**Handbook of Classroom Management
Research, Practice, and Contemporary Issues**
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Behavioral Approaches to Classroom Management

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Behavioral Approaches to Classroom Management

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INTRODUCTION

A behavioral view of the management of behavior in classrooms has been and continues to be a dominant and influential paradigm in both educational research and the preparation of teachers. To say that the behavioral view dominates current classroom practice, however, would be inaccurate. As we discuss later in this chapter, despite a rich history and extensive empirical underpinnings, the behavioral perspective on teaching and management is not highly regarded in the education community (see Axelrod, 1996). Moreover, behavioral strategies seem to be implemented haphazardly, inconsistently, or incorrectly as often as they are implemented as they were designed (Kauffman, 1996; Kauffman, Mostert, Trent, & Pullen, 2006; Pullen, 2004; Walker, 1995; Walker, Ramsey, & Gresham, 2004). Despite this failure to translate into practice what has become a considerable body of behavioral research, the behavioral view remains a frequent theme in the literature on classroom management, presented by proponents as a set of foundational principles to guide appropriate and nurturing classroom practice, and by critics as a set of unfeeling clinical procedures more suited to animals rather than humans, and thus to be avoided at all costs when teaching children. University students in teacher preparation course work are likely to hear something about a behavioral approach to classroom management. What is unclear, and probably variable from one university, program, or professor to the next, is whether they will hear a positive or negative portrayal of this approach to management.

Given the prevalence of behavioral topics in the professional literature and courses at all levels in colleges of education, it is imperative that students, practitioners, and researchers in education and psychology take a logical, if not scientific approach to understanding the behavioral view of classroom management. At a minimum, it would seem important to understand as fully as possible (a) what behavioral operations are and how they have been researched; (b) concerns and criticisms that have been levied against the behavioral view of classroom management in particular, and the extent to which such concerns are valid; and (c) contemporary issues regarding behavioral research and practice, including issues surrounding the growing problem of translating educational research into classroom practice.

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TABLE 3.1
Overview of Five Basic Behavioral Operations

Operation	Stimulus Action	Effect on Behavior
Positive reinforcement	Positive stimulus added contingent on desired behavior	Behavior increases
Negative reinforcement	Negative stimulus removed contingent on desired behavior	Behavior increases
Extinction	Reinforcing stimulus following behavior is discontinued	Behavior decreases
Response cost punishment	Portion of positive stimulus removed contingent on undesirable behavior	Behavior decreases
Punishment with aversives	Negative stimulus added contingent on undesirable behavior	Behavior decreases

FIVE BASIC BEHAVIORAL OPERATIONS

Virtually all classroom management applications of behavioral theory involve one or a combination of the following five basic operations: positive reinforcement, negative reinforcement, extinction, response cost punishment, or punishment involving presentation of aversives. In subsequent sections, we provide a brief description of each operation, offer an overview of the empirical foundations of its application to classroom management, and discuss its particular strengths and limitations. The basic principle behind each operation is presented in Table 3.1.

Positive Reinforcement

The term *positive reinforcement* refers to the effect that is observed when a behavior is strengthened (i.e., is made more likely to recur) by a contingently applied stimulus that follows that behavior (Kazdin, 1978). The contingent stimulus may be virtually any object or event, including a tangible object (e.g., a sticker, a food item), a desired activity (the opportunity to play a game or engage is some other preferred activity), or a social gesture (positive acknowledgement or words of praise). A common misconception is that any stimulus used in a reinforcement program is by definition a "reinforcer." In fact, reinforcement is an effect, and thus one can accurately refer to a particular item, activity, or social behavior as a "positive reinforcer" only when its contingent application is shown to systematically increase the occurrence of a targeted behavior.

The effective use of positive reinforcement in classroom management has been well established across a variety of student age and ability levels, a number of academic and social skill areas, and in a variety of settings. Among the more prominent and effective applications of reinforcement in classrooms is the use of contingent teacher attention, or praise, to increase students' positive academic and social behavior. The premise of this technique is straightforward: teachers attend positively to students when they are engaged in desired, appropriate task-related activity or social behavior. In practice, success is dependent on fairly precise application. Most important is that positive attention is provided contingently; that is, when and only when the desired behavior has occurred.

Examples of the effective application of teacher attention abound. Indeed, by the early 1980s, Strain, Lambert, Kerr, Stagg, and Lenkner (1983) noted that "literally hundreds of classroom based studies have shown that teachers' delivery of social reinforcement can result in improved academic performance ... rule-following and good school deportment ... cognitive and linguistic performance ... and increased social responsiveness" (p. 243). The body of evidence

supporting the effectiveness of teacher attention led Alber and Heward (1997) to assert "the systematic application of praise and attention may be the most powerful motivational and classroom management tool available to teachers" (p. 277). Positive effects have been observed for elementary students' study behavior (Hall, Lund, & Jackson, 1968), for kindergarten students' following directions (Schutte & Hopkins, 1970) and cooperative play (Grieger, Kauffman, & Grieger, 1976), and secondary students' attending behavior (McAllister, Stachowiak, Baer, & Conderman, 1969). Effects are also evident for students' academic responding. Hasazi and Hasazi (1972) found that students who had trouble with digit reversal when solving math problems reduced the number of reversals in their work when teachers systematically focused positive attention on correctly written responses. Chadwick and Day (1971) found that when teachers added social reinforcers to a point system involving tangible reinforcers, increases in the percentage of time students worked, and the rate and accuracy of their work as well, were observed.

Despite the empirical base, studies have consistently shown that teachers do not reinforce positive behavior nearly as often as they should (Shores et al., 1993; Wehby, Symons, Canale, & Go, 1998). They tend to display higher rates of disapproval than approval to students (Thomas, Presland, Grant, & Glynn, 1978; Walker, Hops, & Fiegenbaum, 1976; White, 1975), and, in fact, may inadvertently reinforce students' negative behavior with their attention (Strain et al., 1983) and engage misbehaving students in arguing, setting the stage for the escalation of misbehavior (Colvin, 2004). Brophy's (1981) observation that "most of the teacher praise that apparently is intended as reinforcement probably does not function very effectively as such, because it is not systematically contingent on desirable behavior" (p. 15) would seem to hold true. As we suggest in a later section of this chapter, however, the problem is not that praise or contingent teacher attention lacks empirical support, or that they are not effective tools for managing behavior, but rather that the conditions under which teachers are both adequately trained and supported in the development and use of these skills are lacking.

Negative Reinforcement

Negative reinforcement is perhaps the most misunderstood of all behavioral operations, probably due to the incorrect connotations associated with the word *negative*. In fact, the term *negative reinforcement* refers to the same effect observed with positive reinforcement: a behavior is strengthened, or made more likely to occur (Alberto & Troutman, 2003; Kauffman, 2005a). Unlike positive reinforcement, however, in which a stimulus is applied contingently following a behavior, negative reinforcement refers to the contingent removal of a stimulus. Naturally, the stimulus that is removed must be one that students find unpleasant, thus making its avoidance the desired outcome. For example, a teacher might tell students that if they complete their classwork on time or to an acceptable level of accuracy, then they will not be given their usual homework assignment. If the contingent removal of this potential aversive (homework) has the effect of increasing students' productivity and accuracy in their classwork, then negative reinforcement has occurred. This example should not imply that all homework is inherently aversive, that all students find homework aversive, or that homework should be used with any regularity as a consequence in a management program. Nonetheless, in practice we have observed that many students would prefer not to do homework, and thus it may serve the function of an aversive in a potential application of negative reinforcement for these students.

While negative reinforcement is a powerful behavioral operation, its importance to teachers probably lies as much in unplanned and even inadvertent occurrences as in planful implementations. Rusch, Rose, and Greenwood (1988) offer an excellent overview of the complexities and potential dangers in trying to program negative reinforcement into a management plan, including most obviously the need to have aversive events available in the environment in

the first place. Noting that naturally occurring negative reinforcement is plentiful in daily life (e.g., in breaks from work or vacations), they instead suggest that "one should be aware of the presence of and potential for negatively reinforcing events, but one should avoid purposefully programming these events" (p. 222).

