Professor: Stephen E. Brock, Ph.D., NCSP
Office Hours: TU, 1:00 – 4:00pm; 225 Brighton Hall
Phone: 916-278-5919
E-mail: brock@csus.edu

EDS 240; Fall, 2018
Course Title: Functional Assessment of Behavior
Day/Time: W, 9:00 to 11:50am
Room: 309 Eureka Hall

Functional Assessment of Behavior
Course Syllabus

Course Description:

Assessment of behavior using the techniques of applied behavior analysis. Students learn how to conduct functional assessments of behavior and how to write and evaluate behavior intervention plans. Methods appropriate for assessment of children in the school setting will be emphasized.

Prerequisite:

Approval as a candidate in the School Psychology Program or instructor permission.

Course Objectives:

During the course students will …
1. learn how to conduct, and will complete, a satisfactory functional assessment of behavior (FBA).
2. learn how to develop a satisfactory positive behavior intervention plan (BIP).
3. learn how to evaluate a positive behavior intervention plan (BIP).
4. demonstrate knowledge of the ethical and legal issues associated with functional assessment and behavior intervention.

Required Readings:

Brock, S. E., Grove, B., & Searls, M. (2010). ADHD: Classroom interventions. In A. S. Canter, L. Z. Paige, & S. Shaw (Eds.), *Helping children at home and school III: Handouts for families and educators* (pp. S8H5-1 – S8H5-5. Bethesda, MD: National Association of School Psychologists. (Attached)

Browning-Wright, D., & Cafferata, G. (2007). The BSP desk reference: A teacher and behavior support team's guide to developing and evaluating behavior support plans for behaviors that interfere with the learning of students and/or peers. Los Angeles, CA: Positive Environments, Network of Trainers. Retrieved from http://www.pent.ca.gov/dsk/desk_toc.html

California Education Code (Selected sections to be specified by the instructor). Available from http://www.cde.ca.gov/re/lr/cl/

California Code of Regulations, Title 5. (Selected sections to be specified by the instructor). Available from https://www.cde.ca.gov/ls/fa/sf/title5regs.asp

Cummings, C., Brock, S. E., & Puopolo, M. (2003, March). *Assessment of establishing operations.* Paper presented at the annual meeting of the California Association of School Psychologists, Los Angeles, CA. Retrieved from http://www.csus.edu/indiv/b/brocks/Courses/EDS%20240/student_materials.htm

Loman, S., Strickland-Cohen, M. K., Borgmeier, C., & Horner, R. (2011). *Basic FBA to BSP: Trainer's manual.* Washington, DC: OSEP, U.S. Department of Education. Retrieved from https://www.pbis.org/Common/Cms/files/Current%20Topics/TrainerManual.pdf

Olive, M. L., & Smith, B. W. (2005). Effect size calculations and single subject designs. *Educational Psychology, 25,* 313-324. doi: 10.1080/0144341042000301238

O'Neill, R., Albin, R. W., Storey, K., Horner, R.,, & Sprague, J. (2015). *Functional assessment and program development for problem behavior: A practical handbook* (3rd ed.)*.* Stamford, CT: CENGAGE Learning. Available in the bookstore or at http://www.amazon.com/Functional-Assessment-Program-Development-Behavior/dp/1285734823#reader_1285734823

Skiba, R., & Sprague, J. (2008, September). Safe without suspensions. *Educational Leadership.* Retrieved from http://www.pbis.org/common/cms/files/Coach_Trainer/Articles/Safety%20Without%20Suspensions.pdf

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Steege, M. W., & Scheib, M. A. (2014). Best practices in conducting functional behavioral assessments. In P. Harrison & A. Thomas (Eds.), *Best practices in school psychology: Data-based and collaborative decision making* (pp. 273-286). Bethesda, MD: National Association of School Psychologists.

U.S. Department of Education. (2015). *SWPBIS for beginners*. Washington, DC: Author. Retrieved from https://www.pbis.org/school/swpbis-for-beginners

U.S. Department of Education. (2006, August 14). 34 CFR Parts 300 and 301. *Federal Register, 71*(156), 46540-46845. Retrieved from http://www.wrightslaw.com/idea/comment/all.46540-46845.pdf (§300.24, §300.170, §300.226, §300.304, §300.310-311, §300.324, §300.534-536)

Recommended Readings:

Chandler, L. K., & Dahlquist, C. M. (2015). *Functional assessment: Strategies to prevent and remediate challenging behaviors in school settings* (4th ed.). Upper Saddle River, NJ: Merrill/Pearson. Available at in the bookstore or at http://www.amazon.com/Functional-Assessment-Strategies-Challenging-Loose-Leaf/dp/0133570851.

Steege, M. W., & Watson, T. S. (2009). *Conducting school-based functional behavioral assessments* (2nd ed.). New York, NY: Guilford Press.

