

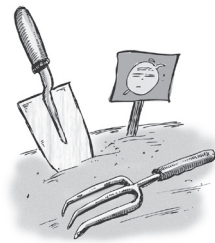
Chapter 3

Preparing an Environment Supportive of Behavior Change

Goals

1. List the activities you can undertake to familiarize yourself with the client(s) and setting, and discuss why these are critically important.
2. Describe what actions need to be taken to prepare for behavioral support and change.
3. Describe why teamwork is helpful in addressing behavior within an organization.
4. Define and differentiate between a *Positive Behavior Support Team (PBST)* and a *Student Success Team (SST)*.
5. Distinguish among *primary*, *secondary*, and *tertiary prevention*.
6. Provide a rationale for incorporating behavior teams within an organization.
7. Define (a) *client*, (b) *contingency manager*, and (c) *fidelity of implementation*.
8. Discuss (a) why achieving program fidelity is important and (b) what factors should be considered when selecting an effective intervention to increase the likelihood that it will be properly implemented.
9. List and discuss the importance of including each of the following activities when selecting and developing a program:
 - a. assuring contextual fit
 - b. applying methods to facilitate goal and intervention selection
 - c. selecting goals and interventions collaboratively
 - d. addressing strategies for ensuring generalization and maintenance of change
 - e. using language acceptable and comprehensible to clientele
 - f. incorporating and fading intervention prompts in the natural environment, as necessary
 - g. providing a checklist

10. Discuss why it is important to analyze the environment to determine the availability of support for the contingency manager's program implementation efforts.
11. Discuss the specific ethical codes and how they relate to preparing an environment and support behavioral change.



Just as we need to prepare the soil for our garden flowers to flourish, achieving successful and lasting behavioral change in any situation also requires a supportive environment—at home, school, in health and service programs, commercial organizations, factories—just about anywhere people live, learn, work, and play. Simply entering a situation, assessing an individual's behavior, and using that assessment to design and recommend an intervention program is insufficient, especially in non-hospitable environments. As with so many other ventures, the more we invest “up front,” the fewer difficulties we will encounter later on. Therefore, we advise a number of preliminary steps if constructive change is to be supported and maintained. Be patient, because careful preparation up front pays off in the long run.

FAMILIARIZE YOURSELF WITH THE CLIENT(S) AND SETTING

Before doing anything else, we must inform ourselves about the histories of our individual **clients** (*those receiving the intervention or treatment*) and of their organizations, and identify the key sources of influence in the setting where change is to take place. Search for factors that may be affecting both adaptive and challenging behavior. As an example, consider the public school situation. There, you might look for aspects of the environment known to promote student progress, such as positive recognition, matching assignments to individual students' skill levels, and other supportive elements. On the

negative side, you might observe factors detrimental to student progress, such as educators' inconsistencies in applying rules and consequences, an overreliance on punitive methods of behavior control, a dearth of positive reinforcement, and students' histories of success or failure and associations with inappropriate peer models in the community, home, and schools (Mayer, 1995, 2001; Mayer & Ybarra 2003, 2006).

Consider the dynamics of a company eager to reduce employee absenteeism rates stemming from work-related accidental injuries, plus associated compensation costs. Before instituting a “one-size-fits-all” behavioral safety program, we behavior analysts must learn more about the organization and how it functions: its purpose or *mission*, its financial, physical, and human resources, along with who controls or manages those, and in what way. In addition, we need to determine the company's methods of operation and personnel, the various constituencies and their priorities, power struggles, concerns and gripes, and other formal and informal strengths and weaknesses. Why? Perhaps the reason is obvious: So you can build from those strengths, capitalizing on available assets while avoiding roadblocks to success. (See Chapter 4 for the importance of clarifying the key purpose(s) or “mission” of the organization or service, and the goals and objectives chosen to achieve those purposes.)

During your inquiries, you discover another dimension of this company's case. Its high rates of absenteeism and diminished rates of production appear to relate to back injuries suffered by personnel who operate particular types of equipment. Those operators appear to be eager to avoid injury, while management wants to stem the flow of cash to the company's insurance carriers. Union leaders insist that their members be protected and ade-

quately recompensed. Worker's families also exert a certain amount of pressure to keep their loved ones safe. Your job is to (1) determine which of those or any other parties will abet or possibly impede the change process, and (2) see how currently operating contingencies of reinforcement (consequences that support and obstruct constructive change) can be adjusted to meet the common goal of injury reduction.

You inform yourself further about those elements by examining records, talking with managers, staff workers, and consumers, and above all, observing and recording behavior (Sulzer-Azaroff & Fellner, 1984). Only at this point should you choose or design and propose a preventive intervention system, which you then would circulate across the various constituencies for their comments and suggestions, and in that or modified form, gain their ultimate approval. Once those elements are in order, you are ready to move on.

Moreover, you must examine not only your own strengths, but also any of *your own* biases, cultural practices, or beliefs that could interfere with progress. Ethical behavior analysts do *not* discriminate or treat others differently based on a persons' age, gender, race, culture, ethnicity, national origin, religion, sexual orientation, disability, language, or socioeconomic status. Recognize any biases you may hold and seek training to overcome those prior to engaging in any behavior-change program.

Analyze the Current Operating System or Culture

When faced with the challenge of preventing problems or improving the performance of individuals or groups, the organization's operating system or culture needs to be analyzed, taken into consideration, and possibly adjusted to support *positive* program implementation. In the best-case scenario, the organization, group, or family is dedicated to promoting and sustaining *a constructive approach*. It recognizes that by avoiding problematic or challenging behavior in the first place, participants will be more apt to maintain their efforts. *Everyone needs to be aware of, committed to, and capable of fluently*

practicing skills consistent with the organization's or family's goals. That is a tall order! Personnel, parents, or others may require further skill development if that lofty objective is to be achieved. Then those newly honed skills must be regularly supported.

Moreover, programmatic success may well depend on a consideration of cultural factors, especially during the selection of goals and treatment strategies. Teaching boys how to cook and clean, for example, is unheard of in some societies.⁴ Your failure to consider a cultural perspective of that nature could well place your program in jeopardy. Concerned parties, sensing their exclusion from the process, may inadvertently or even intentionally interfere with the progress of the program rather than cooperating toward promoting a common goal.

Involve Key People

Those in the participants' or *clients'* natural environment must be willing to lend their support from the very beginning. So behavior analysts need to invest sufficient time and effort up front, relating to and negotiating with the people in control of the conditions—the *contingencies of reinforcement*—affecting their clientele. Consequently, we will find ourselves conferring with the participants themselves or their surrogates, along with their family members and/or significant others, administrators, teachers, managers, coworkers, parents, specialists, and so on. (One approach to gaining mutual support is to organize a team—a strategy described later in this chapter.)

Determine Available Resources

We should familiarize ourselves early with the physical, material, and human resources in the family or organization within which the change is to occur, and learn about the values, concerns, and habit patterns of the key stakeholders. Otherwise, we may find ourselves and others working at cross-purposes, to no one's ultimate advantage. Also, look

⁴For an excellent example of this consideration see Anne Fadiman's (1997) *The Spirit Catches You and You Fall Down: A Hmong Child, Her American Doctors, and the Collision of Two Cultures*. New York: Farrar, Straus, and Giroux.

to see what adjustments might be required within the system (e.g., staffing, material, organizational, familial, or individual) to encourage, monitor, and sustain the kinds of changes being sought. We may need to obtain additional services and/or materials necessary to carry out the program as designed. Only after we are confident that all essential elements are in place should we select or devise and apply procedures known to be effective under similar circumstances.