In the terminology of functional analysis, negative reinforcement may be at work in classrooms when students engage in disruptive or negative behavior to escape from unpleasant tasks (see Maag & Kemp, 2003). Suppose a student does not like solving long division math problems. When presented with such an assignment, he or she may engage in significantly disruptive behavior: complaining, whining, and otherwise distracting others. If the teacher unwittingly removes the aversive stimulus (the math assignment) by sending the student to the hallway or the principal's office, even temporarily, negative reinforcement of the student's disruptive behavior may well occur. If the student's use of disruptiveness is successful in avoiding what he or she finds unpleasant (e.g., math), one can predict that disruptiveness will become more likely to occur in the future. Note that this situation also raises for teachers the concern as to why students find a particular class or assignment unpleasant, and modifications to curriculum, methods, materials, or motivational strategies should also be considered.

Ironically, in this scenario a cycle that Patterson (1980) called the "negative reinforcement trap" may also have been established. That is, both student and teacher have been negatively reinforced by the removal of something they find objectionable. It then becomes predictable that disruptiveness will occur again when students find an assignment particularly dull or extremely challenging, and, moreover, that the teacher will again remove the troublemaking student when disruptive behavior interferes with a lesson. Nevertheless, wise teachers may use brief periods of respite from work (effortful tasks) contingent upon a student's successful completion of such work. We call these "breaks" or "vacations" in the worlds of employment and adult self-control.

Extinction

If a behavior has come to be maintained by reinforcement, whether positive or negative, it can be predicted that the cessation of that reinforcement will result in a decline in the occurrence of the behavior. The term *extinction* refers to the phenomenon of a behavior decreasing in rate or likelihood of occurrence when the reinforcement that has been maintaining it is removed (Kazdin, 1978). Often referred to as *planned ignoring* in behavior management texts with a psychoeducational orientation, extinction can be a powerful management tool for teachers. Obviously, extinction is most useful in the classroom context in decreasing negative behaviors that have somehow come to be maintained by a reinforcer. Classic examples of this are mildly annoying behaviors such as talking out or making irrelevant comments during instruction. It is quite likely, for example, that the student offering off-task comments (e.g., "When do we eat lunch?" "Is there a dance on Friday?") will be reinforced if a teacher provides attention in any form. Even a presumably neutral response ("Don't worry about lunch; we're discussing history right now." "I'm going to ignore that.") may be sufficiently reinforcing to maintain this type of off-task comment. Such comments would be prime candidates for the application of extinction, or planned ignoring (i.e., deliberate nonresponse).

In practice, extinction is almost always applied as part of a larger program of reinforcement. Referred to as *differential reinforcement* (Alberto & Troutman, 2003; Wolery, Bailey, & Sugai, 1988), this process involves providing a reinforcer contingent upon a desired response, and withholding the reinforcer when the response is not occurring. In the preceding example, the teacher would be sure to respond positively to students making appropriate, task-related comments during instruction, while ignoring off-task comments. It would be especially important to apply differential reinforcement with individual students, immediately acknowledging

the student prone to irrelevant commentary the instant he or she contributed positively to the lesson.

While extinction provides teachers with a simple and effective management tool, some obvious caveats must be taken into account. For example, it is generally untenable to ignore behaviors that are potentially dangerous to a child or others. A more common problem with extinction in classroom settings is behavior that is reinforced by peer attention. If a disruptive student gets the attention of his classmates with his antics and troublemaking, it is quite likely that peer attention is maintaining the behavior. In this case a teacher's decision to ignore such misbehavior is unlikely to have much effect on its future occurrence. A behavior will only be extinguished by a teacher's ignoring when the behavior had been maintained by the teacher's attention in the first place. What is needed instead are alternative procedures to prevent the behavior from occurring in the first place (e.g., more engaging and active instruction, reinforcement for positive participation in lessons), coupled perhaps with efforts to encourage other students not to laugh at or attend to the disruptive student's misdeeds. Wolery et al. (1988) outlined additional difficulties associated with using extinction. The *extinction burst* may be the most challenging for teachers to deal with; put simply, behaviors that are maintained by reinforcement invariably increase for a short period of time immediately after the reinforcement is terminated. A teacher using extinction must be prepared for this temporary and entirely predictable increase in responding, and must be resolved to maintain extinction during this increase.

While positive procedures and ignoring minor misbehavior are rightly touted as the first and preferred approach to classroom management in most courses and texts on the subject, an effective and comprehensive classroom management plan probably must include some level of punishment to deal with misbehavior that cannot be simply ignored. In addition to the reinforcement mechanisms outlined earlier that promote increases in behavior, teachers have at their disposal behavioral procedures that can be used to reduce the occurrence of negative behavior by addressing it directly. These include response cost punishment and punishment through the use of aversives. While both have the effect of reducing behavior, response cost punishment involves a simple removal of some measure of reinforcement already earned. In contrast, punishment through the use of aversives requires that teachers apply an aversive following misbehavior. It should be obvious that response cost is the preferred means of punishment; whereas aversives may have their place in limited use in classroom management, the potential for misuse and negative side effects is so great that they should be viewed with great caution and implemented with parsimony (Kauffman, 2005a; Kauffman et al., 2006).

Response Cost Punishment

Like reinforcement, the term *punishment* refers to an effect; namely the reduction in likelihood of occurrence of a behavior due to some contingency. In *response cost punishment*, a previously earned reinforcer is removed contingent upon the occurrence of a targeted undesirable behavior (Walker, Shea, & Bauer, 2004). A key element of this behavioral operation is that some reinforcement must be present for response cost to occur. For example, if students have earned 15 minutes of recess, 5 minutes of that time could be taken away for those who do not complete their assignment before the class period ends. Obviously, this procedure is appropriate only for students who do not finish their assignments due to a lack of effort, or for their choices to play or disrupt others instead of working, as compared to students who do not finish an assignment due to skill deficits. A number of authors (Alberto & Troutman, 2003; Walker, Shea, & Bauer, 2004) liken response cost to a system of fines, and indeed response cost programming fits particularly well into a token reinforcement program in which students accumulate points or tokens for various positive social and academic behaviors. A simple addition to this type of

positive program allows teachers to also take away points when students engage in negative behavior. One presumed benefit of response cost is that it allows teachers to address problem behavior directly and immediately, rather than merely ignoring it as one might do in a program of differential reinforcement. A further benefit is that while the negative behavior is addressed directly, it is not by the application of an aversive, but by merely removing some of the positives already earned.

While response cost can be very effective when used judiciously, a few cautions are important to the teacher thinking of using response cost. First is the general guideline that the "punishment must fit the crime." If a student has worked hard all day to earn some reinforcer (e.g., computer time), a response cost program should not allow him or her to lose this entire privilege for a single minor instance of misbehavior. The logical alternative is that instead of losing 30 minutes on the computer, the student loses 10 of those minutes for misbehaving, and thus still enjoys 20 minutes of computer time, based on the cumulative good work and behavior he or she has produced throughout the day. Similarly, the teacher must be certain that there are ample opportunities for students to earn sufficient amounts of reinforcement that will outweigh the potential loss of reinforcers that inappropriate behavior might cost them. If a teacher knows that a student is prone to high rates of disruptiveness, a response cost program may not be appropriate, unless it is offset by enough reinforcement opportunities for the student to accumulate enough that he or she can "afford" to lose some and still enjoy some measure of positive outcome. A negative balance of reinforcement not only defeats the purpose of the reinforcement program, but probably results in a frustrated student who, with nothing left to lose, may see no reason to curtail negative behavior nor to display positive behavior (Walker, 1995).