U.S. Department of Education, Office of Special Education Programs (2010, September 25). *Implementation blueprint and self-assessment: Positive behavioral interventions and supports.* Retrieved from https://www.pbis.org/common/cms/files/pbisresources/SWPBS_ImplementationBlueprint_vSep_23_2010.pdf

Course Requirements/Grading (100 points maximum):

1. *Attendance/Class participation.* Attendance and participation in class discussions and activities will be worth **20** points. Interactional learning cannot be duplicated outside of the classroom. Students missing more than 2 classes cannot receive an A; students missing more than 3 classes cannot receive a passing grade. Students more than 20 minutes late for any class will be considered absent, even if able to attend the majority of the class period.

2. *Quizzes.* Performance on four separate quizzes (each worth 6.25 points) are used to assess student knowledge of important concepts (i.e., key terms and definitions, functional assessment strategies, behavior intervention principles, legal issues). Performance on these quizzes will be worth a total of **25** points.

4. *Functional Behavioral Assessment* (FBA).Working within their fieldwork settings students are required to conduct a FBA. The first draft of the written report summarizing the FBA will be graded and used to document understanding of concepts being taught. Evaluation of this report will be worth **25** points. (**Note**: If you do not have, or are unable to conduct, a FBA within a fieldwork setting see the instructor ASAP).

5. *Behavior Intervention Plan* (BIP). Students will be required to develop a BIP. The first draft of the written BIP are graded and used to document understanding of concepts being taught. Evaluation of this plan will be worth **25** points.

6. *Behavior Intervention Plan* (BIP) *Evaluation*. Students are required to evaluate the effectiveness of their BIP. A report based on their evaluation data will be worth **5** points.

Letter grades will be based upon the following point totals

A	**=**	**95 points and above**	**A-**	**=**	**94 to 90 points**
B+	**=**	**89 to 88 points**	**B**	**=**	**87 to 85 points**
B-	**=**	**84 to 80 points**	**C**	**=**	**79 to 70 points**
D	**=**	**69 to 50 points**	**F**	**=**	**below 50 points**

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NASP 2010 Standards addressed in this class include:

Standard 2:   Data-based decision making and accountability.
Standard 3:   Consultation and collaboration
Standard 4.2:   Interventions and mental health services to develop social and life skills.
Standard 5.1:   School-wide practices to promote learning
Standard 7:   Diversity in development and learning
Standard 8.2:   Legal, ethical, and professional practice

CCTC standards addressed in this class:

Standard 3:   Socio-Cultural Competence
Standard 4:   Assessment
Standard 6:   Professional Ethics and Legal Mandates
Standard 8:   Self-esteem and Personal and Social Responsibility
Standard 10:   Consultation
Standard 11:   Learning Theory and Educational Psychology
Standard 19:   Legal, Ethical and Professional Foundations
Standard 20:   Collaborative Consultation
Standard 23:   Program Planning and Evaluation
Standard 25:   Practica

Special Notes:

1. Field-based requirements (for both EDS 240 & EDS 246A) can overlap with EDS 439 hour requirements at a ratio no greater than 1:4. This means that no more than 1 out of every 4 fieldwork hours can be spent completing EDS 240/246A assignments.
2. This course addresses elements of the following NASP 2010 *Standards for Graduate Preparation of School Psychologists*:
    II, Data-Based Decision-Making and Accountability
    III, Consultation and Collaboration
    IV.2, Interventions and Mental Health Services to Develop Social and Life Skills
    V.1, School-Wide Practices to Promote Learning
    VIII.2, Legal, Ethical, and Professional Practice
3. Specific student outcomes achieved during this course are consistent with CSUS School Psychology Program Learning Outcomes. These include development of the ability to conceptualize student needs from a developmental and ecological perspective; work within a multi-tiered system of support and be prepared to provide a broad range of prevention, early intervention, and longer term school psychological services; use a wide range of methods in assessing the needs of school aged youth; design appropriate interventions, and evaluating the effectiveness of those interventions; use empirically supported consultation approaches that reframe problems with the goal of developing strategies for solutions; implement problem-solving approaches that address the needs of school aged youth; collaborate with schools and families in implementing interventions that promote positive outcomes for all students; engage in practices that are consistent with ethical and legal standards of the profession, including an understanding of special education regulations.
4. Computer/Smart phone use is not allowed (emailing, web surfing, texting) unless it is a directed part of a classroom activity. If you need to use your computer for note taking during class please check with the instructor prior to doing so for this class (you will be asked to turn off Wi-Fi). If you need to have your smart phone on to receive important work or family communications please place it on vibrate and step out of the classroom to respond to a text or take a phone call.
5. Assigned grades will be consistent with CSUS grading policy as described in the CSUS Catalog.

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6. All assignments are due on the dates indicated on the course outline. A minimum of one full grade deduction will be applied to all late assignments.

7. If you have a disability and require accommodations, you need to provide disability documentation to SSWD, Lassen Hall 1008, (916) 278-6955. Please discuss your accommodation needs with the instructor after class or during office hours early in the semester.