In the event that resources cannot adequately be stretched to cover all necessary elements, we had best return to the drawing board and either adjust our objectives, our methods, or both. Any program representing itself as applied behavior analytic (ABA), must include such critical features such as *choosing and using valid, reliable measures, demonstrating treatment fidelity, and analyzing the function of the treatment* (described below). This means, even if our resources are strained, we must ensure that 1) our measures are reliable by assessing *interobserver agreement*, and 2) that we are implementing the treatment as designed by objectively assessing the fidelity with which we implement it. Labeling any program you design as “behavior analytic” requires that it meet the field’s professional standards as described in this and other specialized texts on the subject.

Select Behavioral Objectives Collaboratively

When selecting and/or defining behavioral or instructional objectives, we need to see to it that all those with a vested interest act as a team (discussed in Chapter 4). Because formal or informal organizational or family leader(s) generally control the client’s most potent reinforcers and punishers, their actions can foster or impede progress. Therefore, obtaining their cooperation is essential. Senior managers, personnel directors, project managers, administrators, parents, and others must be convinced that the proposed objectives are in keeping with the organization’s mission and their own professional and personal goals. So not only is it a good thing to do, it is the *right* thing to do! (Including clients and/

or their caregivers or supervisors is addressed in our Professional and Ethical Compliance Code [PECC] and ethically responsible behavior analysts will follow this suggestion.)

Ask yourself if the views of all stakeholders are represented. In a hospital, where the issue is quality of patient care, you may need to include nurses at all levels, physicians, patient representatives, dietitians, volunteers, janitorial staff, emergency teams, infection-control personnel, management, quality-of-care personnel, and so on. The point is that you need the input of such key people to determine what supports for and impediments to behavior change are in place. One strategy is to discuss with them the history of the presenting behavioral issue and to solicit the others’ perspectives on the strategies under consideration.

The following episode further illustrates the value of developing objectives collaboratively: A consultant to a pre-school program advised staff to encourage a youngster to use the swings. After demonstrating by swinging the child several times, she was duly “rewarded” by becoming the recipient of the boys’ motion sickness. One could overhear the teachers talking among themselves: “Teaching him how to swing himself! Now that was a really dumb objective. If she’d asked me, I could have told her the boy becomes nauseated on the swing big time! Guess she won’t try that again.”

Similar scenarios might follow from any other formal or informal setting: schools, homes, service agencies, sports teams, business and commercial operations, residential centers, and just about any individual or organization wherein the behavior of its membership is of interest or concern. In selecting objectives for a youngster in a pre-school for children with special needs, parents, siblings, and other close family members, the upper and middle level school administration, management, teachers, specialists in communication, art, music, and physical therapy, janitorial services, bus drivers, and kitchen and office personnel are among those you might invite, depending on the nature of the challenge. Researchers also report that parents were more in line with professionals when they were actively involved in the process of setting and implementing goals (Oien, Fallang, & Ostens, 2009).

Analyze the Function of Current Contingencies

Prior to proceeding with change methods, we need to attempt to analyze the reasons for the current challenge. We do that by determining whether the contingencies of reinforcement relate to the non-occurrence or occurrence of the behavior. Discovering the explanation is critical, because depending on the answer, the change methods would differ. In the non-occurrence (omission) situation, the client(s) may simply lack the necessary skills or may be capable of performing the desired behavior but fail to do so. An inability to perform the skills indicates the need to *teach* the person those skills, while failure to practice (technically *emit*) a previously mastered skill implies a lack of adequate *reinforcement* for that behavior or even more powerful reinforcers produced by the unwanted competing behavior. (Chapters 9 and 25 focus on methods of analyzing the function of particular conditions, treatments, or interventions, while Chapter 10 is specifically devoted to assessing and analyzing the functions of challenging behaviors.) This is not something a practicing behavior analyst can overlook. Remember, behavior is complex (Skinner, 1953) and different histories have led to the current situation. Just because you have used a specific treatment with AJ to increase his sharing his toys, does not mean the same intervention will work with Kae. Rather, you need to understand the complex behavior of sharing with respect to each individual child.

SELECT AND/OR DESIGN CHANGE METHODS

Whenever feasible, suggest change methods previously demonstrated to be effective under similar circumstances and prepare to analyze carefully the impact of procedures based on both the individual client(s)' needs and environmental considerations. For instance, to promote student success and personnel satisfaction in schools, seek, apply and evaluate the function of relevant *evidence-based practices* (e.g., Westling, Cooper-Duffy, Prohn, Ray, & Herzog, 2005). The extensive literature on applied behavior analysis now permits us to make more

educated guesses about the potential of a particular set of procedures. Along with the many suggestions offered in this text and in its ancillary material, journals such as those cited in our reference list contain reports of successful behavior analytic programs in educational, clinical, institutional, work, community, home, sports, and other settings. Behavior analysts, who remain up to date with the behavior analytic literature in their areas of specialization, are more likely to make wise selections, and adhere to the ethical standards of our field. Attend particularly closely to fundamental aspects of methodology, especially descriptions of participants, settings, conditions, and staffing, as well as procedural details. Success is more likely, too, if you work under the supervision of or at least consult with experts and advisory groups before you proceed.

The Evidence-Based Approach

*Choose and use procedures
scientifically found to work
effectively with clients similar
to yours.*

Select or Devise Behavioral Measures

Assuming the environment will or can be adjusted to support behavior analytic efforts, we must consider how we are going to monitor and evaluate performance before proceeding further. We want measures that reliably and accurately reflect changes in performance. These measures will be discussed in Chapters 7 and 8.

Analyze the Function of the Treatment

The analytic feature of ABA refers to the breaking down of our procedures and observations into their component parts, to permit us to evaluate our interventions in terms of their *functions*—the changes they directly promote. Were the original conditions and those we have changed really doing what we

thought they were doing? In other words, we not only choose and use procedures, but we go further: discovering whether or not any notable change actually is related to the treatment or intervention, rather than to other events that may be happening at the same time. ABA has designed a set of strategies to suit that purpose, about which you will learn in subsequent chapters. If we are to identify ourselves as “applied behavior analysts,” we *must* incorporate this analytic feature within our practice, because it permits us, convincingly, to demonstrate to ourselves and our audience the effectiveness of the behavior change programs we design and conduct.

Prepare for Constructive Behavioral Support and Change

Once you have familiarized yourself with the setting and considered which potential interventions appear promising, determining if program mediators possess the knowledge and skills essential to adhere faithfully to the intervention protocol is crucial. If they do not, they must be prepared adequately; or, as described below, the intervention might need to be modified. Adequately preparing the program implementer may require a significant investment because bringing about lasting performance improvement is more than a “one-shot deal.” Follow-up is the key! A single seminar or workshop rarely does the job. Despite common practice, evidence repeatedly has revealed “that training, inspiration, and initial commitment, without follow-up, are usually worthless” (Malott, 2001, p. 101). Participants may display increased knowledge on pencil and paper tests, but little-to-no actual behavior change in working with their clientele.⁵ In some cases, especially those in which the culture of the organization needs to be restructured, it can take up to several years of ongoing training and support to establish an ongoing effective organization-wide program (Sugai & Horner, 1999). In addition, as many have argued, further efforts are needed to sustain that program, once established:

One reason why institutions change superficially has to do with ineffective behaviors on the part of the change agent. These proponents of change ‘burn out,’ or move on, before the change is fully implemented. It is necessary that a change agent possess tenacity to follow through and to return to the same tasks and the same individuals time and again. (Dustin, 1974, pp. 423–424)

As we shall emphasize in Chapter 24, *everyone involved in the change process needs to gain reinforcers for their positive contributions along the way if their considerable efforts are to be sustained. Additionally, problem-prevention activities need to be integrated as part of the family’s or organization’s day-to-day operation*, not just, as is so often the case, in emergency situations such as fatalities, injuries, loss of key personnel, financial shortfalls, low sets of scores, or poor assessments. The system must be mobilized to create an *ongoing* reinforcing mechanism to support and sustain behavior change practices, regardless of temporary crises. To mobilize the system and promote program stability, objectives also need to be linked to the organization’s mission and priorities and a consensus built in support of the program. Next, we turn to using a team approach as a strategy for preventing problems and promoting progress toward achieving lasting positive behavior change and support.