Punishment Involving Presentation of Aversives

It is unfortunate that the general term *punishment* has come to connote a single type of punishment: the application of aversives. In fact, aversives are generally regarded as a last resort in dealing with severe behavior problems that (a) fail to respond adequately to positive procedures, including response cost punishment, and (b) are potentially dangerous or debilitating to the independence and dignity of the individual. Indeed, many professional organizations (e.g., the Association for Persons with Severe Handicaps (TASH), Council for Exceptional Children (CEC), National Association of School Psychologists (NASP)) have issued statements calling for severe restrictions or outright cessation of the use of aversives. The concept underlying the use of aversives is simply that the contingent application of a stimulus that a student finds aversive will result in a decrease in the occurrence of the behavior it follows. Aversives range from harsh stimuli that cause obvious physical pain or discomfort, such as hitting or spanking, to milder aversives, such as scolding or reprimanding, that are likely to cause emotional discomfort. Physical punishments are increasingly discouraged in schools and have been abolished in many states. Among the reasons for this is growing professional consensus that such punishments, although they may result in at least temporary suppression of behavior, have not demonstrated long-term positive effects in reducing the behavior they were designed to punish, do not include any component of teaching students what they should be doing instead, and may lead to increases in negative behavior. Walker et al. (2004) note that punishers provide a poor model for students already known to misbehave, and Alberto and Troutman (2003) argue that aggressive punishment may well evoke retaliation from students; they further suggest that what students learn most from punishment with aversives is "not to perform the behavior when the person who applied the punishment is present" (p. 383).

In contrast, the use of milder aversives, including such things as "soft reprimands" (O'Leary, Kaufman, Kass, & Drabman, 1970; O'Leary & O'Leary, 1977), is not only effective but much more appropriate and accepted in schools. A reprimand involves simply telling a student that

a particular behavior is unacceptable, with a very brief statement of why it is unacceptable and what should happen instead. Walker et al. (2004) add that reprimands should be delivered calmly and privately, with lengthy or public discussions avoided. Even though reprimands have been shown to reduce negative behavior, they should be used only in combination with positive procedures designed to strengthen students' appropriate behavior.

In summary, a rich history of behavioral research in the second half of the 20th century explicated a number of behavioral operations that are useful to teachers in managing classroom behavior. The use of positive reinforcement in particular has provided the foundation of much of what is known about effective instruction and classroom management. In addition to its focus on positive reinforcement, the operant view that behavior is controlled by its consequences also leads to the understanding of behavioral operations based on extinction and punishment. Taken together, these operations provide a broad empirical foundation from which teachers can draw in developing, implementing, and evaluating classroom management routines. The systematic study of these operations applied to problems of teaching evolved during this same time period, and the development and growth of the field known as applied behavior analysis not only has provided a rich empirical literature base but also has offered teachers a number of mechanisms for implementing and evaluating their own interventions.

APPLIED BEHAVIOR ANALYSIS

The behavioral procedures outlined in the preceding sections were well established in laboratory and clinical settings in the first half of the 20th century (e.g., Kazdin, 1978). B. F. Skinner was the most prominent practitioner of operant conditioning during this time, but much of Skinner's early work, like that of other behaviorists of the time, was conducted with animals other than humans, including primarily white rats and pigeons. The systematic application of behavioral procedures to socially relevant problems of children in clinical settings and ultimately classrooms began in earnest in the latter half of the century, with the 1960s in particular being characterized by the rapid growth and popularity of the field known as applied behavior analysis (Baer, Wolf, & Risley, 1968; Kazdin, 1978). *Applied behavior analysis* refers to systematic efforts to change socially important behaviors in positive ways through the application of behavioral principles, with strict reliance on the frequent, repeated assessment of observable and measurable behavior and the goal of establishing a functional relationship between independent and dependent variables. The founding of the *Journal of Applied Behavior Analysis* in 1968 served as an important marker for this period of growth.

The development, application, and expanded use of research strategies associated with applied behavior analysis served as a catalyst for the systematic study of behavioral procedures in classrooms. Referred to as single-subject or single-case experimental designs, these approaches allow researchers to examine the impact of interventions on individual students. The basic features of single-case designs include continuous assessment, the establishment of baseline levels of performance, and the manipulation of a single variable during one or more intervention phases (see Hersen & Barlow, 1976; Kazdin, 1982). Continuous assessment demands repeated observations of the dependent measure, typically accomplished by daily observations. The establishment of stable baseline levels of performance is crucial to any further effort to determine whether the manipulation of the independent variable has a functional effect on the dependent variable. Stability in this case implies that the rate at which the targeted behavior occurs is essentially flat or shows a clear trend of deterioration during the baseline phase. If researchers are confident that repeated observations of behavior during a baseline phase show a stable or worsening trend in behavior, the introduction of the intervention in question can then be evaluated in the context of a number of different single-case designs. We

describe and provide examples from the empirical literature of the four single-case experimental research designs most commonly used in behavioral research: reversal designs, multiple baseline designs, changing criterion designs, and multielement or alternating treatment designs.

ABAB or Reversal Designs

The ABAB or reversal design is perhaps the simplest single-case experimental design. Participants' behavior is measured during a baseline (A) phase, an intervention (B) phase, at least one return to baseline (A_2), meaning withdrawal of the intervention, and at least one reinstatement of the intervention (B_2). While improvement in behavior during the intervention phase provides some evidence of a treatment effect, the strength of this inference is increased dramatically if a second demonstration occurs during the reversal phase. One can infer a functional relationship between independent and dependent variables to the extent that a participant's behavior improves when the intervention is implemented (the B phase), returns to approximate baseline levels when the intervention is withdrawn (A_2), and improves again during a second intervention phase (B_2). In nearly all experimental situations, a reintroduction of the intervention (B_2) is called for, not only because it allows a stronger demonstration of the functionality of the intervention, but because it is consistent with the goals of applied behavior analysis, which include fostering positive behavior change.

Powell and Nelson (1997) provided an example of a reversal design in which an intervention consisting of assignment choice was evaluated using a reversal (ABAB) design with a second grade student who was diagnosed with attention deficit hyperactivity disorder (ADHD). During baseline, the student participated with his classmates by completing the same assignment given to the entire class, but was found to display high rates of undesirable behavior, defined as noncompliance, being away from his desk, disturbing others, or simply not doing his work. The intervention, assignment choice, consisted of the teacher offering the student a choice from among three appropriate assignments taken directly from the class curriculum during language arts periods. As can be seen in Fig. 3.1, levels of undesirable behavior decreased when the choice intervention was implemented, returned to baseline levels when the intervention was withdrawn during the return to baseline, and improved again when the intervention was reintroduced during a second B phase. These data present a compelling case that there is a functional relationship between the intervention (assignment choice) and this particular student's level of disruptive behavior.

Multiple Baseline Designs

Multiple baseline designs allow repeated demonstrations of a functional relationship between independent and dependent variables without necessarily invoking a reversal or withdrawal of the intervention. This is especially useful when a return to baseline is either impossible (in the case where learning has occurred) or unethical (in the case where a destructive or dangerous behavior has been reduced with an intervention). In a multiple baseline design, the researcher establishes two or more baselines before implementing an intervention phase. These baselines may be for different participants (multiple baseline across subjects design), for different behaviors displayed by the same subject (multiple baseline across behaviors design), or for the display of a behavior in different settings (multiple baseline across settings design). The intervention is then implemented in a staggered fashion across these multiple baselines. That is, the intervention will be implemented at different points in time for each participant, behavior, or setting. To the degree that an observed dependent variable targeted for change improves when and only when the intervention is introduced to that subject (or behavior or setting), the case for a functional relationship is enhanced.
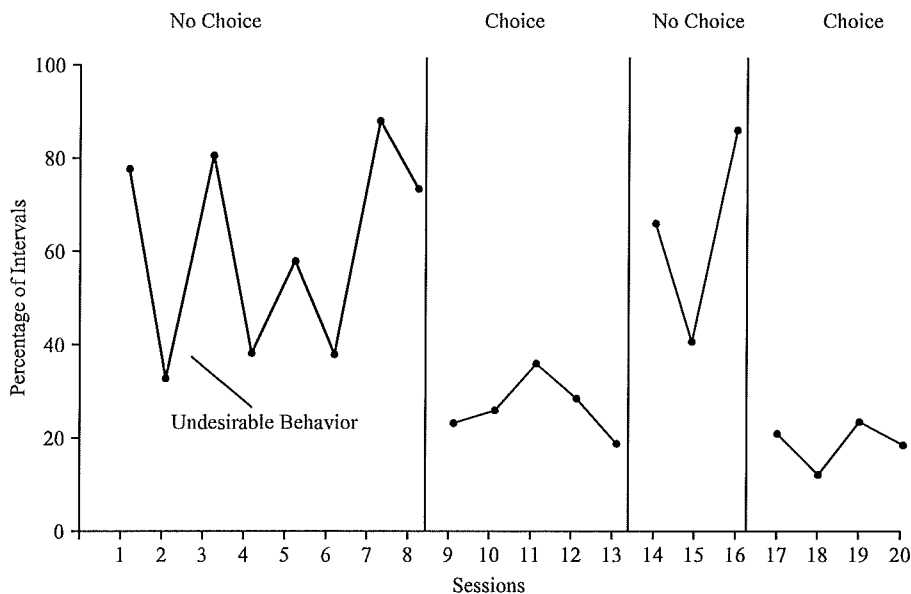
FIGURE 3.1.   Example of an ABAB or reversal design. From Powell, S., & Nelson, B. (1997). Effects of choosing academic assignments on a student with attention deficit-hyperactivity disorder. *Journal of Applied Behavior Analysis, 30*, 181–183. Reprinted with permission.