8. Basic Needs Support. If you are experiencing challenges in the area of food and/or stable housing, help is just a click, email or phone call away! Sacramento State offers basic needs support for students who are experiencing challenges in these areas. Please visit our Basic Needs website to learn more about your options and resources available. https://www.csus.edu/basicneeds/

9. Academic Honesty Policy: Go to http://www.csus.edu/admbus/umanual/UMA00150.htm for the CSUS Academic Honesty Policy and Procedures. Per University Policy all students are responsible for:
    a) Understanding the rules that preserve academic honesty and abiding by them at all times. This includes learning and following the particular rules associated with specific classes, exams, and course assignments. Ignorance of these rules is not a defense to a charge of academic dishonesty.
    b) Understanding what cheating and plagiarism are and taking steps to avoid them. Students are expected to do this whether working individually or as part of a group.
    c) Not taking credit for academic work that is not their own.
    d) Not knowingly encouraging or making possible cheating or plagiarism by others.

Please refer to http://library.csus.edu/content2.asp?pageID=353 for a student tutorial on how to avoid plagiarism.

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Course Outline

Date	Topic/Activity	Assignments (To be completed by class date)
August 29	1. Course overview and expectations: • Introduction to behavioral psychology	Obtain required readings Required Reading • Loman et al. (2011) Recommended Reading • Steege & Watson (2009), chapter 1
September 5	2. Key Terms and Definitions *Quiz*	Required Readings • Steege & Scheib (2014) • Browning-Wright & Cafferata (2007), Section 1 Recommended Readings • Chandler & Dahlquist (2015), Chapters 1 & 2 • Steege & Watson, Chapters 4 & 5
September 12	3. Functional Assessment: • Overview • Target Selection • Record Review *Quiz*	***Fieldwork: Find someone to supervise your FBA/BIP*** Required Readings • Browning-Wright & Cafferata (2007), Section 4 • O'Neill et al. (2015), Chapter 1
September 19	4. Functional Assessment: • Behavior Rating Scales • Interviews	Required Readings • Browning-Wright & Cafferata (2007), Sections 5 & 6 • Cummings, Brock, & Puopolo (2003) • O'Neill et al. (2015), pp. 14-40 Recommended Readings • Chandler & Dahlquist (2015), Chapter 3 (pp. 61-70) • Steege & Watson (2009), Chapter 7
September 26	5. Functional Assessment: • Observation techniques • Establishing a baseline • Hypothesis Testing	***Fieldwork: Identify FBA/BIP case study*** Required Readings • Browning-Wright & Cafferata (2007), Section 3 • O'Neill et al. (2015), pp. 41-55 Recommended Reading • Chandler & Dahlquist (2015), Chapter 3 (pp. 70-85) & 4 • Steege & Watson (2009), Chapter 8
October 3	6. Functional Assessment: • Writing the FBA • Case Conferences	***Fieldwork: Conduct teacher (and optional parent) interview(s)***
October 10	7. Functional Assessment: • Case Conferences	***Fieldwork: Behavioral observations (establish a baseline)***
October 17	8. Behavioral Intervention: • Overview *Quiz*	***FBA due*** Required Readings • Browning-Wright & Cafferata (2007), Sections 7, 8, 9 • O'Neill et al.(2015), Chapters 3 & 4 Recommended Reading • Chandler & Dahlquist (2015), Chapters 6, 5, & 7 • Steege & Watson (2009), Chapters 10 & 11
October 24	9. Behavioral Intervention • Schoolwide Positive Behavioral Supports • Guest lecture on PBIS by Jim Wood (10:00 to 11:50am)	Required Readings • Skiba & Sprague (2008, September) • U.S. Department of Education (2015) Recommended Reading • U.S. Department of Education, Office of Special Education Programs (2010) Recommended video • https://www.youtube.com/watch?v=dRrossHnrTs#t=10

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October 31	10. Behavioral Intervention: • Behavior Support Plans • Classroom Accommodations for ADHD • Increasing On-task Behavior	Required Reading • Brock, Grove, & Searls (2010) Recommended Reading • Steege & Watson (2009), Chapter 9 • Chandler & Dahlquist (2015), Chapters 8, 9, 10
November 7	11. Behavioral Intervention: • Emergency Interventions • Writing the BIP • Case Conferences	Required Readings • Browning-Wright & Cafferata (2007), Secs. 12, 13,14 • Browning-Wright & Cafferata (2007), Section 11 • O'Neill et al. (2015), Chapter 5 Recommended Readings • Chandler & Dahlquist (2015), Chapter 11 • Steege & Watson (2009), Chapter 12
November 14	12. No class due to poor air quality	
November 21	13. Behavioral Intervention: • Emergency Interventions • Evaluating BIP effectiveness	***BIP due to brock@csus.edu*** Olive & Smith (2005)
November 28	14. Behavioral Intervention: • Manifestation Determinations	Required Reading • U.S. Dept. of Education (2006). §300.530 Recommended Reading • Steege & Watson (2009), Chapter 2
December 5	15. Legal and Ethical Issues *Quiz*	• U.S. Dept. of Education (2006). §300.24, §300.170, §300.226, §300.304, §300.310-311, §300.324, §300.534-536 • CA Education Code, §56520-56525 • CA Code of Regulations, §3065(d)(e)
December 12	Finals Week	• No Class Meeting • ***Revisions of FBA and BIP due at 9:00am*** • ***BIP evaluation data due at 9:00am***