Organize and Manage Team Operation

Many business and service organizations involve *teams* as a mechanism for supporting a quality operation. (For example, see Aubrey and James Daniels’ *Performance Management: Changing Behavior that Drives Organizational Effectiveness*, 2004). That can work for you, too. Effective teams remain ongoing, are integrated within the organization’s program, designed to continue independent of leadership changes, and are in the best position to help establish goals and priorities. If you are thinking this concept only applies to business or educational organizations, remember, *it takes a village to raise a child*.

⁵It is for this very reason that we have designed a series of field activities to guide new practitioners in the autism education field. (See Sulzer-Azaroff, Dyer, Dupont & Soucy, 2012)

Personnel working within a team structure also can produce highly effective intervention plans (Goh & Bambara, 2012), especially those in which members *promote collaborative problem-solving and provide ongoing support* to those responsible for implementing the intervention. Just as a parent often needs help and encouragement from other family members and teachers, so do managers, supervisors, workers, and other organizational members require social support when initiating promising programs within their organizations. Evidence (Crone, Hawken, & Bergstrom, 2007) suggests that programs developed by teams appear to be more readily acceptable. In their situation, school personnel were found to be more accepting of interventions developed by a team that included teachers and a behavior expert than a plan developed solely by an expert.

In another example, Mayer (1995) designed and guided the organization and implementation of school-wide teams as a tactic for preventing and reducing problematic student behaviors in a number of schools in Los Angeles. Others (e.g., Sugai & Horner, 1999), have suggested using two teams per school, what we call a *Positive Behavior Support Team* (PBST) and a *Student Success Team* (SST), dedicated to primary, secondary, and tertiary prevention, described as follows:

The Positive Behavior Support Team (PBST) includes all representative stakeholders and focuses most heavily on **primary prevention programs**. It is incorporated within the school site council committee, the school safety planning committee, or exists as a stand-alone special school discipline group. This team is responsible for examining and addressing *contextual factors including motivational operations* (e.g., histories of student failure, an over-reliance on punitive methods of control and an under-reliance on positive reinforcement by personnel) with the aim of *preventing discipline problems in the first place* (primary prevention). Well-organized and -run PBST programs have been found to eliminate about 80 to 90 percent of their students' troublesome behaviors (Sugai et al., 2000).

The **Student Success Team (SST)** has the responsibility for *identifying, addressing, and preventing problems exhibited by the ten-to-twenty percent of individual students who have not responded satisfactorily to the programs implemented by the PBST and who remain at-risk for severe academic or behavioral problems*. For example, if an at-risk student responds aggressively to peer criticism or is behind academically, that student may need some social skills training or tutoring. These **secondary prevention** activities often *involve small-group tutoring, social skills training, and so forth for such at-risk students*.

Tertiary prevention often *involves individualized programs (functional behavioral assessments, individual tutoring, therapy, community and other wrap-around services) designed for the few students who are at high-risk*, such as those in gangs or those who demonstrate severe behavioral and/or academic problems. Of course, school personnel working at the tertiary level require expertise in such skills as diagnosing mental health problems, conducting ongoing proactive student screening to identify those at risk for gang membership and severe academic/behavioral problems, conducting a functional assessments (see Chapter 10), designing positive behavioral interventions based on the behavior's identified function, developing social skills lessons, training other staff in positive behavioral interventions and social skills, consulting with and supporting school staff, students, and families, coordinating school and community services.

(Further details, including the composition and responsibilities of these teams, can be found in Mayer & Ybarra, 2003; Mayer, 2000; and on this book's website.)

Other examples of team involvement can be identified in ABA programs within various fields. Included, among others, are those dedicated to safety and injury prevention; in research, industrial, and health-care facilities; customer satisfaction; curriculum design, evaluation, and quality

assurance in educational settings; and training and consulting.

Well-constituted teams enable members to have a say in identifying their own and their group's immediate and long-term aspirations as well as highlighting the most highly valued aspects of their daily functioning. They also help to heighten participants' awareness of what features of their own performance are valued and likely to be reinforced. Of special importance is that well-conceived and -structured teams, such as those described above for schools, are designed to promote and support not only positive institution-wide change, but small group and individual behavior change as well. Such team programs are more likely to be successful if the selected procedures have demonstrated their effectiveness and have the support of those in the environment who control important contingencies for the client and the **contingency managers** (*those who implement the intervention, such as parents, teachers aides, and Registered Behavior Technicians™ [RBTs]*).

Now, before moving on, we suggest you use our examples to consider how you might organize teams in an organization (or family) of interest to you, such as to help prevent accidents, injuries, illness, dissatisfaction, non-compliance, waste, turnover, and other problems in living.

CLIENT BEHAVIOR CHANGE: PROGRAM DEVELOPMENT AND SELECTION

Despite demonstrated effectiveness with similar clientele, sometimes the contingency managers or other stakeholders in a particular situation reject the goal or methods of intervention. Unless those consumers can be educated and/or encouraged to support that particular program, it is at risk of failure. Fortunately, as the science and technology of behavior change expands, multiple paths to the same goal often are available, especially to those who remain informed. If, for instance, a token system is unacceptable, dozens of other reinforcement packages are available, as you'll learn later on. The critical point is that you must feel confident that

the program that you *do* plan will be implemented faithfully (i.e., with solid *procedural fidelity*) to accomplish its purpose. Of course, mutual support for a given approach is just the beginning. Other factors also enter in, as you will learn in the next section.

Plan for Generalization from the Start

Just as preparing prior to embarking on a trip to unfamiliar territory is wise, responsible behavior-change agents carefully plan what specific behaviors their clientele must be able to emit under actual environmental circumstances (i.e., people, times, places and/or situations). This is no simple task because, more often than not, practitioners of applied behavior analysis often are called upon to address rather serious clientele challenges such as major skill deficiencies, and threats to their own and others' health, safety, contentment, and well-being.

Satisfactorily accomplishing such outcomes does not come cheaply or easily, for among the many conditions that must be in place for any behavior-change program to succeed include not only clientele and families who chose this path, but also highly skilled and socially and reasonably well-supported personnel, adequate materials and supplies, and suitable physical surroundings. Sadly, all resources are finite. So, as responsible behavior analysts, we must focus on maximizing the gain our clients receive in return for the time, effort, and material they, their families, their organizations, society, and we ourselves invest in the process. Those in the business sometimes label this as "Getting the biggest bang for the buck."

Getting the biggest bang for the buck demands careful planning, though: Finding and securing the services of capable, eager managerial and service personnel, of affordable, safe, appropriate physical space, and sufficient funds to support and furnish them with adequate materials and supplies. Beyond that, within our field of behavior analysis, it especially means a solidly constructed program designed to enable our clientele to gain and sustain skills that will accrue to their own and their associates' present and long-term advantage.