Hartley, Bray, and Kehle (1998) used a multiple baseline across subjects design to evaluate the effects of viewing self-modeling videotapes on three second-grade students' classroom participation, as assessed by the frequency of their hand-raising in response to teacher questions. The intervention consisted of showing students a prepared videotape of their voluntary hand-raising in response to questions asked by the teacher during large-group instruction. In preparing the videotapes, students had been prompted to raise their hands, but the prompts were edited out of the videotapes used during intervention, so that the students appeared to be raising their hands spontaneously when teachers asked general questions of the group. As shown in Fig. 3.2, Hartley et al. implemented their intervention after a baseline phase consisting of 8 observation sessions for Student 1, 12 observation sessions for Student 2, and 18 sessions for Student 3. The implementation of intervention at three different points in time helps to rule out alternative explanations for behavior change (such as changes in teacher behavior, routine, or curriculum), and in this case offers three replications of treatment effect for this intervention.

A second common application of the multiple baseline design involves a single participant, but multiple settings. Fabiano and Pelham (2003) used a multiple baseline across settings design to evaluate the effects of three simple changes to an existing behavior management plan for a third-grade student diagnosed with ADHD who was reported by his regular classroom teacher to display high rates of disruptive, noncompliant classroom behavior. The intervention for this student consisted of modifying the ongoing behavior management plan by (a) allowing the child to earn daily rewards, instead of the weekly rewards offered in the existing plan; (b) providing immediate verbal feedback to the student when his behavior violated classroom rules— in the existing plan, feedback was provided to the student only at the end of each class period; and (c) operationalizing the student's criteria for meeting his behavior goals for a class period—in the existing plan, the student and teacher would simply come to a consensus on whether he had met his behavioral goal for a class period, whereas in the modified intervention phase, meeting a behavioral goal was defined as receiving fewer than three reminders for a given target behavior
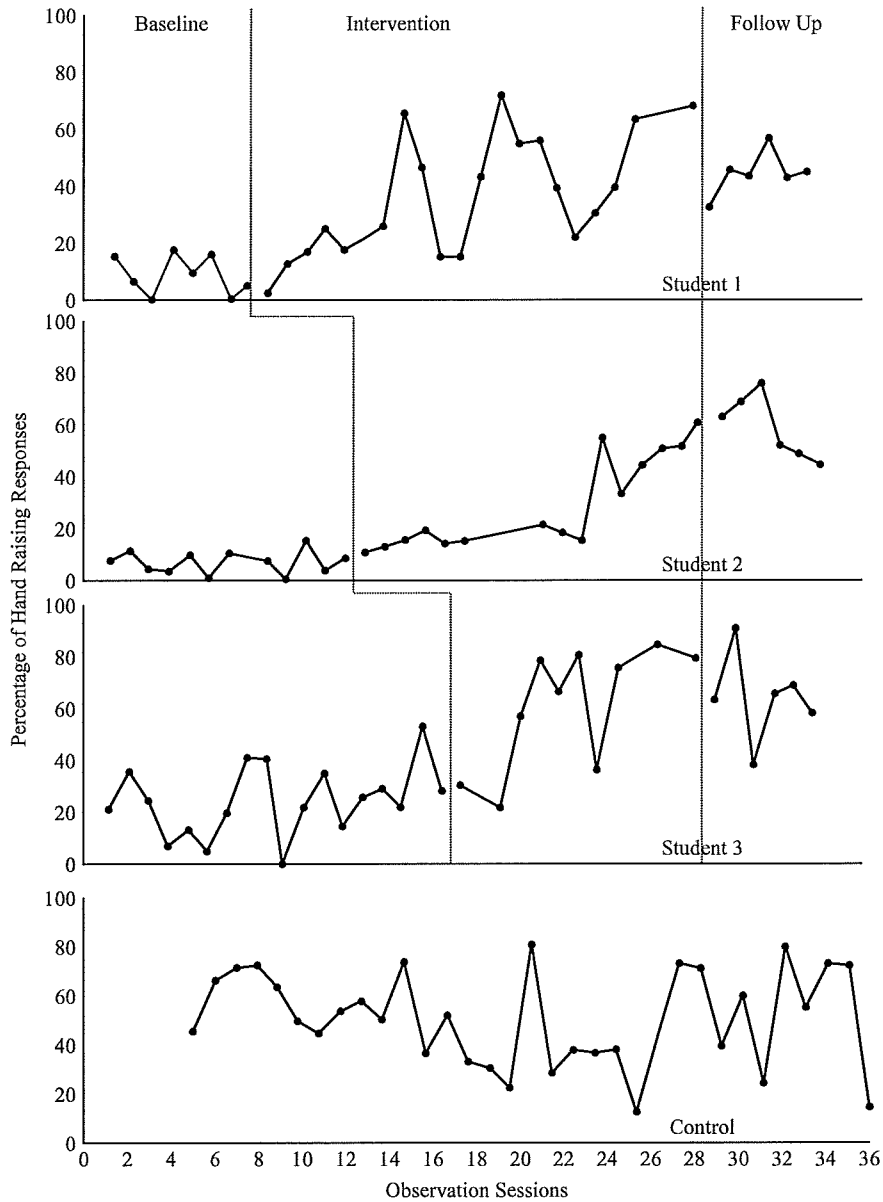
FIGURE 3.2.   Example of multiple baseline across subjects design. From Hartley, E. T., Bray, M. A., & Kehle, T. J. (1998). Self-modeling as an intervention to increase student classroom participation. *Psychology in the Schools*, *35*(4), 363–372. Copyright © John Wiley & Sons, Inc. Reprinted with permission of John Wiley & Sons, Inc.

during a class period. The effects of these modifications on the student's disruptive behavior were evaluated using a multiple baseline across settings design in which the intervention was introduced first in the student's afternoon class, typically consisting of a short period of large-group instruction followed by small-group work. After treatment effects were evident in this setting, the intervention was introduced in the student's morning classes, consisting of individual and small-group math and reading lessons. The intervention was shown to affect

the student's percentage of on-task behavior by decreasing the percent of intervals in which disruptive behavior occurred, from 30% during baseline to about 10% during the afternoon class, and from 21% to 7.5% of intervals during the morning class. Again, the establishment of a functional relationship between these modifications and the student's disruptive behavior lies in that behavior change was observed when and only when the intervention was introduced in a particular setting.

A less common application of the multiple baseline design involves applying a particular intervention across multiple behaviors of a single student. Magee and Ellis (2000), for example, evaluated the effects of an extinction intervention across four problem behaviors in an elementary school student: out of seat, yelling, inappropriate language/gestures, and destroying objects. While Magee and Ellis suggested that the extinction intervention itself may have contributed to higher rates of the subsequent behaviors (i.e., as extinction was applied to and subsequently reduced out-of-seat behavior, increases in yelling were observed), the extinction intervention was nonetheless successful in sequentially reducing all four of the problem behaviors to rates approximating zero.