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Behavior Consultation Fieldwork Timeline

1. Working with your school psychology fieldwork supervisor identify a student with a *mild to moderate* behavior problem.
    NOTE:
    a. *Typically this should not be a student who has a serious behavior problem.*
    b. *A fieldwork supervisor who can supervise your Functional Behavioral Assessment (FBA)/Behavior Intervention plan (BIP) should be identified by* **September 12th**
    c. *See the instructor ASAP if you have difficulty obtaining a fieldwork setting within which to conduct an FBA.*

2. Working with your school psychology fieldwork supervisor, identify a student appropriate for an FBA/BIP case study. Determine if the identified student's teacher is willing to spend at least one hour talking with you about the student's behavior and is willing to have you spend at least 5 hours observing the student in his or her classroom. Obtain parental consent to conduct the FBA and develop the BIP.
    NOTE:
    a. *Teacher/student should be identified by* **September 26th.**

3. Interview the teacher to first identify and operationalize a problem behavior. Then interview the teacher to gain additional information regarding the antecedents and consequents of the problem behavior.
    NOTE:
    a. *This should take at least 60-minutes and should be completed by* **October 3rd.**
    b. *When possible a parent interview should also be conducted and completed by* **October 3$^{rd.}$**

4. Making use of appropriate observational techniques determine the frequency, duration, and/or intensity of the problem behavior; and establish a baseline that can be used to first determine the significance of the problem behavior, and later to assess intervention effectiveness.
    NOTE:
    a. *Five (5) 60-minute observations is the minimum and should be completed by* **October 10th.**

5. From the interview and observation data write a FBA report.
    NOTE:
    a. *The FBA must be completed and turned in by* **October 17th**. *While this draft is the one that is graded, it is possible that revision, based on instructor feedback, will be required before a final draft is released to your fieldwork setting.*

6. From the FBA data and report develop a BIP.
    NOTE:
    a. *The BIP must be completed and turned in by* **November 21st**. *While this draft is the one that is graded, it is possible that revision, based on instructor feedback, will be required before a final draft is released to your fieldwork setting.*

7. Share the final drafts of the FBA and proposed BIP, first with your school psychology fieldwork supervisor, and then with the teacher of the student with the challenging behavior. Then facilitate implementation of the BIP and by ***December 12th*** obtain and turn in follow-up data. When compared with baseline data, follow-up data should be used to determine the effectiveness of the BIP.

If you or your school psychology fieldwork supervisor has any questions feel free to contact me via e-mail (brock@csus.edu) or phone (916-278-5919).

September 1, 2018

Dear Fieldwork Supervisor;

Thank you for agreeing to participate in the supervision of CSUS school psychology fieldworkers. As you know, this practical experience is a critical part of our students' training. One of the fieldwork requirements for the fall 2018 semester is to practice conducting a functional behavioral assessment (FBA) and developing a behavior intervention plan (BIP). These practical experiences parallel a course I teach, within which school psychology fieldworkers are enrolled (*EDS 240: Functional Assessment of Behavior*). In this letter I provide expectations, which when met, allow your fieldworker to meet these specific fieldwork/course requirements. Please do not hesitate to contact me if you have any questions at 916-278-5919 or at brock@csus.edu.
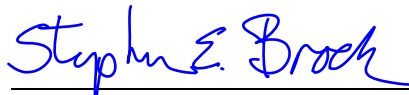
First, it is important to keep in mind that this is the first FBA most fieldworkers will conduct. Thus, it is recommended that the child identified for this practical activity have only mild to moderate behavior problems. While working with children with more severe behavior challenges is not ruled out, typically it is best if the child not have a severe behavior problem.

It is anticipated that by **September 12, 2018**, fieldworkers will have identified the school, and that by **September 26, 2018**, they will have identified the specific classroom within which, and the student for whom they will conduct the FBA and develop the BIP. In making this selection it is important to ensure that the teacher of the targeted child is willing to spend at least one-hour talking to the fieldworker about the child's behavior, and is comfortable with the fieldworker spending at least five-hours observing the child in his or her classroom. It would also be helpful if the teaching staff was willing to collect behavioral data. To facilitate teacher understanding of this activity attached find another letter that explains this fieldwork/course requirement. If you think it would be helpful feel free to make use of this letter. In addition, in making this selection it is important to obtain parental consent for a child's participation in this activity and it is ideal (but not required) if the fieldworker is given the chance to conduct a parent interview.