Should you already have selected the area in which you hope to, or are applying your behavior-analytic skills, consider just how you might proceed. One trap to watch out for, though, is investing the bulk of your resources on “the quick fix”: curing an employee from complaining, being lazy, or doing a shoddy job; a student from misbehaving; a family member from spending too much money on useless objects. Rather, begin by taking the long view by identifying your ultimate objective, then breaking it down into a series of more readily achievable short steps leading to it.

Of equal, or sometimes even greater, importance is selecting goals that will provide “the biggest bang for the buck.” In some cases that can mean directly teaching the client “pivotal skills” (those general patterns of behavior that will open the doors to a breadth of learning: the ability to communicate, to interact socially, self-manage, acquire basic academic skills such as reading, writing, and computing; social and organizational skills such as interacting in ways compatible with their local and broader families, teams, and societies; and such personal/functional living proficiencies as meeting responsibilities, caring for one’s own safety and well-being, and so on).

Because they tend to be present and concerned, often we can obtain the greatest pay-off by enabling those others within the natural living, learning or work environment to support constructive general and lasting change. For children with autism spectrum disorder, that might mean training and supporting their families’ use of effective strategies to teach their youngsters functional living skills (e.g., Neely et al, 2016). For factory workers, that might involve managers (Sulzer-Azaroff & Harshbarger (1995); for students and teachers, the school principal (Gillat, & Sulzer-Azaroff, 1994); at health-care facilities, peers (Fleming & Sulzer-Azaroff, 1992) or the nurses in charge (Babcock, Sulzer-Azaroff, Sanderson, & Scibak (1992); in savings banks, tellers (Brown & Sulzer-Azaroff, 1991).

Should you, now, or in the future, be in the position of wishing to learn current best practices for promoting and supporting demonstrably *broad and lasting behavioral change*, this text should enable you to achieve that. You will discover methods

for choosing behavioral goals and strategies that promise to be supported by those interacting most directly with your clients’ as well as ways to apply your informed actions to your own behavior.

Ensure Treatment Integrity

The term **treatment integrity** (also known as *procedural fidelity* or *fidelity of implementation*) refers to ensuring that *everyone involved carries out and supports the intervention as planned* (see Chapter 7 for methods of assessing treatment integrity). Procedures that veer away from their intended path pose a risk of failure. Further, Fiske (2008) points out that “a growing body of evidence suggests that treatment integrity... is related to intervention outcomes” (p. 19). Generally, the higher the treatment integrity, the more effective the intervention (e.g., Carroll, Kodak, & Fisher, 2013; Cook et al., 2010; DiGennero et al. 2007, Fryling, Wallace, & Yassine, 2012; Noell, Gresham, & Gansle, 2002; Vollmer, Roane, Ringdalh, & Marcus, 1999; Wilder, Atwell, & Wine, 2006). To take a simple case, suppose a team of workers has successfully increased its safety scores under the assumption that the reward will be an extra break on Friday. Friday arrives, but on that very day a rush order comes in. The promised break is forgotten. The next week, safety scores drop. No wonder! The fidelity of the intervention was compromised. Similarly, Donnelly and Karsten (2017) found that skill acquisition interference and performance disruption occurred when reinforcers were delivered at times other than immediately following correct completion of training steps, prompting steps were out of order, and when prompts failed to be delivered when scheduled.

Reid, Parsons, and Jensen (2017) used feedback and a collaborative team approach to increase the involvement of adolescent and adult residents with severe disabilities in functional educational tasks. The initial increases in participant involvement in functional tasks were maintained during follow-up observations spanning 30 years. Probably the team approach they employed, (described in this chapter and in Chapter 24), heavily contributed toward promoting and supporting the impressively long-term maintenance of the program.

The importance of maintaining treatment integrity also has been addressed from a legal perspective. In a review of 52 published court decisions, Etschreit (2006) noted that the first thing hearing officers look for when making a decision is whether the *behavior intervention plan* (BIP) was implemented as planned. Case law consistently has demonstrated that failure consistently to implement the BIPs contained within a child's *individual education plan* (IEP) is tantamount to depriving the student of a *free and appropriate public education* (FAPE) (see Drasgow & Yell, 2001; Etschreit, 2006).

Determining treatment integrity is no simple task without advance planning. Consider the case in which a team (Sulzer-Azaroff, Hoffman, Horton, Bondy, & Frost, 2009) surveyed the published research on an alternative or augmentative behavior-analytic-based system that enables non-speaking clients to express their desires and observations: the *Picture Exchange Communication System* (PECS; see Chapter 19). We examined investigators' descriptions of the methods they used and their results. Although all reported positive success rates, some seemed superior to others. However, trying to determine the reason why was difficult, if not impossible. The research team was not in a position to determine how stringently the contingency managers in programs reporting the effectiveness of the outcomes adhered to Frost and Bondy's (2002) thorough protocol of elements. Did some conduct more formal training, incidental teaching, and generalization trials than others or not? Did they, as advised, frequently assess for reinforcer appeal within and across trials? Were two trainers involved at the early stages and did they shift roles as recommended? And so on. We recommended that in the future researchers use and report the results of a performance (treatment integrity) checklist to permit more refined analyses of the results, because until such information is regularly published, along with descriptions of the investigative methods, we'll remain ignorant of which aspects most powerfully impact the results.

A *demonstrably* clear, accurate description of the interventions that behavior analysts apply is essential because consumers of our literature often are searching for strategies to apply within their

own settings. Yet investigators (McIntire, Gresham, DiGennaro, & Reed, 2007) who examined reports of 152 school-based intervention studies contained in the *Journal of Applied Behavior Analysis* from 1991 to 2005 for data on treatment integrity found that only 30 percent reported those data. Unless authors provide convincing evidence that published descriptions actually were carried out as described, they risk leading practitioners astray by misinforming them as to how they actually achieved their treatment effectiveness.

In your own case, you will want to know if the programs you have elected to use are implemented as planned. To determine this you need to identify what stimuli are reinforcing *and* how consistently they are used, regardless of other conditions in effect. That includes the quality of assistance and support provided, the competency of those designing the program, and other features known to influence program fidelity (Cook, et al., 2010; Mihalic, 2003). Collier, Meek, Sanetti, and Fallon (2017) provide a clear rationale for and practical guide to assessing treatment integrity in educational settings, generalizable to other settings as well.

Generally, the more acceptable the intervention is the more likely it will be implemented. There are a variety of factors that influence the acceptability of an intervention. These include:

- What the treatment is called (avoid jargon)
- The severity of the client's problem (the more severe, the more willing one is to try various interventions)
- The time and effort involved
- Familiarity and knowledge with behavioral principles (the more they know about ABA the more acceptable they are likely to find the intervention)
- The more they believe the intervention will work, the more acceptable they are likely to find it
- And, positive interventions tend to be more acceptable than punitive ones.

The following factors discussed below also influence acceptability and treatment integrity.