Changing Criterion Designs

Although the scope of behaviors to which it can be applied is somewhat limited (Rusch et al., 1988), the changing criterion design may be particularly useful in a teaching context in classroom situations. The essential feature of the changing criterion design is that the intervention phase is divided into a number of subphases that have increasingly rigorous criteria for the dependent measure. Treatment is implemented with the goal of moving baseline levels of performance to an initial criterion level; once criterion is reached for a predetermined number of days or sessions, the subsequent phase begins with a more stringent criterion. Such designs may be particularly suited to negative behaviors that occur at a high rate and need to be gradually reduced (Rusch et al.), or conversely to behaviors that do not occur at all and need to be taught.

Deitz and Repp (1973) used a changing criterion design to successfully decrease inappropriate talking in a high school classroom. As shown in Fig. 3.3, after a baseline level of off-topic talking during class was established, a reinforcer consisting of a free period on Friday was implemented if students could keep their level of inappropriate talking below a set criterion—initially five or fewer instances of talking each day. Within this design, the criterion was lowered each week, requiring that students meet a more stringent standard to earn the reinforcer. As can be seen in the figure, the reinforcement program, known as differential reinforcement of low rates (DRL) (Kazdin, 1978), resulted in a systematic decrease in the targeted behavior across these phases, as well as an increase in the negative talking when the program was withdrawn with a return to baseline.

Multielement or Alternating Treatments Designs

The multielement or alternating treatments design is used when researchers wish to evaluate the relative effects of two interventions in a single experimental phase, something that is not possible in other single-case designs. In the alternating treatments design, the baseline phase is followed by an intervention phase in which the two interventions are applied at different times (e.g., morning and afternoon academic periods) or under otherwise different conditions (e.g., in the cafeteria and on the playground). To enhance the analysis of a functional relationship, the treatments are also balanced across the intervention phase so that neither occurs consistently first, nor always under the same conditions. McQuillan, DuPaul, Shapiro, and Cole (1996) used an alternating treatments design to examine the relative effects of two forms of a
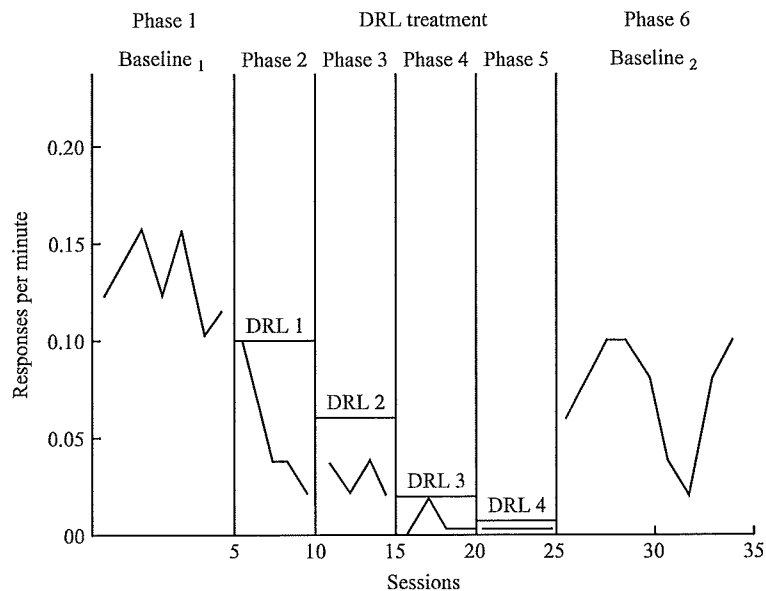
FIGURE 3.3. Example of a changing criterion design. From Deitz, S. M., & Repp, A. C. (1973). Decreasing classroom misbehavior through the use of DRL schedules of reinforcement. *Journal of Applied Behavior Analysis*, *6*, 457–463. Reprinted with permission.

self-management intervention and a teacher-evaluation intervention on the mathematics performance and time on task of three adolescent students with behavior disorders (see Fig. 3.4). After seven days of baseline, during which the teacher-evaluation management system already in use in the school remained in effect, an alternating treatments phase was implemented in which the teacher-evaluation system and the two forms of self-management were counterbalanced across daily sessions. Following three weeks of this phase, the optimal condition (self-evaluation) was implemented in a subsequent phase. As can be seen in the figure, baseline rates of accuracy were quite variable, with a mean of about 78%. When the optimal condition was implemented following the alternating treatments phase, the mean percentage of accuracy was 86%, and the variability in data was reduced dramatically.

CONCERNS ABOUT A BEHAVIORAL APPROACH TO CLASSROOM MANAGEMENT

We have touched briefly on the extensive literature base underlying a behavioral approach to classroom management and have also noted that a research-to-practice gap plagues classroom management just as it does all of education. Some writers have suggested that as a field we really do not know all that we purport to know about how to teach and manage behavior (e.g., Gallagher, 1998; 2004), and that perhaps the empirical foundation we have described here does not really provide much guidance. We disagree, and instead encourage professionals concerned with children's behavioral difficulties to examine the literature base and its shortcomings logically and carefully, and most importantly to implement best practices with an eye toward basing practice on credible and replicable research findings (see also Kauffman, 2005b; Kauffman, Brigham, & Mock, 2004). Three issues seem to be at the heart of concerns about
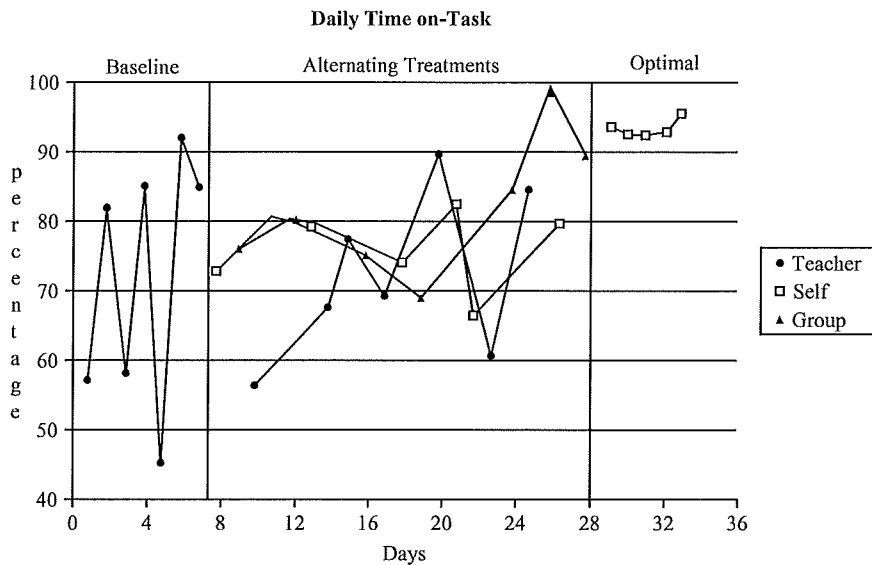
Daily Time on-Task

FIGURE 3.4.   Example of an alternating treatments or multielement design. From "Classroom performance of students with serious emotional disturbance: A comparative study of evaluation methods for behavior management" by K. McQuillan, G. J. DuPaul, E. S. Shapiro, and C. L. Cole (1996). *Journal of Emotional and Behavioral Disorders, 4,* 162–170. Copyright 1996 by PRO-ED, Inc. Reprinted with permission.

the behavioral view of classroom management: (a) generalization, (b) concerns about coercion and bribery, and (c) ethical concerns about the potential for misuse of behavioral operations.