It is important for you, and the teacher of the targeted child, to understand that in most cases fieldworkers are learning specific aspects of functional assessment at specific points during the fall semester. Thus, this first functional assessment may take them longer than might typically be the case. Specifically, fieldworkers will have had instruction on identifying and operationalizing problem behaviors, and conducting the teacher interview by **September 19, 2018**. They will have had instruction on conducting behavioral observations and establishing a baseline by **September 26, 2018**, and the FBA report is not due until **October 17, 2018**. Furthermore, the BIP is not due until **November 17, 2018**. This relatively long timeline emphasizes the importance of the targeted child not being one in urgent need of behavioral intervention. Data evaluating the effectiveness of the BIP is not due until **December 12, 2018**.

Thank you for agreeing to supervise a CSUS school psychology fieldworker and providing this essential learning experience. Again feel free to contact me if you have any questions.

Sincerely;

Stephen E. Brock, Ph.D., NCSP, LEP
Professor and Program Coordinator
916-278-5919 / brock@csus.edu
September 1, 2018

Dear Teacher;

Thank you for agreeing to participate in the professional development of CSUS school psychology fieldworkers. Your efforts are very much appreciated by the CSUS school psychology faculty. The specific training experience you are a part of is designed to train the fieldworker to conduct functional behavioral assessments (FBA) and to write behavior intervention plans (BIP). This practical experience parallels a course I teach and within which school psychology fieldworkers are enrolled (*EDS 240: Functional Assessment of Behavior*). In this letter I will provide you with my expectations for this training activity. Please do not hesitate to contact me if you have any questions at 916-278-5919 or at brock@csus.edu.
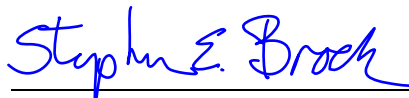
First, it is important to keep in mind that this is the first functional assessment most fieldworkers will conduct. Thus, I recommend that the child identified for this practical activity have only mild to moderate behavior problems. While working with children with more severe behavior problems is not ruled out, typically it is best if the child not have a serious behavior problem that is in urgent need of behavioral intervention.

Second, it is also important to acknowledge that in completing this activity the fieldworker will need to spend *at least* one-hour talking to you about the child's behavior challenges, and will need to spend *at least* five-hours observing the child in your classroom. If this is not possible, please let the fieldworker know this as soon as possible, so that another training experience can be found. It will also be extremely helpful if you and/or a teaching assistant are willing to collect data on the student's challenging behavior (e.g., count the number of times it occurs within a specific time frame). This data collection will take place both before and after a behavior intervention plan is implemented. As appropriate and possible, it may also be helpful if parent interview data is obtained.

Finally, it is important for you to understand that in most cases fieldworkers are learning specific aspects of behavior assessment and intervention at specific points during the semester. Thus, this first assessment/intervention plan will take them longer than is typically the case. Specifically, fieldworkers will have had the instruction they need to conduct the behavioral assessment by **September 26, 2018**, with the functional behavioral assessment report not being due until **October 17, 2018**. Furthermore, the behavior intervention plan is not due until **November 21, 2018**. This relatively long timeline emphasizes the importance of the targeted child not being one in urgent need of behavioral intervention. Data evaluating the effectiveness of the behavior plan developed (in consultation with you, the fieldworker, and the fieldworker's supervisor) is not due until **December 12, 2018**.

Thank you for agreeing to provide this essential school psychology learning experience. Again feel free to contact me if you have any questions.

Sincerely;

Stephen E. Brock, Ph.D., NCSP
Professor and School Psychology Program Coordinator
916-278-5919
brock@csus.edu

Helping the Student with ADHD in the Classroom: A Handout for Teachers[1]

Stephen E. Brock, Bethany Grove, & Melanie Searls
California State University, Sacramento

Attention-deficit/Hyperactivity Disorder (ADHD) is one of the most common childhood behavior disorders. From data provided by the 2003 National Survey of Children's Health it has been estimated that 7.8 percent of school aged youth have at some point been diagnosed with ADHD. Combined with this high prevalence is the fact that ADHD's core symptoms of inattention, hyperactivity, and impulsivity are associated with a variety of school adjustment challenges (e.g., calling out, leaving seat, interrupting activities). Consequently, it is not surprising that these students are at-risk for school failure and require behavioral interventions to promote school success. This handout provides an examination of empirically validated intervention ideas.

General Behavior Intervention Suggestions

Before offering specific interventions for specific ADHD challenges it is important to acknmwledge that while these students do have a core set of common difficulties, this group is very heterogeneous. Consequently, instead of focusing simply on ADHD symptoms, intervention should begin by identifying specific challenging behaviors. Next, alternative desired behaviors, incompatible with the challenging behaviors, should be identified. It is important to keep both sets of behaviors in mind since educators need to not only make clear to students what behavior is unacceptable, but they also need to make clear what behavior is acceptable. It is also important to ensure that the intervention plans for children with ADHD are based on a functional assessment of student behaviors. Antecedents and consequences of both the challenging and desirable behaviors need to be identified. Analysis of antecedents will suggest environmental adjustments that can set the student up for success, while the analysis of consequences will identify those environmental conditions that reinforce behavior. The function of the problem behavior should guide interventions. For example, if the behavior is maintained by negative reinforcement (e.g., avoidance of an undesired task) the intervention should ensure that this goal is not obtained by the problem behavior. At the same time, the intervention should teach the student that the desirable behavior is a more effective and efficient way of obtaining the desired behavioral goal.