ASSURE CONTEXTUAL FIT WHEN SELECTING GOALS AND INTERVENTIONS

Deciding what set of procedures to apply in any given situation is no simple matter. Time, place, human and material resources, clientele characteristics and other factors may influence the outcome of any behavioral intervention. The safe way is to *begin by selecting strategies as similar as possible to ongoing practices, especially those that build on the strengths and skills the contingency manager(s) and personnel already possess*. Yes, historical evidence of effectiveness must exist, but if a new procedure is not implemented consistently because contingency managers lack proficiency in or are uncomfortable with practicing the routine, little will be accomplished. Therefore, to select the best fit between the goal, the intervention strategies, and the context into which they are to be implemented, (McLaughlin, Snyder & Welsh, 2012) behavior analysts need to familiarize themselves with ongoing practices and the contingencies currently affecting personnel within that particular context. “The goal is not to find the one true intervention, but to find an intervention that is effective and will be implemented by the people in the setting. An intervention is contextually appropriate if it fits with the skills, schedules, resources, and values of the people who must implement the plan” (Horner, 1994, p. 403). Be forewarned, though, that depending on other factors, what is contextually fitting at one point in time or in place, may not be at another (Killeen & Jacobs, 2016).

Relatedly, “The essential ingredient in our producing technology that will be useful is making sure that the technology, in addition to being effective for intended populations, will be reinforcing for all the people who will buy and use it” (Hopkins, 1987, p. 343). The goal is to maximize short- and long-term reinforcers while minimizing short- and long-term punishers, not only for our clientele, but also for the contingency managers and others who might be affected by the intervention program (Hawkins, 1986). Similarly, interventions designed “to be user friendly will be more likely to produce high fidelity, and therefore, durable intervention gains” (McConachie & Carr, 1997, p. 123). When given a choice,

then, assign high priority to interventions that contingency managers can implement with relative ease, are acceptable to them, and address their concerns, while promoting improved client adjustment, adaptation, competence, or habilitation.

As an example, to help determine whether an intervention is consonant with the life of a particular family, Albin, Luchyshyn, Horner, and Flannery (1996) developed a *goodness-of-fit* assessment questionnaire. Its 12 items help implementers determine if the proposed intervention is congruent with family goals and expectations, lifestyle, implementation effort/time, and sustainability. Also, you might want to consider conducting a family ecology assessment similar to the informal interviews Binnendyk and Lucyshyn (2009) conducted to assess “family strengths, social supports and resources, stressors and goals for the child and family” (p. 52) to help them design a contextually appropriate intervention for food refusal by a six-year-old child with autism at home during snack time. The following example illustrates how features of the family’s ecology contributed to the selection of support procedures:

After years of struggling to get her son to try new foods, the mother was not confident that she would have the strength or emotional toughness needed to transform her son’s eating patterns. She was also worried that starting intervention in the natural setting (i.e., kitchen) might upset her other children who were home at that time of day. The plan was therefore adjusted in response to these concerns so that initial training began with the therapist and then transferred to the mother once Karim’s feeding behavior improved. In addition, training began away from the kitchen, upstairs in Karim’s bedroom, with the therapist sitting next to Karim at a small table in the corner of the room (p. 53).

As with all of us, contingency managers have different training and experiential backgrounds, which, in turn, may limit their ability to implement particular programs effectively. An aide or behavior technician, unfamiliar with methods for assessing contemporary reinforcer effectiveness, is less likely to choose the most powerful reinforc-

ers at the moment. A naïve supervisor, unskilled in delivering feedback, may misconstrue the concept of supplying powerful feedback, as in assuming his “Nice job!” is reinforcing. Should contingency managers consider a suggested intervention too difficult or otherwise unacceptable, they may shirk that task, resulting in the immediate reinforcer of escape (Alford & Lantka, 2000). Personnel who feel overextended and exhausted by their work tend to be pessimistic about the value of implementing behavioral programs (Corrigan et al., 1998). Overly complex programs not only add to the contingency manager’s workload and stress, but also risk failing. Contingency managers need to be trained to a reasonable level of fluency (that is, capable of emitting the behavior smoothly, rapidly, and with little apparent effort) if they are to implement a program faithfully; and their training will need to begin at their performance and comfort levels and continue gradually until a they reach a predetermined level of proficiency (the behavioral or performance objective).

You, yourself, will want to possess sufficient basic skills to enable your own initial ABA programs to succeed, and that means choosing and using methods for teaching, motivating, and managing staff to implement programs as designed. (We return to this topic later on, especially in the chapters covering shaping and teaching complex behavior.) Among the actions you can take to increase the likelihood that personnel will adhere faithfully to the specified treatment protocol are to invite their participation in:

- selecting the goals;
- designing the procedures;
- choosing the methods for reviewing and evaluating progress;
- and seeing to it that reinforcement occurs as a result of their efforts.

Such participant involvement will tend to improve the quality of their on-the-job performance beyond that displayed when tasks or goals simply are assigned or requested (Cotton, Vollrath, Froggatt, Lengnick-Hall, & Jennings et al., 1988; Fellner & Sulzer-Azaroff, 1984; Sulzer-Azaroff, Loafman, Merante, & Hlavacek, 1990; Binnendyk & Lucyshyn, 2009; Hieneman & Dunlap, 2001). (See

Chapter 4 for a further discussion of the importance of inviting clients’ and others’ participation in the goal-selection process.)

Additionally, conflicts can often be avoided and cooperation facilitated when the implementer of the program is directly involved in selecting goals. To illustrate, Mr. Jones may be more willing to try to *increase his rates of commenting on his employees’ specific accomplishments* (e.g., “Great! You finished this report an hour earlier than the last one.”) instead of working on his rates of simply praising due to the awkwardness he feels when he praises. Or the behavioral consultant may accede to Mrs. Walker’s request to provide noncontingent reinforcement to her young students every 15 minutes instead of every minute.

When selecting goals jointly, be sure those managing the contingencies are able to demonstrate their ability to implement the procedures fluently, as designed. Otherwise the program may fail. Suppose a teacher announces to his class that he prefers to have students raise their hands. Yet frequently he calls on those who shout out questions or answers. Despite his attempts and willingness to reinforce hand-raising and withhold reinforcement for shouting out, his actual “uncontrollable” responsiveness to good student contributions interferes with that goal. In such cases, the goal and/or the intervention, or both, will need to be altered, or additional coaching and support furnished. This example also reminds us that what the contingency managers *say* they can do and what they *actually* can and cannot do may be different. The best tactic is to *sample the individual’s genuine level of performance over time, then and build upon that baseline*.



If they can't do it,
change the behavioral
objective.

Select Interventions Collaboratively

Involving contingency managers in the process of selecting the intervention procedure allows them to air their own biases, priorities, concerns, and limita-

tions. The selection of the goal for Karim, the 6-year-old with autism (described above), was conducted jointly by staff and family members. Managers, supervisors, teachers, coaches, aides, counselors, psychologists, parents, institutional staff members, or other “people shapers” tend to be more aware of the limitations and problems entailed in performing their jobs. Involving them in the process may enable them more sensibly to prioritize goals, assess participants’ skill levels, and make judgments about whether personnel will be able to devote the time and resources required to implement the program.

As mentioned previously, you need to analyze the environment carefully to enable effective program development and selection. “Rather than entering the setting with the ‘answers,’ the institutional change agent should spend a period of time ‘getting to know the territory.’ By asking all levels of staff for their input, he will ease his acceptance by assuring them that he is, indeed, concerned with the problems as they define them” (Reppucci, 1977, p. 597). Additionally, Reppucci suggests that we “assess the existing interpersonal and organizational conflicts, the strengths and weakness of individual staff members, and formal and informal power bases” (p. 597), along with the “political reality which includes finances, bureaucracy, unions, public relations, and internal and external politics as elements of an institution’s social ecology” (p. 601). Such information can be invaluable in selecting goals and reinforcers and in determining sources of support.

Facilitating goal and intervention selection.