Generalization

The failure of researchers to produce treatment effects that routinely generalize to other settings, times, and responses has been a sharp and essentially legitimate criticism of behavioral programming since its early application to classroom settings. Even when teachers experience great success in fostering positive change in important academic and social behavior in one context or setting, there is no guarantee that effects will generalize across time (maintenance), or to other settings or responses. In what is probably the classic treatment of the problems associated with generalization, Stokes and Baer (1977) reviewed scores of studies and described nine generalization promotion strategies that researchers reported using. These included such strategies as *program common stimuli,* in which elements of the new environment (tasks, materials, trainers, directions, etc.) are specifically programmed to match those that the student experienced in the original training context, and *train sufficient exemplars,* a strategy that relies on exposing the students to many and varied examples of tasks or materials. Unfortunately, *train and hope,* essentially a failure to program for generalization, was noted as a common strategy in the literature reviewed. In essence, the criticism that behavioral operations do not produce generalizable effects was shown to be true by default; if educators do not actively program for generalization in their interventions, as often appears to be the case, then generalization will be lacking. But as a number of authors have since summarized, active programming for generalization using among other strategies those noted by Stokes and Baer can result in generalized responding (e.g., Alberto & Troutman, 2003; Rusch et al., 1988; Wolery et al., 1988). Ducharme and Holborn (1997), for example, used prompting, modeling,

and verbal praise with preschoolers with hearing impairments to teach social interaction skills such as sharing, cooperating, or assisting other children. While the skills were learned and displayed successfully by the children in their preschool training setting, these newly learned skills did not generalize to other teachers, children, or play settings. Ducharme and Holborn used two generalization promotion strategies to engender such transfer. First, they trained *sufficient exemplars* by using multiple and different play activities (games), different teachers, and several different peers during their training of the targeted social skills. Second, they introduced children to *natural contingencies*, by systematically fading the teacher praise used initially to teach the new behaviors. These strategies resulted in generalized responding in a different setting with new peers, teachers, and play activities even with no additional prompting or reinforcement, such as that used in the initial training.

The larger remaining challenge for behavioral researchers lies in making sure that behavioral interventions routinely include explicit programming for generalization. Rusch et al. (1988) note further that programming for generalization is difficult and time-consuming, requiring extensive planning and even decisions about what and how much to teach, given that significant instructional resources must be devoted to training for generalization. As should be obvious, though, failure to generalize calls into question the true worth of any contextually limited behavior change.

Control, Coercion, and Bribery

Among the more frequent criticisms of the behavioral view of classroom management are concerns that teachers become too controlling, and merely coerce or bribe students to behave in ways that the teacher chooses. While terms like "coercion" and "bribe" certainly carry intended negative connotations, the use of behavioral procedures, such as positive reinforcement, are quite distinct from bribes or even coercion in that professional use of these procedures does not induce students to engage in behaviors that are illegal or immoral (e.g., we do not consider tax incentives to build low-income housing to be "bribes" or "coercive"). Moreover, the competent behavior analyst understands the need to develop and evaluate individual student's behavior goals and plans in concert with other professionals, family members, and the students themselves. That said, even behavioral procedures as innocuous as contingent teacher attention are subject to misuse, but this is not different from the teacher who does not use proper and scientifically sound literacy research to guide instruction for emergent readers. The problem lies not in the procedures themselves, but in inadequately trained, mentored, and supported teachers.

Ethics and the Potential for Misuse

The procedures we have outlined here provide teachers with powerful tools that can have a profound impact on the behavior of others. It should go without saying that we assume that ethical and professional educators understand appropriate applications of behavioral procedures, and can apply them earnestly in ways that enhance the academic, social, and emotional well-being of students. But we also know that any procedure carries potential risk that it will be misapplied, or applied toward an inappropriate end. Moreover, the more powerful any tool is, the more potential it has for misuse and abuse. We believe that we do want powerful tools for changing behavior, as the alternative is for our interventions to have little effect. But with powerful tools there are inherent risks as well (Kauffman & Hallahan, 2005).

Our concern here is not with behavioral procedures themselves, however, as we see the science of behaviorism as neither good nor bad. Instead we see an imperative that prospective teachers be trained and practiced in the application of the best that applied behavior analysis has

to offer. In addition to the technical skills involved in analyzing behavior, they must understand the human side of education—that students have the right to be treated with fairness and respect at all times, including times when their behavior is different from an expected norm. Moreover, students have the right to be treated by a competent behavior analyst, should their dignity and independence come to be jeopardized by their own behavior.

CONTEMPORARY ISSUES

Recent Trends in Behavioral Research

Although the conceptual roots of behavioral approaches to classroom management are now many decades old (Kauffman, 2005a; Kauffman et al., 2004; Kauffman & Landrum, 2006; Kazdin, 1978; Nelson, 1981), behavioral research has continued to thrive in the 21st century. Behaviorism and behavioral research have changed considerably over the past several decades, becoming much more attuned to the contextual aspects of specific behaviors and incorporating much more of what has come to be called social learning theory (see Bandura, 1977, 1986; Bandura & Locke, 2003; Caprara, Barbarnelli, Pastorelli, Bandura, & Zimbardo, 2000). "Contrary to the contention that behavior analysis is dead or dying, behavior analysts continue to make significant advances in the basic science of behavior" (Malone, 2003). Contemporary behavioral research may also be more acceptable to many teachers than past research, which emphasized a more mechanistic approach and focused more on specific techniques than on the social ecology or context in which behavior principles are applied. As Strand, Barnes-Holmes, and Barnes-Holmes (2003) noted:

> It may be that general education teachers have rejected behavioral education because the caricatured version oftentimes presented to them is too narrow in terms of conceptualizing the duties and responsibilities they face. This rejection has occurred despite convincing data that behavioral techniques would improve student academic outcomes. If it is a goal of behavioral researchers to increase the popularity of their models within education, it may be necessary to provide teachers something other than a set of operant control techniques. (p. 115)

Moreover, behavioral researchers have become much more interested in translating research into practices that can be implemented by teachers and parents as well as clinical psychologists (Lerman, 2003). Seeing how students' behavior is related to its context and the subjective aspects of experience, yet can be shaped by the astute application of behavior principles, has made a behavioral approach to classroom management more understandable and useful to educators (e.g., Kauffman et al., 2006; Rhode, Jenson, & Reavis, 1992; Walker, 1995; Walker, Ramsey, & Gresham, 2003–2004a, 2003–2004b, 2004).

Among the most promising developments of the late 20th and early 21st centuries are advances in the functional assessment of behavior, emphasis on early intervention and prevention based in behavioral research, and efforts to broaden behavioral research to include school-wide applications.

Functional Assessment.   A functional analysis of any behavior is an attempt to find out, through careful analysis of the social context—especially antecedents and consequences of the behavior—what use or function it serves. Usually, such analyses have been performed to find the function of the troublesome behavior of individuals with severe developmental disabilities (see O'Neill et al., 1997). In its 1997 reauthorization of the Individuals with Disabilities Education Act (IDEA), the U. S. Congress demanded that educators conduct a functional

behavioral assessment (FBA) for all children served under the act whose behavior is so seriously problematic that it warrants disciplinary consideration. FBA as mandated by Congress seems to have been derived as an idea from research on the functional analysis of behavior.

Many students with disabilities are now served primarily in regular classrooms. Consequently, FBA involves both special and general educators. In FBA, the educator tries to determine the specific purposes or goals of the student's problem behavior and teach the student how to achieve the goal in a more acceptable way. Although FBA as a concept is at least as old as behavioral psychology, attempts to demand its widespread implementation in schools began in the late 1990s. FBA emphasizes the communicative intent of behavior—the function the behavior has in telling others what one likes, dislikes, wants, cannot tolerate, and so on. It is also an attempt to encourage nonpunitive management of behavior. That is, a less thorough analysis may suggest punishment for misbehavior, and FBA is an attempt to support students' demonstration of desirable alternatives to misbehavior (e.g., Fyffe, Kahng, Fittro, & Russell, 2004).