Environmental and Instructional Considerations

Classroom environmental changes can be helpful in reducing ppoblematic behaviors and learning difficulties. These interventions, which are discussed below, might be thought of as *setting the student with ADHD up for success.*

Task duration. To accommodate to a student's short attention span, academic assignments should be brief, and immediate feedback regarding accuracy provided (Pfiffner & Barkley, 1998). For example, long projects can be broken up into smaller parts (Sandoval, 1982). In addition, allowing students to take breaks during long periods of class work is another possible accommodation (Zentall, 2005).

Task difficulty. Adjusting task difficulty (e.g. matching difficulty to the student's instructional level) is a way to engage students with ADHD and to help them avoid frustration. Students with ADHD are more likely to give up and become frustrated when given an academic task that exceeds their instructional level. They also tend to become bored and inattentive with simple tasks as compared to students who do not have ADHD. Some students with ADHD may also benefit from starting with easier tasks and slowly progressing to more difficult tasks as their confidence and self efficacy builds (Zentall, 2005).

Direct instruction. Attention and on-task behavior can be improved when the student with ADHD is engaged in teacher directed (vs. independent seat-work) activities. Teaching note-taking strategies further increases the benefits of direct instruction, and has also been shown to significantly improve on-task behavior, scores on assignments, and comprehension (Raggi & Chronis, 2006). Students with ADHD may also benefit from explicit direct instruction on attention (i.e., attention training sessions). Skills practiced in these sessions can include avoiding irrelevant cues and selectively attending to important material (Zentall, 2005).

Peer tutoring. Peer tutoring has been shown to be effective in facilitating academic and behavioral gains among students with ADHD. It is recommended that peer tutors be of the same gender, and have higher academic and better behavioral skills, than the student with ADHD. Further, the highest academic gains are made when students are presented with challenging material and when teacher feedback is frequent. As little as 20 minutes per-day of peer tutoring has been found to result in significant increases in on-task behavior (DuPaul, Ervin, Hook, & McGoey, 1998).

Class-wide peer tutoring. Students with ADHD who have participated in class-wide peer tutoring have been reported to demonstrate increased on-task behavior and improved accuracy on academic tasks (Raggi & Chronis, 2006). This intervention involves first providing students with instruction on how to be an effective tutor and then being given scripts of academic materials. Immediate feedback is given and points are awarded for correct responses. Each student plays the role of a tutor and a tutee and teachers are required to carefully monitor the process.

Scheduling. Given that the on-task behavior of students with ADHD typically worsens as the academic day progresses, it is recommended that instruction be provided in the morning. During the afternoon, when problem-solving skills tend to be especially poor, more active, nonacademic activities can be scheduled (Barkley, 1998). Further, preferred activities can be scheduled after non-preferred activities to provide an incentive to complete challenging tasks (Reid, 1999).

Novelty. Increasing the novelty and interest level of tasks through enhanced stimulation (e.g., color, shape, texture) reduces activity level, increases attention, and improves the overall performance of students with attention problems (Zentell, & Meyer, 1987). Teachers can use novelty in the classroom by bolding important elements of written directions, using brightly colored paper, animation, or even different intonations when giving instructions or teaching a lesson. Students with ADHD respond positively to the novelty provided by films, models, and skits (Zentall, 2005). Conversely, it is also important to minimize assigning repetitive tasks for students with ADHD, as they increase off-task behaviors.

Provide structure and organization. Students with ADHD respond positively to structure and predictability (Raggi & Chronis, 2006). These students can benefit from the use of a daily schedule and maintaining a consistent day to day routine. It may also be helpful to give students with ADHD advanced notice of changes in the class routine. Lessons themselves can be carefully structured and important points clearly identified. For example, providing a lecture

outline is a helpful aid that increases memory of main ideas. Students with ADHD perform better on memory tasks when material is meaningfully structured for them (O'Neill & Douglas, 1991).

Rule reminders and visual cues. The rules given to students with ADHD should be well defined, specific, frequently reinforced, and associated with clear consequences. Relying on the student's memory of rules is insufficient. Thus, visual rule reminders should be placed throughout the classroom. It is also helpful if rules are reviewed before activity transitions and following school breaks (Barkley, 1998). Teaching students self-monitoring skills by using visual cues has been shown to improve selective and sustained attention, and language, while at the same time reducing impulsivity. Such instruction can be facilitated by providing students with a list of questions to run through when starting a new assignment such as: "What is the problem?," "What is my plan?," "Am I following my plan,?" and "How did I do?" (Zentall, 2005).

