Improving Classroom Behavior by Modifying Task Difficulty: Effects of Increasing the Difficulty of Too-Easy Tasks

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Abstract: This study examined the effects of increasing task difficulty when inadequately challenging tasks are assigned. Jason, a 10-year-old, typically developing Caucasian boy, attended a fourth-grade general education classroom at a public elementary school. During independent academic assignments in math and reading, Jason often talked with other students, kicked his seat or the one in front of him, or wandered around the classroom. His teacher considered these behaviors to be very disruptive. The study was conducted in two phases. In Phase 1, a functional behavioral assessment identified that Jason’s problem behaviors (a) occurred when he had completed his assignment and (b) resulted in his gaining access to preferred activities. In Phase 2, a function-based intervention (providing more challenging academic assignments) resulted in improvements in Jason’s behavior. Both Jason and his teacher gave the intervention very positive acceptability ratings.

Several investigations have shown that curricular variables can exacerbate or set the occasion for problem behaviors in the classroom (Armendariz & Umbreit, 1999; Blair, Umbreit, & Bos, 1999; Blair, Umbreit, & Eck, 2000; Dunlap, Foster-Johnson, Clarke, Kern, & Childs, 1995; Dunlap & Kern, 1996; Dunlap et al., 1993; Dunlap, Kern-Dunlap, Clarke, & Robbins, 1991; Ervin, DuPaul, Kern, & Friman, 1998; Foster-Johnson, Ferro, & Dunlap, 1994; Kern, Childs, Dunlap, Clarke, & Falk, 1994; Kern, Delaney, Clarke, Dunlap, & Childs, 2001; Umbreit, 1996). Furthermore, these studies have demonstrated that assessment-based modifications of curricular variables result in improved behavior. These findings have been reported in research conducted (a) in both general and special education settings; (b) with differing instructional arrangements (one-to-one, small-group, and whole-class); (c) with students of different ages (kindergartners through young adolescents); and (d) with students with different diagnoses, including autism, attention-deficit/hyperactivity disorder (ADHD), mental retardation, or emotional and behavioral disorders, as well as students considered to be at-risk for a behavioral disorder.

Task difficulty is one of the primary curricular variables that can set the occasion for problem behaviors in the classroom (Gunter, Denny, Jack, Shores, & Nelson, 1993). According to Gunter et al., any mismatch between student ability and task difficulty is potentially problematic. Nearly all of the empirical research conducted on this topic has investigated the impact of tasks that were too difficult for the students involved (i.e., the assigned tasks required students to know information or possess skills they did not have). Regardless of whether the studies were conducted in academic settings (Carr & Newsom, 1985; Center, Dietz, & Kaufman, 1982; DePaepke, Shores, & Jack, 1996; Gickling & Armstrong, 1978) or nonacademic settings (Carr, Newsom, & Binkoff, 1976, 1980; Weeks & Gaylord-Ross, 1981), the investigators consistently found that exposure to tasks that were too difficult resulted in lowered rates of on-task behavior and increased rates of disruptive and other problem behaviors. Analysis of these data led Gunter and colleagues (1993) to suggest that tasks that are too difficult constitute aversive stimulation and that students often respond to this stimulation by engaging in escape-motivated problem behavior.

Although the negative effects of assigning tasks that are too difficult have been established, very little is known about the potential problems associated with the other possible mismatch between student ability and task diffi-
ulty; namely, the assignment of tasks that are “too easy” or well below the student’s ability level. Of the studies cited previously, only one (Gickling & Armstrong, 1978) examined the effects of too-difficult and too-easy tasks. Working with eight typically developing first- and second-grade students outside of their regular classrooms, these researchers constructed multiple conditions in which each student was required to perform tasks that were (a) too difficult (seatwork assignments contained less than 70% known elements and reading assignments less than 90% known elements), (b) at the proper instructional level (seatwork assignments contained 70%–85% known elements and reading assignments 93%–97% known elements), and (c) or too easy (seatwork assignments contained more than 90% known elements and reading assignments more than 97% known elements). During each of these conditions, the investigators recorded each student’s percentages of task completion, task comprehension, and on-task behavior. Gickling and Armstrong found a consistent pattern of results. When assigned tasks were too difficult, task completion, task comprehension, and on-task behavior all occurred at low levels (30%–50%). When assigned tasks were at the proper instructional level, all three measures occurred at high levels (85%–100%). When assigned tasks were too easy, task completion and comprehension were high (100%), but on-task behavior was low (around 50%). These data suggest that students quickly and accurately completed the easy tasks and then spent the rest of the assignment period off task, presumably because there was nothing else in particular they were supposed to do. In effect, once they had completed the assignment, there was no task demand other than to sit quietly and appear to be busy. This situation not only decreases academic engaged time, thus reducing learning opportunities, but also creates a context in which problem behaviors are more likely to occur.