The emphasis on FBA is consistent with increased attention to the social context of behavior in research. It may reveal, for example, that a student misbehaves out of frustration, boredom, or that misbehavior is maintained because of the attention it garners or because it allows the student to avoid difficult tasks or unpleasant demands (DuPaul & Barkley, 1998). Although it is a highly useful tool in teaching, performing FBA competently and integrating it into teaching practice requires extensive training, especially in the case of students whose behavioral problems are severe or of long standing (see Fox & Gable, 2004; Gresham, Quinn, & Restori, 1999; Scott & Nelson, 1999; Sugai, Horner, & Sprague, 1999). Kauffman (2005a) notes several potential limitations:

- FBA is not simple, and identifying the actual function of the behavior may require extensive assessment by trained observers. Without support staff trained in FBA, teachers may be unable to implement it.
- Classroom management procedures suggested by FBA are often difficult or impossible for classroom teachers to follow without extra personnel.
- Functional analysis was developed primarily in nonschool settings using very frequent observations of behaviors that occurred often. The mandates of the U.S. Congress aside, these procedures may not generalize to typical school problems, many of which are serious behaviors that occur only infrequently.

Although the idea of FBA may have legitimate conceptual roots, it has become a bandwagon on which many ride with little understanding or appreciation of its difficulty in practice (Sasso, Conroy, Stichter, & Fox, 2001). Nevertheless, some researchers have found that classroom teachers *can* perform functional analyses and find ways to improve the behavior of students in both special and general education classes (e.g., Mueller, Edwards, & Trahant, 2003).

Prevention and Early Intervention. Dealing with difficult behaviors that are well-entrenched in students' behavioral routines is extremely difficult, and, in all cases, it is better to prevent problems from occurring in the first place (prevention) or to intervene early when problems first appear in their mildest form (early intervention). Prevention of behavior problems is certainly not a new idea, but it has never really gotten off the ground. That is, prevention has not become widespread in practice (Kauffman, 1999, 2003, 2004a, 2005a; Kauffman & Landrum, 2006 ; Walker et al., 2003–2004a). Moreover, although calls are frequently made for prevention rather than action after the fact of misbehavior or school failure (e.g., the President's Commission on Excellence in Special Education, 2002), such calls typically do not include consideration of the costs and risks required by actual prevention. Behavioral research has

indicated clearly at least *some* of the things we could do to make schools safer and prevent misbehavior (see Sprague, Walker, Nishioka, & Smith, in press; Walker, Ramsey, & Gresham, 2004). Sprague et al. review behavioral research indicating that bullying and peer harassment are part of a pattern of behavior that can be identified early (i.e., by second grade) and that such behavior, if addressed early, can be controlled effectively through positive, typically school-wide interventions.

We do have evidence from decades of behavioral research regarding what we as a society and as educators must do if we want to practice prevention (Sprague et al., in press; Walker, Ramsey, & Gresham, 2004). Nevertheless, we seem unwilling as a society to pay the costs and take the risks (particularly the risk of false identification) required for instituting prevention on a widespread basis (see Kauffman, 1999, 2003, 2004a, 2005b for more detailed discussion of these inevitable costs and risks and suspected reasons for educators' unwillingness to accept them). Prevention that is universal or school-wide—applied to all students, regardless of their risk status or behavior—may be relatively inexpensive and demand little additional effort on the part of teachers. Such school-wide or primary prevention does not require singling out any child for special consideration. However, secondary and tertiary prevention do require identifying particular children as the targets of intervention. That is, any prevention procedure that does not apply to all students inevitably requires (a) labeling the child in some way for special attention and (b) risking that the child's identification is mistaken and that the action following identification is unnecessary (that is, risking a false positive).

Prevention, whether school-wide or not, inevitably involves more students than are now served in any special programs because it requires both (a) responding to problems earlier in children's lives and (b) responding to problems in earlier stages. Education, both general and special, follows a legal model much more closely than a medical model, in that there is great hesitancy to respond to cases before the full-blown problem is obvious. Changing this mind-set so that educators take action to remedy a problem in its incipient stages rather than waiting for the problem to become severe and protracted will require extraordinary change in the ethos of schools and the larger society (Kauffman, 1999, 2005b).

School-Wide Behavior Management.   Walker et al. state, "Research has shown that the best way to prevent antisocial behavior is actually to start with an inexpensive school-wide intervention and then add on more intensive interventions for the most troubled kids" (2003–2004a, p. 11). The findings to which Walker et al. refer have resulted in numerous publications devoted to school-wide programs of behavior management (e.g., Lewis, Sugai, & Colvin, 1998; Liaupsin, Jolivette, & Scott, 2004; Martella, Nelson, & Marchand-Martella, 2003).

The advantages of a school-wide approach may seem obvious, but three are highlighted by Walker et al. (2003–2004a):

1. They improve the behavior of most students, even of the students who are not known as trouble-makers.
2. They have greatest effects on students who are at the margins of misbehaving, those just starting to exhibit aggression, defiance, or other unacceptable conduct.
3. They provide a foundation of good behavior management for serious trouble-makers (i.e., antisocial students), who will need the support of a good school-wide system of behavior management if the more intensive interventions designed for them are to have maximum effect.

The school-wide behavior management programs suggested by the authors we have cited generally conform to the behavior principles we suggested earlier in this chapter. That is, the school environment is designed with clear rules and expectations for conduct, monitoring

and consistency in communicating expectations involving all school staff, frequent positive reinforcement for desired behavior, and consistent nonviolent penalties for misbehavior.

Controversy Regarding Punishment

Punishment has long been a highly controversial topic in managing children's behavior, partly because of the mistaken assumption that punishment always refers to causing physical pain, conferring a humiliating rebuke, or the presenting of a highly aversive consequence. Many people in the United States apparently approve of corporal punishment and other highly punitive approaches to behavior management (e.g., Evans & Richardson, 1995; Gershoff, 2002; Hyman, 1995). Numerous studies have shown that typical American classrooms are characterized by low rates of positive reinforcement for appropriate behavior and frequent use of consequences intended to be aversive to children (see Bear, 1998; Gunter, Hummel, & Conroy, 1998; Maag, 2001). As a result, some have advocated a ban on all manner of punishment, arguing that punishment in any form is unwise or unethical, that positive reinforcement alone is sufficient to manage behavior, and that further research on punishment is unjustified (e.g., Donnellan & LaVigna, 1990; LaVigna & Donnellan, 1986). Research does not support this conclusion, nor does careful thinking about punishment as defined from a behavioral point of view. Research does suggest using great care in applying or conducting research on punishment (Lerman & Vorndran, 2002). However, punishment, as defined earlier, need not involve pain, humiliation, or other consequences with which it is often mistakenly associated. Punishment may be as mild as withdrawal of attention and often involves response cost—withdrawal of a privilege or of a reward contingent upon misbehavior.

A frequent objection to punishment is that it fosters aggression, both as a consequence of the punished student's anger and resentment and the model of aggression it often provides (e.g., in the use of corporal punishment, or the application of verbal or physical aversives). Punishment does heighten or maintain aggression when it causes pain, when there are no positive alternatives to the punished behavior, when punishment is delayed or inconsistent, or when the type of punishment administered provides a model of aggressive behavior. When counterattack against the punisher seems likely to be successful, then punishment is likely to maintain, not suppress, aggression. The adult who punishes a child by striking out not only causes pain, which increases the probability of aggression, but provides a model of aggression as well. Nevertheless, as one commentary suggests, "punishment happens" (Vollmer, 2002; see also Horner, 2002; Spradlin, 2002). Vollmer argues that punishment happens frequently in everyday life, either as a naturally occurring phenomenon, in planned and unplanned social interactions with others, and, of course, in the behavior of parents, teachers, judges, and others who overtly and directly attempt to reduce undesirable behavior. As such, punishment, just like reinforcement, is a behavioral operation that is clearly in play in the lives of students, and it behooves researchers and practitioners to study and use this behavior management tool wisely.

Teaching appropriate behavior through positive reinforcement is important, but some types of conduct may require punishment because they are intolerable or dangerous and unresponsive to alternative positive interventions (Kazdin, 1998; Walker, 1995; Walker, Ramsey, & Gresham, 2004). Establishing adequate classroom control may in some cases be impossible without using negative consequences for misbehavior, in addition to positive reinforcement of appropriate conduct. Moreover, research shows that judicious negative consequences (response cost procedures) for misconduct are best combined with positive reinforcement and are advantageous in the long run with typical children (Conyers et al., 2004; Pfiffner & O'Leary, 1987; Pfiffner, Rosen, & O'Leary, 1985; Lerman & Vorndran, 2002). For example, Conyers and her colleagues compared differential positive reinforcement of nondisruptive behavior to

response cost punishment with a class of 25 4- and 5-year-olds attending a preschool. The problematic, disruptive behaviors exhibited by children in this class included screaming, crying, throwing objects or using them as weapons, and noncompliance with teachers' requests. Although differential positive reinforcement of nondisruptive behavior (with stars and praise) effectively reduced disruption at first, response cost (losing stars for disruption) was more effective in the long term.