Useful suggestions for enabling the selection of contextually appropriate goals and interventions include these steps (Mayer, 2003):

- Develop solutions and strategies collaboratively.
- Base individual strategies on the assessment of both the problem *and* the contingency manager’s skills.
- Periodically paraphrase (put into your own words) what the contingency manager is saying to convey your empathy, attention and understanding (e.g., the teacher comments, “If he doesn’t start following the

classroom rules soon, I’m going to talk to the principal about having him transferred out of this class.” You respond, “Sounds like you’re about ready to throw in the towel.”

- State any points of confusion and ask for clarification. (e.g., “I’m confused—when you say that he is aggressive, do you mean he hits, bites, uses profanity, or?”)
- Summarize the contingency manager’s main points within an A-B-C format: “Let’s see if I understand what you have shared so far. John tends to hit (B, the behavior) when he is told he can’t have something that he wants (A, the antecedent or situation), and as a result, sometimes he gets what he wants and at other times he is sent to his room (C, the consequence to the problem behavior).”
- Make frequent use of “I statements” in gathering information rather than asking too many questions: “I’m a bit confused. I understand that John hits, but I don’t have a clear picture of the situation in which this behavior tends to occur. Can you help me gain a clearer picture of that situation?” This format sets a more collaborative tone and prompts a wider range of information than when the person in the role of “expert” seeks information by asking a series of specific questions.
- Check your listener’s understanding of what you say by asking the individual to paraphrase what you said; then re-check and correct for any further misunderstandings.

Use Acceptable and Comprehensible Language to Clarify Contingency Managers’ Tasks

Simply and directly clarifying the specific task to be applied, along with its rationale, is an important aspect in the preparation of contingency managers (Anderson, Crowell, Hantula, & Siroky, 1988; Squires et al., 2007; Wilson, Boni, & Hogg, 1997). Although feedback and reinforcement generally are the most powerful elements within a training pro-

gram, when personnel clearly understand exactly what is expected of them and why, they usually improve their performance. In a study by Squires et al. (2007), after the owner simply defined and illustrated in everyday language how restaurant personnel were to greet customers, rates of appropriate greetings rose by ten or more percentage points. (Visual prompts and feedback heightened those improvements considerably further.)

When coaching people unfamiliar with ABA jargon, you may be wise to adjust the language you use to make it more comprehensible to them. As Carr (1996) implied, usually the decision-makers or contingency managers in our society are non-scientists. If personnel are unfamiliar with the technical language of ABA, they may find it confusing or frustrating and cause them to feel uneasy (Allen, Barone, & Kuhn, 1993). Similarly, Critchfield et al. (2017) found that there is “a tendency for behavior analysis terms to register as more unpleasant than other kinds of professional terms and also as more unpleasant than English words generally” (p. 97). “We need to recognize that people’s emotional reactions are critical to successful program adoption and that behaviorally induced resistance to change can sabotage any program via vetoes or required modifications that render it virtually unrecognizable” (Foxy, 1996, p. 157). Rather, we would be wise to identify and adopt the vocabulary of the customer, be it academic, jargon, bureaucratism, or just plain English (Binder, 1994; Mayer & McGookin, 1977). In fact, using language compatible with participants’ local language system and showing that their perspective is understood, has been found to heighten both the acceptability and fidelity of selected interventions (Becirevic, Critchfield, & Reed, 2016; Witt & Elliott, 1983; Witt, Moe, Gutkin, & Andrews, 1984). “Behavioral consultants need to attend to factors such as communication strategies that facilitate shared responsibility as well as to understand consultees’ explanations for their problems and their treatment expectations” (Rosenfeld, 1991, p. 329). Reppucci and Saunders (1974) commented early on:

Flexibility and sensitivity by the behavior modifier regarding the language problem could avoid difficult situations that often arise

during the implementation of a behavioral program. Programs do not survive for long that do not have the support of the indigenous members of an environment... An acceptable and comprehensible language is crucial in gaining this support. (p. 654)

The importance of using comprehensible language also is stressed in the Professional and Ethical Compliance Code by the Behavior Analyst Certification Board®: “use language that is fully understandable to the recipient of those services” (2016, p. 5). For as pointed out some time ago by Lindsley (1991), “A technology has only technical jargon... a profession has both a technical jargon and a set of plain English equivalents... (p. 450).

A guideline of effective teaching is to *begin at the learners’ level of skill or expertise, not where you would like them to be*. Research findings on the subject of modeling (e.g., Bandura, 1965c) suggest that we avoid modeling behaviors that are too complex; rather we should stress similarity between our terms with those used by the audience. Caution suggests that at least initially we identify and use program implementers’ common parlance or terminology (e.g., “motivated,” “self-worth,” “self-concept,” “strokes,” etc.). Also, substitute lay terminology like “individualized instruction” for such technical terms as “shaping and chaining,” or “fostering independent learning” instead of “fading,” and “learning from consequences” in place of “operant conditioning.” Using the everyday language of your program implementers may increase their comfort with the behavioral approach because it is more familiar. Also, as you will learn when you study the concept of *shaping*, it is wise to begin at the learner’s current performance level. And, as with the *modeling* procedure, your suggestions will seem simpler when you connect with implementers’ communicative repertoires. In short, *success demands we choose language that matches the repertoire of our audience*. As Bailey (1991) has suggested, we should be wise to conduct a front-end analysis to determine what those consumers who are to apply the contingencies are looking for, what form the procedures should take, and how they should be packaged and delivered.

Similarly, when communicating with non-behavior analysts we should use the language of ethics rather than that of technology (Carr, 1996). We need to emphasize how the proposed intervention strategies can help promote personal responsibility, freedom, dignity, equality, and justice. “What is required is that we see beyond our intimidating jargon to discover our link with higher values and the necessity of communicating technological achievement to society in a language that reflects those values” (Carr, 1996, p. 269). We can also stress the humaneness of the approach (Foxy, 1996). Regardless, the key is to communicate in a language that is not off-putting and that the implementers of our programs will understand and accept.

Selecting the appropriate language, terminology, or words to use is similar to selecting reinforcers (see chapter 6 for reinforcer selection); their impact is largely dependent on the individual’s previous learning history. Thus, select those that have the most desirable effect on the listener (Lindsley, 1991; Becirevic et al., 2016). Table 3.1 suggests some alternative non-technical words you might consider using in your interactions with those such as parents, supervisors, managers, teachers and other contingency managers cooperating in the venture (based on Mayer & McGookin, 1977). Also, Critchfield (2017) points out that “Visuwords® offers one means of vetting substitute expressions that non experts might find more palatable than jargon” (p. 319). “Applied behavior analysts will find Visuwords® simple to use, intuitively understandable, and at least broadly applicable to the goal of preventing audience-insensitive verbal behavior from turning them into “Attila the Hun” in the eyes (or ears) of those who can profit from their expertise” (p. 321).

If Necessary, Temporarily Incorporate, then Fade Intervention Prompts within the Natural Environment

Should program implementers require some initial encouragement when operating within the natural environment, temporarily incorporate, then fade intervention prompts. Concrete items like certificates, tokens (i.e., points, chips, etc. exchangeable

for various backup reinforcers), positive notes, or other readily obtainable and noticeable items can serve to prompt contingency managers to deliver praise or other reinforcing consequences, or otherwise implement the program according to plan. For example, you might set a timer to sound, or a light to flash, at particular times of day to remind staff to perform a particular task, like scanning for opportunities to deliver praise. Display an attention-commanding change in the surroundings like tilting a picture hanging on the wall (Latham, 1994). A supervisor might switch her wristwatch to her other wrist, so whenever she checks the time, the altered location reminds her to monitor her employees. Posting a note to oneself on the wall or refrigerator are other possibilities. The cue commands attention, thereby reminding the implementer to scan the client’s behavior and, if merited, to praise it. Consider, as well, programming your cell phone to emit soft tones or vibrating signals to prompt yourself to implement your planned action.