This study examined the effects of increasing task difficulty when inadequately challenging tasks were assigned as part of typical classroom activities and routines. This was accomplished in two phases. The first phase involved conducting a functional behavioral assessment that included using structured interviews and observations, developing a function-based intervention, and directly testing the intervention within ongoing classroom activities. The second phase examined the effectiveness of the function-based intervention as it was applied over time in the classroom.

**Method**

**PARTICIPANT AND SETTING**

Jason was a 10-year-old, typically developing Caucasian boy who attended a fourth-grade classroom at a public elementary school. He was the tallest child in his class, was well groomed, and appeared to be in good health. Jason made adequate grades (mostly C's and B's) and was well liked by his peers. Nevertheless, his teacher considered him to be a difficult child because of frequent off-task behavior, particularly during independent academic assignments in math and reading.

When he was off task, Jason engaged in behaviors the teacher considered to be very disruptive to the classroom. Specifically, he often talked with other students, fidgeted in his seat, kicked his seat or the one in front of him, or wandered around the room. Jason's off-task behaviors initially resulted in redirection by the teacher or the instructional aide. Jason usually got back on task after redirection, but not for long. After three or four attempts at redirection, the teacher usually reprimanded him, reminding him of the class rules and the consequences for misbehavior. When reprimands were unsuccessful, the teacher would refer Jason to the office for disciplinary action.

Jason's teacher, Mrs. Smith, had been an elementary school teacher for more than 30 years. The classroom also included an instructional aide, Ms. Jones, who had worked in that capacity for more than 20 years. At the time the study began, Jason had been in Mrs. Smith's class for 3 months. Mrs. Smith's class consisted of 23 students, each of whom had his or her own desk.

The class day was structured around several curriculum areas: math, reading, English/spelling/handwriting, science, and, on different days, music or art. The school day consisted of 50-minute class sessions in each curriculum area. Each session began with 15 to 20 minutes of formal instruction (lecture and demonstration), followed by approximately 30 minutes of independent seatwork on the material presented by the teacher. In math, reading, English, and science, the curriculum followed approved textbooks, each of which had accompanying workbooks that contained independent assignments on the material covered in the book and in the teacher's presentation. A typical school day started with English/spelling/handwriting, followed by math, recess, and reading. This was followed by lunch and recess, with science and music or art lessons and activities in the afternoon.

**BEHAVIORAL DEFINITIONS**

*Off-task behavior* was defined as any behavior other than working on the teacher-assigned task during the allotted time. Common examples of off-task behavior included looking around the classroom, talking with other students, getting out of the seat without teacher permission and “wandering” around the classroom, and engaging in tasks that had not been assigned. *On-task behavior* was defined as any behavior required of the assigned activity. Common examples included looking at the materials or teacher as requested, writing numbers or words related to the assigned task, and complying with staff instructions.
Phase 1: Assessment

PROCEDURE

A functional behavioral assessment was conducted to identify the antecedents and consequences that affected Jason’s off-task behavior and to develop an appropriate function-based intervention. The assessment involved conducting structured interviews and structured observations, identifying the function of Jason’s off-task behavior, developing a function-based intervention, and then testing the function-based intervention.

Structured Interviews

Interviews were conducted individually with the teacher, the instructional aide, and Jason. The informant (teaching staff) interview followed the Preliminary Functional Assessment Survey, a 22-item questionnaire originally developed by Dunlap and colleagues (1991). During the past decade, this interview form has been used in several studies conducted by Dunlap, Kern, Umbreit, and their respective colleagues. The questionnaire items (available on request) are designed to gather information about challenging behavior in classroom situations. Specific questions/-items focus on identifying the conditions under which a target behavior is very likely and very unlikely to occur. It also includes items that identify when and how often the behavior occurs and whether its occurrence could be related to skill deficits (e.g., limited communication skills), medication, deprivation conditions (e.g., thirst, hunger), or discomfort.