Pacing of work. When possible, it is helpful to allow students with ADHD to set their own pace. The intensity of problematic ADHD behaviors is lessened when work is self-paced, as compared to situations where others set the pace for the student (Whalen & Henker, 1985).

Instructions. Students with ADHD often have difficulty following multi-step directions. Thus, it is important for directions to be short, specific, and direct (Goldstein & Goldstein, 1990). By using fewer more direct words to explain assignments, teachers cal increase the understanding and engagement of students with ADHD (Zentall, 2005). To ensure understanding, it is helpful if students with ADHD are asked to rephrase directions in their own words. Additionally, teachers should be prepared to repeat directions frequently, and recognize that these students may often miss what was said due to the inattention associated with their ADHD (Pfiffner & Barkley, 1998; Zentall, 2005).

Choice. Allowing students a choice of activities can help to reduce disruptive behaviors, and increase on-task behavior and task completion (Dunlap, Kern-Dunlap, Clarke, & Robbins, 1991; Raggi & Chronis, 2006). This accommodation might involve giving a student a list of possible tasks to complete and to permit a choice regarding what to work on first. For example, choices might include working on either a math or a language arts assignment for 15 minutes before being required to switch to the other subject. This technique is reported to be most effective when it is used in combination with other behavioral techniques (Dunlap et al., 1991).

Productive physical movement. Students with hyperactive symptoms may have difficulty sitting still for prolonged periods of time. Thus, productive physical movement should be planned. Such increased physical movement has been shown to improve the on-task behavior of students with ADHD. It may be helpful to develop a repertoire of physical activities for the entire class such as stretch breaks. Other examples might include a trip to the office, a chance to qharpen a pencil, taking a note to another teacher, watering the plants, feeding classroom pets, or simply standing at a desk while completing class-work. Even the movement required by calculator use has been shown to increase on-task behavior (Zentall, 2005). Alternating seat-work activities with other activities that allow for movement is essential. It is also important to keep in mind that on some days it will be more difficult for the student to sit still than on others. Thus, teachers need to be flexible and modify instructional demands accordingly (Pfiffner & Barkley, 1998).

Active vs. passive involvement. Tasks that require active (as opposed to passive) responses can help hyperactive students channel their disruptive behaviors into constructive responses (Zentell & Meyer, 1987). While it can be challenging for these children to sit and listen to a long lecture, teachers will find that students with ADHD can be successful participants

in the same lecture when asked to assist in some way (e.g., help with audio-visual aids, write important points on the chalk board).

    Feedback. Students with ADHD have been found to respond better to cross-modal feedback. For example, students respond better to verbal feedback when completing visual tasks. Students also tend to do better when response options are available in a format different from the question. For example, when presented with a question orally, students do better when their response options are listed visually. Cross-modal feedback allows students with ADHD to differentiate the information they are receiving about their performance from their task and differentiate the information they are taking in from the information they are generating (Bennett, Zentall, French, & Giorgetti-Borucki, 2006).

    Distractions. Placing the student in close proximity to the teacher and away from high traffic areas can reduce distractions and increase attention (e.g., seating the student away from activity centers, mobiles, doorways, and windows; Barkley, 1998). Eliminating irrelevant and highly desirable distractions such as toys or cartoons from the work area is also an effective modification. Auditory distractions (e.g., side conversations) during complex and cognitively effortful tasks tend to be the most problematic for students with ADHD and thus are especially important to minimize or eliminate (Zentall, 2005).

    Anticipation. Knowledge of ADHD and its primary symptoms is helpful in anticipating difficult situations. It is important to keep in mind that some situations will be more difficult for some students than others. For example, effortful problem solving tasks may be especially troublesome due to the low frustration threshold of many students with ADHD (Wigal et al., 1998). These situations should be anticipated and appropriate accommodations made. For example, when presenting a task that the teacher suspects might exceed the student's attentional capacity, it is appropriate to reduce assignment length and emphasize quality as opposed to quantity.

Contingency Management: Elcouraging Appropriate Behavior

    Although classroom environmental changes and accomodations can be helpful in reducing problematic behaviors and learning difficulties, by themselves they are often not sufficient. Thus, contingencies that reinforce appropriate or desired behaviors, and discourage inappropriate or undesired behaviors, such as those discussed below, should also be available.

    Powerful external reinforcement. Students with ADHD typically need an external measure of success and a pay-off for increased performance. Relying on intangible rewards is often not enough for these students. Further, it is important to keep in mind that the contingencies or consequences used must be delivered more immediately and frequently than is typically the case. Students with ADHD tend to be more influenced by current rewards then by prior reinforcement (Zentall, 2005). Additionally, behavioral consequences will need to be more powerful and of a higher magnitude than is required for other students (Wigal et al., 1998).