Special care in using punishment is important, however, because ill-timed, vengeful, and capricious punishment—especially in the absence of incentives for appropriate behavior—is a vicious example and encourages further misbehavior. Harsh punishment provokes counteraggression and coercion. Punishment is seductive and easily abused because harsh punishment often has an immediate, albeit, temporary effect; it often stops inappropriate behavior immediately, thereby giving the punisher powerful negative reinforcement. Therefore, punishment often is the beginning of a coercive style of interaction in which the punished and the punisher vie for the dubious honor of winning an aversive contest. Because people often mistakenly believe that punishment makes the individual suffer, more intense punishment is frequently thought to be more effective than milder punishment. These dangers, misconceptions, and abuses of punishment appear to underlie the coercive relationships that characterize families of aggressive antisocial children (cf. Patterson, Reid, & Dishion, 1992). School must not become another battleground for aversive control.

Research on social learning clearly supports the assumption that careful and appropriate punishment is a humane and effective tool for controlling serious misbehavior (Lerman & Vorndran, 2002; Walker, 1995; Walker, Ramsey, & Gresham, 2004). However, punishment that is clumsy, vindictive, or malicious is the teacher's downfall. Failure to offer positive reinforcement for appropriate behavior makes punishment unwise and unethical (Maag, 2001; Thompson, Iwata, Conners, & Roscoe, 1999). Moreover, punishment that is out of proportion to the seriousness of the offense has no place in humane schools.

Before using punishment, educators must make sure that a strong program of teaching and positive consequences for appropriate behavior are in place, and they must carefully consider the types of behavior that are to be punished. Teachers should study the use of punishment in depth before using it in the classroom. Following are general guidelines for humane and effective punishment suggested by Kauffman (2005a) based on his review of research on punishment:

- Punishment should be reserved for serious misbehavior that is associated with significant impairment of the youngster's social relationships and behaviors that positive strategies alone have failed to control.
- Punishment should be instituted only in the context of ongoing behavior management and instructional programs that emphasize positive consequences for appropriate conduct and achievement.
- Punishment should be used only by people who are warm and loving toward the individual when his or her behavior is acceptable and who offer ample positive reinforcement for nonaggressive behavior.
- Punishment should be administered matter-of-factly, without anger, threats, or moralizing.
- Punishment should be fair, consistent, and immediate. If the youngster is able to understand descriptions of the contingency, punishment should be applied only to behavior that he or she has been warned is punishable. In short, punishment should be predictable and swift, not capricious or delayed.
- Punishment should be of reasonable intensity. Relatively minor misbehavior should evoke only mild punishment, and more serious offenses or problems should generally result in stronger punishment.

- Whenever possible, punishment should involve response cost (loss of privileges or rewards or withdrawal of attention) rather than aversives.
- Whenever possible, punishment should be related to the misbehavior, enabling the youngster to make restitution and/or practice a more adaptive alternate behavior.
- Punishment should be discontinued if it is not quickly apparent that it is effective. Unlike positive reinforcement, which may not have an immediate effect on behavior, effective punishment usually results in an almost immediate decline in misbehavior. It is better not to punish than to punish ineffectively because ineffective punishment may merely increase the individual's tolerance for aversive consequences. Punishment will not necessarily be more effective if it becomes harsher or more intense; using a different type of punishment, making the punishment more immediate, or making the punishment more consistent may make it more effective.
- There should be written guidelines for using specific punishment procedures. All concerned parties—students, parents, teachers, and school administrators—should know what punishment procedures will be used. Before implementing specific punishment procedures, especially those involving time out or other aversive consequences, they should be approved by school authorities. (pp. 306–307)

Failure to recognize the necessity and value of punishment in behavior management and to use it skillfully reflects, in part, the ascendancy of ideology over data in education. In practice, data do not seem to matter as much as adherence to "theoretical" ideas or ideals about how education should be conducted, and punishment provides but one example (see Hirsch, 1996; Landrum, 1997 for further discussion of ideology versus data).

Failure to Train Teachers in Effective Practices

In spite of calls for evidence-based practices, most teachers are not trained to identify, much less use them. Although bias against certain instructional procedures is pervasive (see Grossen, 1993a, 1993b, 1993c; Heward, 2003), the failure to train teachers to identify and use effective, evidence-based practices involves behavior management as well (Cook, Landrum, Tankersley, & Kauffman, 2003; Kauffman, 2002; Kauffman & Landrum, in press; Tankersley, Landrum, & Cook, 2004). And this problem affects teachers in both special and general education.

Part of the problem in teacher training involves differences of opinion about what constitutes evidence and what does not (see Heward, 2003). However, another is the antitesting, antimeasurement, antibehavioral, or even antiscientific stance of many educators, both those in general and in special education (cf. Gallagher, 2004; Kauffman & Sasso, in press; Kohn, 1993, 2000, 2001). Behavioral research is increasingly devoted to making connections between laboratory studies and classroom practices (Lerman, 2003; Strand et al., 2003), but resistance to a scientific approach to education, including behavior management, is strong.

Controversy Regarding Rewards and Intrinsic Motivation

As we have seen, the behavioral approach suggests a focus on rewarding appropriate behavior (i.e., providing contingent positive reinforcement for desired behavior). Especially for students whose behavior is particularly difficult, the rewards are often extrinsic. Some writers and researchers have contended that extrinsic rewards undermine intrinsic motivation and, therefore, should not be used liberally, if at all, in behavior management (e.g., Deci, Koestner, & Ryan, 1999; Kohn, 1993, 1996; Ryan & Deci, 1996). Others have questioned this conclusion and offered data analyses to support the use of rewards (e.g., Cameron, Banko, & Pierce, 2001; Cameron & Pierce, 1994).

Like punishment, rewards can be used clumsily. The inept use of rewards may well have untoward effects on intrinsic motivation, but the research data do not support the idea that rewards are to be assiduously avoided. Moreover, teachers who refuse to offer rewards for desired performance run a serious risk of deteriorating classroom climate and increasing hostility toward school (Cameron et al., 2001; Colvin, 2004; Emmer, Evertson, & Worsham, 2003; Evertson, Emmer, & Worsham, 2003; Kauffman et al., 2006; Maag, 2001; Pullen, 2004; Rhode et al., 1992).

As many researchers and writers have pointed out, laboratory experiments showing that rewards undermine intrinsic motivation have been done under highly artificial and questionable conditions (see Cameron et al., 2001; Emmer et al., 2003; Evertson et al., 2003). It is, indeed, unwise to offer extrinsic rewards for tasks that the student will perform without them or to fail to pair social approval with more extrinsic rewards, such as material items or privileges. However, in the absence of intrinsic motivation to complete academic tasks or behave as expected in school, nothing is to be gained and much is to be lost by refusing to use extrinsic rewards to reinforce desired conduct. From the research published in the 1960s (e.g., Hall, Panyan, Rabon, & Broden, 1968) to more recent studies (e.g., Mueller et al., 2003) research has demonstrated the indispensability of rewarding consequences in dealing effectively with students whose behavior is difficult to manage (Alberto & Troutman, 2003; Rhode et al., 1992; Walker, Shea, & Bauer, 2004).

CONCLUSION

We conclude that a behavioral approach provides teachers with a well-researched set of tools to manage classroom behavior. These tools can be used skillfully or clumsily, with understanding of the principles that make them work or without such understanding. Research clearly supports the skillful use of behavior principles in classroom management. Recent trends in behavioral research emphasize not only the principles of behavior but their application with understanding of the social contexts in which they are applied and attention to how research can be translated into practices that are usable by parents and teachers.

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