The interview with Jason followed the Student-Assisted Functional Assessment Interview developed by Kern, Dunlap, Clarke, and Childs (1994). The items in this questionnaire ask the student to indicate when he or she has the most problems with the target behavior, why these problems occur, and what changes could be made to reduce or eliminate the problem behavior. The interview form also includes items that focus on specific instructional variables such as task length and task difficulty and whether the teaching staff reinforces appropriate behavior when it occurs. It also requires the student to rate each subject and activity covered in school on a 5-point scale (1 = Don’t like at all, 5 = Like very much). The ratings are then followed by a series of open-ended questions that target what the student likes about preferred activities and what he or she dislikes about nonpreferred activities.

Structured Observations

A-B-C data (Bijou, Peterson, & Ault, 1968) were collected during two 15-minute observations on a single day. One session was conducted during the middle of an independent math assignment; the other was conducted during the middle of an independent reading assignment. During the A-B-C data collection, an observer recorded the antecedent conditions that preceded occurrences of off-task behavior and the consequences that followed each instance of off-task behavior. During the combined 30 minutes of observation, A-B-C data were collected for a total of nine instances of off-task behavior.

Function of Off-Task Behavior

The interview results and A-B-C data were considered in identifying the likely function of Jason’s off-task behavior. Interviews with the teaching staff members indicated that Jason was off task on many occasions every day, especially when he was supposed to be doing independent seatwork in academic subjects. Problem behaviors occurred for all of the academic areas, but the most problematic were math and reading. When he was off task, Jason sometimes kicked his chair, looked around the room, or made noises, but most often he talked to other students. When off-task behavior occurred, the teaching staff members reported that they would first instruct him to “get back to work.” If that did not produce the desired outcomes, they would reprimand him and remind him of the classroom rules and consequences for misbehavior. If that did not produce the desired outcomes, they ultimately sent him to the principal’s office. Previous negative consequences that had been tried without success included having Jason (a) stay in the classroom at lunch, (b) sit in the corner for 15 minutes, (c) lose any stickers he might have earned, and (d) stay after school for 15 minutes. Teaching staff members reported that they regularly provided praise and stickers for good work and good behavior by any of the students. These potential reinforcers were dispensed at the end of the period or even at the end of the day, rather than when the behavior occurred.

In his interview, Jason reported that his academic assignments were “almost always too easy” and that it would help if he had assignments that were more challenging. He liked all of his subjects and claimed that he “felt proud” when he was able to help other students with their work. Jason claimed that he usually got in trouble when he had completed his assignments, had nothing in particular to do, and tried to help his classmates with their assignments.

The A-B-C data were consistent with Jason’s report. All nine of the instances of off-task behavior that were observed occurred after Jason had completed his assignments. Furthermore, all but two resulted in his gaining access to an activity (helping his peers with their assignment). Although Jason talked with his peers, all communications were about schoolwork rather than other subjects. The two instances of off-task behavior that did not result in gaining access to an activity resulted in teacher reprimand.

Based on the results of the interviews and the direct observational data, we concluded that Jason’s off-task behavior (a) occurred when he had completed his assign-
ments (antecedent condition) and (b) was maintained by gaining access to an activity (consequence). Thus, the function of Jason's off-task behavior was positive reinforcement, specifically, gaining access to an activity (i.e., helping peers with their schoolwork). When Jason had completed his own assignments, there effectively was no task demand other than to sit quietly and appear to be busy. In this situation, Jason engaged in behavior that resulted in gaining something interesting to do.

**Function-Based Intervention**

In designing a function-based intervention, the first consideration was to determine whether Jason could perform the replacement behavior (on-task behavior). Direct observation had clearly shown that Jason could easily perform this behavior. The next consideration was to determine whether the antecedent conditions (classroom environment and specific task demands) reflected good educational practice. The self-report by Jason and our direct observations both indicated that the tasks assigned to him were too easy. Jason could quickly and accurately complete the assignments and often had little to do for a majority of the independent assignment period. On that basis, we developed the following function-based intervention: Jason's on-task behavior will improve if he is assigned more challenging academic tasks that match his ability.

The impact of the function-based intervention was tested over the course of 4 days during typical classroom activities. Each day, one of the test conditions was presented during the independent seatwork portion of the math assignment. On Days 1 and 3, baseline conditions were conducted. During these sessions, Jason was given the same math assignment (typical task) the rest of the class got on that day. However, on Days 2 and 4, Jason was given more challenging assignments. During these sessions, Jason received a math assignment of greater difficulty (challenging task; see Figure 1).