    Use of *both* negative and positive consequences is essential (Rose n, O'leary, Joyce, Conway, & Pfiffner, 1984). However, before negative consequences are implemented, appropriate and rich incentives should first be developed to reinforce desired behavior. It is important to give much encouragement, praise, and affection, as students with ADHD are easily discouraged (Zentall, 2005). When negative consequences are administered they should be delivered in a fashion that does not embarrass the student. In addition, it is important to acknowledge that the rewards used with these students may lose their reinforcing power quickly and thus should be frequently changed or rotated (Pfiffner & Barkley, 1998).

Self-monitoring. Many students with ADHD have the skill to perform desired behaviors; however they are not able to perform consistently over time due to challenges with self regulation (Ardoin & Martens, 2004; Reid, Trout, & Schartz, 2005). Thus, self-monitoring can be another intervention helpful to the student with ADHD, and has been found to increase on-task behavior. It is a strategy that can, for example, involve the use of a tape with tones played at random intervals to remind a student to monitor his or her behavior. The student and the teacher listen for the tones and record whether or not the student is on-task. At predetermined times during the day the teacher and student records are compared and the student is reinforced for agreement with teacher responses. Once the student becomes accurate in assessing his or her behavior, he or she will then be reinforced for improvements in on-task behavior. Once students have been taught to monitor and reinforce their behaviors, fading can be used to decrease any external monitoring and reinforcement (DuPaul & Weyandt, 2006). Additionally, self monitoring has been shown to be especially effective when the targeted behaviors or the desired outcomes are valuable to the student (Harris et al., 2005).

Regardless of whether or not a child with ADHD responds to medication, self-monitoring strategies have been found to result in gains in on-task behavior, improvements in selective and sustained attention, as well as reducing impulsivity (Zentall, 2005). These results suggest that self-monitoring may be a particularly promising technique for children whose challenging behaviors are effected by medication (Mathes & Bender, 1997).

Token economy systems. These systems are an example of a behavioral strategy proven to be helpful in improving both the academic and behavioral functioning of students with ADHD. Thesy typically involved giving students tokens (e.g., poker chips) when they display appropriate behavior. These tokens are in turn exchanged for tangible rewards or privileges at specified times (McGoey & DuPaul, 2000). The use of a token economy is an effective way to deliver an immediate contingency frequently to students in a busy environment (DePaul & Weyandt, 2006).

Response-cost programs. While verbal reprimands are sufficient for some students, more powerful negative consequences, such as response-cost programs, are needed for others (Pfiffner & Barkley, 1998). The use of a response-cost system has been demonstrated to increase the levels of on-task behavior, seatwork productivity, and academic accuracy of students with ADHD (DuPaul & Weyandt, 2006). A specific response-cost program found to be effective with ADHD students involves giving a specific number of points at the start of each day. When a rule is broken (i.e., a problem behavior is displayed) points are taken away. Thus, to maintain their points, and receive reinforcement, students must avoid displaying inappropriate behaviors. Since students with ADHD are easily frustrated it may be helpful to allow them the opportunity to earn points back by displaying appropriate behavior. At the end of the period or day students are allowed to exchange the points they have earned for a tangible reward or privilege (Barkley, 1998). When there are high student-teacher ratios in a classroom, response-cost programs have been found to be more practical to implement than other behavioral interventions since it is difficult to continuously monitor every student's behavior (McGoey & DuPaul, 2000).

Time-out. Time-out typically involves removing the student from classroom activities. Before time-out is implemented it should be clear that it is not reinforcing for the child (i.e., giving the student what he or she wants). For example, if a student is displaying aggressive or disruptive behaviors to receive attention from peers, removing the student from his or her peers (i.e., time-out) would be effective. However, if a student is trying to avoid schoolwork, time-out can be reinforcing if it allows the student to avoid his or her schoolwork. The time out area should be a pleasant environment and the student should be placed in it for only a short time. At

its conclusion a discussion of what went wrong and how to prevent the problem in the future takes place (Pfiffner & Barkley, 1998). While these procedures are effective with ADHD students, it is recommended that they be used only with the most disruptive classroom behaviors and only when there is a highly trained staff member available (Abramowitz & O'Leary, 1991).

Concluding Comments

As students with ADHD are a heterogeneous group there is no one intervention (or set of interventions) that will improve the classroom functioning of all of these students. Thus, it is suggested that classroom modifications be tailored to unique needs. In developing these modifications it is perhaps best to begin by examining how the classroom environment might be changed to set the student with ADHD up for success. The next step is to consider the implementation of a contingency management system designed to provide external incentives for appropriate classroom behaviors. In doing so it is important to remember that behavior management programs must be consistently applied. Further, it is essential to avoid excessive use of negative consequences such as reprimands and time-outs. Further, in all response-cost programs it is important to avoid the use of unrealistic standards that result in excessive point or privilege loss. Students with ADHD experience substantial amounts of school failure. Thus, for any intervention program to be effective in must result in the student with ADHD experiencing success. In other words, it is essential that students are frequently reinforced for what we want them to do, rather than simply punished for what we do not want them to do.

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