Communicating intervention requirements very precisely tends to add to the comfort with which contingency managers function. Early on we (Farber & Mayer, 1972) encountered a high school teacher who reported that he felt awkward praising his students’ appropriate behavior. We suggested that he try: (1) praising at least one student for starting class work during the first minute of class; and (2) spending two five-minute periods, while the students were working, circulating about the room complimenting those engaged in completing their assignments. This detailed structure eventually encouraged his use of praise. Later, as he began to dispense praise in his classes more regularly, he commented on how much his classroom had improved. In a different instance—this time a program serving people with developmental disabilities—all it took to encourage home supervisors to increase the timeliness of their report submissions was to announce specific target dates (Cronin, 1982). More recently (Cohrs, Shriver, Burke, & Allen, 2016), teachers in two different schools failed to meet their goals of using specific praise under particular circumstances. After the frequency and conditions under which they were to

TABLE 3.1 Everyday Terms for Technical ABA Terminology³

<i>Technical Term</i>	<i>Alternative Term</i>	<i>Plain English</i>
Reinforcement	Rewarding, giving incentives	Increasing the behavior by praising, attending to, or recognizing accomplishment and effort; providing special rewards, events, and activities; removing nagging or criticism
Stimulus generalization	Transfer	Teaching clients who have learned skills under one condition to apply them under conditions sharing similar qualities
Stimulus change	Environmental change	Teaching clients to act differently under different conditions by changing the environment
Modeling	Demonstrating, showing	Teaching by setting an example; demonstrating a new task or behavior
Shaping and Chaining	Individualized instruction, coaching	Teaching clients by beginning at their current level of performance and breaking down complicated learning tasks or behaviors into smaller parts that they can learn one portion at a time
Fading	Fostering independent learning	Enabling the client to assume increasing independence by helping, reminding, and suggesting less and less often
Scheduling	Developing intrinsic motivation	Assisting the client to increasingly perform the behavior in the absence of rewards, which, in turn, promotes the client's personal satisfaction with accomplishments and achievements
Extinction	Appropriate withholding of reinforcement	Reducing an unwanted behavior by withholding attention or other rewards from behaviors that interfere with constructive learning or performance
Timeout	Temporary separation from the group	Reducing an unwanted behavior to maintain a supportive or safe learning environment by temporarily separating the person from the group to allow him or her to regain self-control and composure, or to protect others from harm
Response cost	Penalties	Reducing an unwanted behavior by subtracting points, losing yardage, fining
Satiation	Excessive use, consumption, or repetition of a behavior	Reducing an unwanted behavior by providing excessive amounts of rewards or activities, which brings about a reduction in the activity, e.g., eating, shouting, lifting weights.

³The lay language is only illustrative and not representative of all possible types of applications of the term.

use specific praise were included in their objectives, most teachers satisfactorily increased their levels of specific praise. So, to promote greater cooperation and program implementation, clearly specify the results you are seeking. (You will learn how to specify objectives in the next chapter, and how to fade out prompts like these over time in Chapter 20.)

Promote self-monitoring. Don't overlook self-monitoring, which can heighten your client's awareness of what they are doing or failing to do. Cook et al. (2016) asked teachers to self-monitor their ratios of positive-to-negative interactions

with their students. This simple strategy resulted in fewer classroom disruptions and increased academic engagement. (We return to self-monitoring and recording in Chapter 8.)

Provide a checklist. You can design a checklist similar to the ones many of us use when we shop or to remind ourselves to address a particular chore; that is, by itemizing the item or event, then asking the program implementer, or someone else (and/or even yourself), to check off each as it is accomplished. Suppose you and your staff have identified a set of essential skills to perform in the classroom:

complimenting students when they enter in an orderly fashion, when they get down to work quickly, periodically as they continue working during the period, and as they wrap-up in an orderly fashion. Such checklists simplify self-recording, improve performance, and serve as an effective prompt to engage in the desired behavior (Bacon, Fulton, & Malott, 1982; Burg, Reid, & Lattimore, 1979; Mouzakitis, Coddling, & Tryon, 2015). Additionally, as Cook et al. (2016) found, this strategy *can support treatment integrity*. Such checklists actually have been found to improve the performance quality of personnel from assembly workers (Sulzer-Azaroff & Harshbarger, 1995) to that of personnel working in intensive care units (Pronovost, Wu, & Sexton, 2004).

SUPPORT FOR THE CONTINGENCY MANAGER(S): PERFORMANCE FEEDBACK

As you now are aware, simply explaining how to implement the intervention or providing written instructions often is insufficient to promote high-quality program implementation. Further actions usually are required prior to, during, and following training to enable personnel to master the particular skills. Those may include modeling, role-playing, or directed rehearsal, along with supportive performance feedback and reinforcement during both preliminary training and initial program implementation (e.g., Adams, Tallon, & Rimell, 1980; Flanagan, Adams, & Forehand, 1979; Krumhus & Malott, 1980; Rose & Church, 1998; Sterling-Turner, Watson, Wildmon, Watkins, & Little, 2001; Ward, Johnson, & Konukman, 1998). As many have learned the hard way, however, such training often is insufficient to *sustain* program implementation (among others, Fleming & Sulzer-Azaroff, 1988; Fox & Sulzer-Azaroff, 1983; Gillat, & Sulzer-Azaroff, 1994; Montegar, Reid, Madsen, & Ewell, 1977; Gable, Park, & Scott, 2014; Mortenson & Witt, 1998; Mozingo, Smith, Riodan, Reiss, & Bailey, 2006; Noell, et al., 2000; Petscher & Bailey, 2006; Pollack, Fleming, & Sulzer-Azaroff, 1994; Sulzer-Azaroff, Pollack, Hamad, & Howley, 1998). For example, Petscher and Bailey observed that instructional assistants were not accurately implementing a token economy for which

they had received routine training from their school system. A brief follow-up in-service training by the investigators brought about no further improvement. Only after the assistants were provided with ongoing prompting, self-monitoring, and accuracy feedback did the implementation rate improve. Similarly, DiGennaro, Martens, and Kleinmann (2007) used a more complex in-service training design that involved the consultant meeting with teachers to review the function-based intervention plan, model the intervention steps, answer questions, and obtain an agreement to implement the plan. The consultant also continued to coach and provide immediate corrective feedback until the teachers implemented the plan with 100 percent fidelity on two consecutive occasions. Ongoing support and feedback however, were required to assure maintenance of the program. Indeed, in a meta-analysis on ABA and intervention within autism populations, Virues-Ortega (2010) concluded that the degree of treatment integrity (in this case the suggested “dose,” (i.e., hours of treatment) certainly was related to the size of the effect of that treatment.

Fortunately, once a new behavior is well established, feedback and reinforcement can be thinned gradually to weekly (Mortenson & Witt, 1998), bi-weekly (Coddling, Feinberg, Dunn, & Pace, 2005), or even less frequently as features of the natural environment begin to assume contingency control. Such a strategy helps to maintain the behavior (see Chapters 22 through 24 for maintaining behavior).