Challenging tasks were identified in the following manner. Before conducting any of the intervention testing sessions, Jason was allowed to work ahead through successive assignments in his math textbook and workbooks. He continued to move through successive assignments as long as he quickly and accurately completed the assignment. More specifically, "quickly and accurately" referred to completing the assignment within 10 minutes, working continuously, and answering all questions correctly. Once he reached an assignment that he could not quickly and accurately complete as defined above, that assignment became the first of the challenging assignments. Subsequent lessons and assignments were also considered to be challenging because the curriculum was arranged to be progressively more difficult as the student proceeded through the assignments. For Jason, the first challenging assignment was one that arose approximately 3 weeks further along in the curriculum. More specifically, the assignment was 3 weeks ahead of the rest of the class and ahead of the assignments Jason was usually given.

On Days 1 and 3, all typical classroom conditions were maintained. Jason was given the same assignment as the rest of the class, and the instructional aide passed out the assignments. On Days 2 and 4, everything remained the same except that when the aide passed out the assignments, she gave Jason the challenging assignment instead of the typical one.

During each of the intervention-testing sessions, two independent observers recorded Jason's on-task behavior using a 30-second whole-interval recording procedure. Observations lasted 15 minutes and began 5 to 10 minutes after the start of the independent seatwork period. At the end of each interval, each observer recorded whether Jason had remained on task during the entire interval. Intervals scored identically by each observer were considered agreements. Interobserver agreement was calculated using an exact interval-by-interval method (Kazdin, 1982) in which the total number of agreements was divided by the total number of agreements plus disagreements and multiplied by 100. Agreement averaged 99% across the four sessions, with a range of 98%-100%. To verify treatment integrity (Billingsley, White, & Munson, 1980; Gresham, 1989), the observers independently checked each assignment before the intervention-testing session and verified that the correct assignment was provided for each case. Results indi-

![Figure 1. Experimental analysis: Percentage of intervals of on-task behavior with easy versus challenging tasks.](image-url)
icated that the correct assignment was distributed 100% of the time.

RESULTS

As shown in Figure 1, Jason was on task throughout 47% of the intervals during the first typical task (baseline) session. During the first challenging task session, on-task behavior occurred throughout 73% of the intervals. During the reversal (second typical task) session, on-task behavior occurred throughout only 53% of the intervals. During the second challenging task session, on-task behavior occurred throughout 80% of the intervals. The average on-task percentage for the two baseline sessions was 50%. In comparison, the average on-task percentage during the two challenging task sessions was 77%. These data support the function-based intervention. Jason's on-task behavior improved markedly when he was assigned more challenging academic tasks.

Phase 2: Function-Based Intervention

Phase 2 examined the effects of the function-based intervention (Phase 1) as it was applied over time in the context of naturally occurring activities and routines in the classroom. The teaching staff implemented the intervention, with direct consultation in the classroom setting provided by the authors.

PROCEDURE

The same function-based intervention that was used in Phase 1 was used again with math assignments in Phase 2. As Jason completed new assignments, he was allowed to continue to progress through the curriculum, with subsequent assignments at the higher, more challenging level. In addition, the same function-based intervention approach was used with reading assignments because both Jason and his teachers had reported that the same problems occurred in math and reading. To determine an appropriate challenging level in reading, we used the same approach as was used with math assignments in Phase 1. Prior to the start of Phase 2, Jason was allowed to work ahead through successive assignments in his reading textbook and workbooks. He continued to move through successive assignments as long as he quickly and accurately completed the assignment. Once he reached an assignment that he could not quickly and accurately complete, the assignment became the first of the challenging assignments (as previously defined). Subsequent lessons and assignments were also considered to be challenging because the curriculum was arranged to be progressively more difficult as the student proceeded through the assignments. The first challenging reading task for Jason was an assignment approximately 2 weeks further along in the curriculum.

DESIGN, DATA COLLECTION, AND INTEROBSERVER AGREEMENT

An A-B-A-B reversal design (Johnston & Pennypacker, 1993) was used to test the effects of the function-based intervention in math and reading. During the first week, baseline conditions were reinstated. During this week, Jason received the same math and reading assignments as the rest of the class—assignments that were not challenging for him. Although baseline conditions were in effect throughout the entire week, data were collected on only 3 of those days (Monday, Wednesday, and Friday; Sessions 1–3). The initial baseline phase was followed by the first intervention phase in both math and reading. This phase covered 4 weeks (Sessions 4–11). Once again, the intervention was implemented every day; however, data regarding on-task behavior were collected only 2 days per week. The days for data collection varied from week to week, but they were always separated by at least 1 day without data collection (i.e., if data were collected on Monday, the next data collection session did not occur before Wednesday). During the fifth week (Sessions 12 and 13), a reversal (return to baseline) condition was implemented in both math and reading. During this week, baseline conditions were in effect all week, but data were collected on only 2 of those days. The second intervention phase was implemented during the sixth and seventh weeks (Sessions 14–17), again with data collected only 2 days per week.

