until they could combine what they knew into a confident, nicely paced presentation. They used practice sheets that required them to match dozens of statements reflecting specific customers' needs with product features.

Finally, in pairs the representatives practiced responding to tough questions written on the fronts of 3-by-5-inch cards until they could cover the key elements of agreed-on answers (represented by bullets on the backs of the cards) in their own words and at the same pace they would use in conversing on a familiar topic. In addition to these exercises, they completed timed multiple-choice tests before and after periods of self-study and practice to assess their knowledge of basic facts and associations.

The results of this program included the ability to complete fifteen to twenty multiple-choice test items per minute on a posttest (a criterion that has obvious

face validity in relation to the time requirements of face-to-face sales). In addition, the sales representatives reported that they had never felt so confident about their ability to talk about their customers' situations and to present products in a competitive environment.

Fluency in a Factory Process

In a second case, factory maintenance technicians performed routine maintenance activities on the factory equipment. Procedural documentation was hard to understand and read, and some steps in the procedures (for example, placing rubber gaskets in hard-to-reach places) involved difficult manual skills. Improving the documentation with job aids and structured writing increased the ease with which technicians could find and follow directions (and the likelihood that they would use the documentation rather than simply experiment). Isolated practice in performing the difficult movements improved dexterity so that those steps no longer prevented the technicians from working smoothly and accurately through the procedures that included those steps. Results included the ability to find and use the correct procedural documentation and a more rapid acceleration to maintenance time and quality standards once new technicians were on the job.

Resources and References

Binder, C. (1990, September). Closing the confidence gap. *Training,* pp. 49–56.

Binder, C. (1996). Behavioral fluency: Evolution of a new paradigm. *The Behavior Analyst, 19,* 163–197.

Binder, C., & Bloom, C. (1989, February). Fluent product knowledge: Application in the financial services industry. *Performance and Instruction,* pp. 17–21.

Lindsley, O. R. (1997). Precise instructional design: Guidelines from precision teaching. In C. R. Dills & A. J. Romiszowski (Eds.), *Instructional development paradigms* (pp. 537–554). Englewood Cliffs, NJ: Educational Technology.

Snyder, G. (1992). Training to fluency: A real return on investment. *Performance Management, 10,* 16–22.

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