When faced with the challenge of changing well-established staff performance patterns, follow-up support and feedback from significant others such as supervisors, managers, or peers is *crucial* for maintaining high-quality program implementation. Therefore, as we will emphasize further in Chapter 24, if you cannot make contact with the contingency managers regularly (say, about twice a week) to provide them with ongoing reinforcement for implementing novel or complicated procedures, we advise you to postpone the intervention. Without ongoing support, the program is apt to fail as contingency managers revert back to reactive strategies like punishment (McIntosh, Brown, & Borgmeier, 2008), or at best plateau where you ended your direct involvement. For instance, when Howlin et al. (2007) discontinued consulting with school personnel previously trained

to use the Picture Exchange Communication System, (a method of communicating based on exchanging pictorial images rather than spoken words, Bondy & Frost, 1994) children's progress rates flattened out. Similarly, Dengerink and Mayer (2018) reported little to no change in parent rates of approval/disapproval following two, two-hour in-service workshops. When the workshops were followed by in-home coaching or collaborating, parents significantly increased their approving statements and decreased their disapproving comments or actions. Those changes, in turn, were shown to relate to significant increases in child compliance. Investigators (Lequia, Machalicek, & Lyons, 2013) provided parents of children with autism and/or ADHD with

four 45-minute weekly behavioral training sessions plus an average of six individual coaching sessions. This combination of parental training and coaching resulted in decreases in their children's challenging behavior and increases in their task engagement. As we shall see throughout this text, promoting long-term change depends upon high-quality follow-up support!⁴

Also you will encounter other examples of identifying and applying meaningful reinforcers to accomplish a myriad of goal accomplishments. The true boxed story in Box 3.1 illustrates why assessing and tapping the sources of reinforcement within

⁴Further examples of similar outcomes are distributed throughout this text.

Box 3.1 Assessing and Tapping Sources of Reinforcement Can Really Pay Off: An Example

We had been invited to Thailand to address a sports shoe manufacturer's concern with product quality. Reject rates were costing the company major losses.

As an initial step, we toured the factory to learn about the manufacturing operation. As we stood behind a worker watching her performing her task, she suddenly noticed that we were present. Her face tensed in apprehension.

"Why is she so frightened?" we asked.

"She thinks she will be punished," replied our guide.

That incident spoke volumes.

To address the quality problem, we investigated the entire process, starting with whether personnel were aware of the quality standards for their particular jobs. For instance, were seams straight or edges smooth? ("What is a good job?") Then we questioned if each employee was capable of performing the job to standard ("Can I do a good job?"). If not, their supervisors would provide them with further training by showing, telling, and guiding (i.e., shaping) their performance. On our next visit, samples of acceptable and unacceptable product parts were posted everywhere and supervisors now spent a much larger portion of their time observing and constructively coaching their personnel.

Meanwhile, during intensive training sessions, which included demonstrations, practice, feedback, and reinforcement, we taught the quality staff, supervisors, and managers how to give positive, spe-

cific, constructive feedback to inform workers about the quality of their performance. Workers now knew the answer to "Am I doing a good job?" Of course, to crown the entire process, we taught all the managers and supervisors about choosing and using effective reinforcers ("What happens when I do a good job?"). By our next visit, charts and graphs containing goal lines and performance accomplishments were displayed everywhere. On Friday afternoon, we watched as supervisors gathered their teams to celebrate progress and goal achievements with congratulations, and sometimes refreshments were served. It did not take long for product quality to conform increasingly to standards and for defects to diminish (see Figure 17.2, page 368). Needless to say, the owners were delighted. To celebrate, having learned their lesson well, senior management invited us and the entire quality and management staff to a never-to-be-forgotten river-barge party cruise at the end of our stay.

By our last visit through the plant, the mood appeared to have changed entirely, from one of worker apprehension to one of satisfaction. Now workers and managers greeted us everywhere, not with frowns or fearful faces, but with the smiles for which the Thai people are so famous! Fear was put to flight!

Sulzer-Azaroff, B. & Harshbarger, D. (1995) Putting fear to flight: While enhancing quality of performance. *Quality Progress*, 28(12), 61–65.

an organization can pay off handsomely in the long run. (Turn to Figure 17.2, page 368, if you are curious to see the impact that the program had on the production of shoes that met quality standards and on those that were defective.)

Note that while past evidence of program effectiveness is an important ingredient for future success, that is no guarantee *your* program will maintain. Achieving lasting change requires that each particular environmental setting be *examined for sources of confirmed support and availability of materials prior to selecting or designing the program*. When all involved stand to gain reinforcing consequences and avoid aversive ones by adhering to the behavior-change protocol, the program has

a better chance of succeeding. (In Chapter 24, we return to the topic of the necessity of organizational support if constructive change is to succeed.)

SUMMARY AND CONCLUSIONS

In this chapter we have focused on the necessity of the behavior analyst to become familiar with and to alter the environment as necessary. As B. F. Skinner (1971) advised, rather than placing the focus on changing the behavior of individuals, the emphasis should be on changing the world in which they live.

Successful interventions are contextually appropriate, composed of demonstrably effective change

Checklist 3.1: How Well Have You Prepared the Environment to Permit Behavior Analysis to be Applied Productively?

Did you familiarize yourself with the setting by finding out if those requesting your services and program participants:	
• are dedicated toward a constructive approach?	Y/N
• can practice skills that are in keeping with collective goals?	Y/N
• are supportive?	Y/N
• can provide adequate resources?	Y/N
• are or will be involved in setting objectives?	Y/N
Are objectives reasonable and achievable?	Y/N
Are the procedures under consideration evidence-based?	Y/N
Are the intended measures accurate (valid) and reliable?	Y/N
Have you identified the material and human resources essential to meeting the objective(s)?	Y/N
Have you assessed conditions currently supporting desired and undesired behaviors?	Y/N
Have you obtained the support of those who control the client's contingencies?	Y/N
Have you obtained the support of those who control the program implementers' contingencies?	Y/N
Are you prepared to analyze the function of the intervention?	Y/N
Have relevant problem-solving and support teams been organized and are they operating?	Y/N
Have you arranged for essential staff preparation?	Y/N
Have you arranged for ongoing reinforcement of correct practice while the program is in place?	Y/N
Can selected intervention programs be conducted faithfully?	Y/N
Have contextually appropriate goals and interventions been selected jointly?	Y/N
Do program participants have a clear understanding of the actions they are and are not to take and the reasons underlying those responsibilities?	Y/N
Are essential prompting strategies in place to support the intervention?	Y/N
Are contingencies in place to support the ongoing participation of personnel according to plan?	Y/N

programs, faithfully implemented as planned, and include ongoing feedback and follow-up support. In your own programs, you will want to select contextually appropriate interventions and prompt and reinforce their application. Training alone is *not* sufficient. If the initiated change is to persist, follow-up support is a *must*.

Affected individuals need to participate in problem-solving teams and otherwise join in the *planning process* if they are to be expected to continue supporting a program. Wisdom and data also suggest that it pays to involve team members in developing and selecting intervention methods, in assuring that those are faithfully implemented over time, and in applying practices helpful in promoting short- and long-term maintenance. When contingency managers are encouraged and their performance reinforced, overall morale improves, resulting in the use of less

punitive, more positive behavior intervention strategies. If both novel as well as established programs are to be sustained and skilled staff retained, supporting both their initial *and* their ongoing efforts is essential. This text emphasizes procedures and strategies designed to work successfully not only with clients or students, but also with those who manage contingencies of reinforcement.

A range of solid ongoing support-system options is available to those organizations or families fully committed to and supportive of the selected programs or routines. Only under such circumstances will it be feasible to sustain essential *long-term effort*, despite any key or systemic changes. In your own particular case you might refer to Checklist 3.1 to assess your organization's or family's readiness to embark on a promising ABA program of intervention.