Data collection procedures were identical to those used in Phase 1. For every session, two independent observers recorded Jason’s on-task behavior using a 30-second whole-interval recording procedure. Observations lasted 15 minutes and began 5 to 10 minutes after the start of the independent seatwork period in both math and reading. At the end of each interval, the observers independently recorded whether Jason had remained on task during the entire interval. Intervals scored identically by each observer were considered agreements. Interobserver agreement was calculated using an exact interval-by-interval method (Kazdin, 1982) in which the total number of agreements was divided by the total number of agreements plus disagreements and multiplied by 100. During the math sessions, interobserver agreement averaged 96% (range = 87%-100%). During the reading sessions, agreement averaged 97% (range = 90%-100%). To verify treatment integrity, each observer also independently verified, before each session, that Jason was being given the correct assignment for that day. In every case, the proper assignment was given.

Treatment Acceptability

Treatment acceptability was assessed from both the teacher and student perspectives. For the teacher, the Intervention Rating Profile–15 (IRP-15; Martens, Witt, Elliott, & Darveaux, 1985) was used. The IRP-15 contains 15 items designed to assess teachers’ perceptions of treatment ac-
ceptability. Each item is rated on a 6-point Likert-type scale (1 = strongly disagree, 6 = strongly agree). Total scores range from 15 to 90, with high scores indicating high acceptability. For the student perspective, the Children's Intervention Rating Profile (CIRP; Witt & Elliott, 1983) was used. The CIRP, a 7-item companion instrument to the IRP-15, was designed to assess children's perceptions of intervention acceptability. Each item is rated on a 6-point Likert-type scale (1 = I do not agree, 6 = I agree). Total scores range from 7 to 41, with low scores indicating high acceptability.

RESULTS

Intervention Outcomes
During the initial baseline condition (see Figure 2), on-task behavior occurred throughout approximately half of the intervals in both math (M = 51.33, SD = 5.13, range = 47–57) and reading (M = 49.00, SD = 3.46, range = 47–53). During the first intervention phase, on-task behavior rose to an average of 89.63% in math (SD = 5.13, range = 80–97) and an average of 92.13% in reading (SD = 3.56, range = 87–97). During the second baseline phase, on-task behavior decreased to 63% (SD = 0.00) during both of the math sessions and to an average of 65% (SD = 2.83, range = 63–67) during the reading sessions. During the final intervention phase, on-task behavior again rose to an average of 91.50% in math (SD = 5.97, range = 83–97) and 91% in reading (SD = 6.16, range = 80–93).

Treatment Acceptability
Both the teacher and student rated the intervention as acceptable, as evidenced by respective total scores of 69 (M = 4.93, SD = 0.47) on the IRP-15 and 12 (M = 1.71, SD = 1.71) on the CIRP. The teacher indicated that the intervention focus, procedures, and outcomes were acceptable. She did, however, state that “so much of this intervention would rest on who is actually working with the classroom teacher and if frequent discussion could occur.” Jason, like his teacher, also viewed the intervention as fair and effective. He also indicated that he thought this intervention would be effective for other children.

Discussion
Findings from this study extend the work of Gickling and Armstrong (1978). In their research with typically developing first-grade and second-grade students, these authors found consistent relationships between behavioral performance (e.g., task completion, task comprehension, on-task behaviors) and level of task difficulty. The present study’s findings extend these results to an older, typically developing student and to the context of typically occurring routines and activities in the classroom.

The present study’s findings suggest that altering the level of task difficulty was highly effective in increasing on-task behavior. Providing Jason with more challenging tasks that were in his instructional range was associated with
substantial increases in on-task behaviors in both reading and math (see Figure 1). The absence of any overlapping data points between the A and B phases offers evidence to support a clear functional relationship between instructional level and task engagement. The results are particularly robust considering that a very conservative method, whole-interval recording, was used to estimate on-task behavior.

In addition to being effective, the intervention was also viewed as being acceptable by both the student and the teacher. Because the intervention was both effective and socially valid, other educators may be willing to use and benefit from this rather simple instructional modification.

Although most teachers and practitioners would agree that off-task behavior is not per se a serious problem behavior, most would also agree that, over time, off-task behavior may lead to reduced access to the curriculum, increased levels of disruptive behaviors, and impaired relationships with teachers and peers. In Jason’s case, disruptive behaviors were the primary concern that led the teacher to seek assistance. However, this cluster of behaviors (e.g., being out of seat, making noises, and talking with others) occurred only when Jason was not academically engaged or on task. Consequently, the focus of the investigation was on increasing on-task behavior that was incompatible with disruptive behavior (Kern, Childs, et al., 1994). If Jason was engaged in the assigned instructional activities, the likelihood of disruptive behaviors occurring would be minimized. Furthermore, by decreasing the disruptive behaviors that led to negative interactions with the teacher, Jason was likely have increased access to the curriculum and fewer negative interactions with the teacher.

Most of the functional assessment studies conducted to date that have addressed curricular issues such as task difficulty and task avoidance (e.g., DePaep et al., 1996) have focused on easy versus difficult tasks with children with and at risk for disabilities. Although this work has provided the field with important information about the relationship between task difficulty and levels of engagement, a noticeably absent feature from this literature is the concept of appropriate or instructional level. Clearly, additional research exploring the full range of task difficulty needs to be done in order to establish the generalizability of these findings to other populations.

Previous work also has indicated that students are likely to engage in escape-motivated behavior when they are assigned tasks that are too difficult. The present study suggests that a different maintaining consequence may motivate a student’s problem behaviors when the assigned tasks are too easy. Jason’s problem behaviors appeared not to be maintained by negative reinforcement (escape). Rather, they appeared to be maintained by positive reinforcement in the form of the more preferred activities that he gained. If further research confirms this differential pattern of responding to tasks that are too difficult to too easy, the information could be very useful to practitioners who are attempting to design effective, individualized behavioral interventions.

However, another alternative to the hypothesized “positive reinforcement” function needs to be considered; namely, to the degree that the task is too easy, it may be that the task was aversive. If Jason viewed the task to be boring or repetitive, it may be that Jason escaped the aversive task (negative reinforcement) to engage in more reinforcing behaviors. Consequently, it may be that the easy task was simply boring as opposed to easy and that participating in challenging academic work produced the desired behavior changes not because it was difficult but because it was novel.

Another explanation regarding the trigger for the problem behavior must also be considered. It is possible that the absence of work, rather than easy work, prompted the problem behavior. Namely, when Jason was working on the easy task, he was on task. Only when he completed the easy task and had nothing to do did he engage in problem behaviors.

In addition to the above-mentioned alternate interpretations, certain limitations in this study should be acknowledged. First, the study had only one participant. Although the experimental design (ABAB) is a strong and widely recommended design for demonstrating functional relationships (Johnston & Pennypacker, 1993), replication is essential to establish the generalizability of the findings. Furthermore, future studies exploring the nature of the task difficulty–task engagement relationship with other learners (e.g., students with emotional and behavioral disorders and learning disabilities) are warranted to establish generalizability.

Second, this study could have been improved by using a more precise method for establishing Jason’s instructional level. In this study, challenging tasks were identified by allowing Jason to work through successive assignments in his textbooks and workbooks, provided that he maintained a quick pace and high rate of accuracy. Once he reached an assignment that could not be completed quickly and accurately, it was labeled as a “challenging” assignment. Future investigations could be enhanced by using more precise, empirically derived procedures such as the percentage-correct methods recommended by Wilson and Wesson (1991).

Third, it is important to note that the research assistants who were collecting data were not blind to the experimental conditions. Consequently, their observations may have been biased by their knowledge that the two different sets of curricular materials were being used on various days. Therefore, although interobserver agreement scores are quite high, results must be interpreted with caution. Future investigations could be improved by designing an investigation in which the trained observers are not privy to the experimental conditions.
Finally, this study is limited by the fact that generalization and maintenance data were not collected. Had resources permitted, it would have been instructive to determine if higher levels of on-task behavior were observed in other classrooms (e.g., music, art) or during instruction of other content areas (e.g., science, social studies). Future studies following this line of inquiry could be enhanced by collecting generalization and maintenance data to examine spread of effect over circumstances and time.

Nonetheless, the present study demonstrates a clear, functional relationship between task engagement and task difficulty, with challenging or instructional tasks being associated with higher rates of on-task behavior. Additional research is needed to establish the nature of this relationship with other students who are at risk, as well as with those who have exceptionalities. Additional research on the application of function-based interventions in general education settings is also needed. The most beneficial is likely to be research that integrates current knowledge about effective instruction with knowledge of effective positive behavioral support.

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Action Editor: Edward G. Carr