

Specific Instructional Strategies for Common Learning Problems

Chris A. Zeigler Dendy, M.S.

Adapted from *Teaching Teens with ADD and ADHD*

The same teaching strategies that are effective for students with AD/HD are effective for all students. The use of teaching strategies that involve multiple senses, especially the provision of visual cues and hands-on activities and direct instruction in academics and organizational strategies, is more likely to help these students achieve academic success.

Researchers are increasingly recognizing the importance of addressing academic deficits to correct behavior problems. George DuPaul, Ph.D., a leading researcher on learning issues and AD/HD at Lehigh University, has found that focusing on learning improves both academic performance and behavior.¹ However, the converse is rarely true. So by focusing on academic issues first, teachers should see improvements in both schoolwork and behavior.

Academic achievement is also associated with positive relationships with peers, teachers, and parents.² According to Marc Atkins, Ph.D., of the University of Chicago, “academic interventions improve children’s social and emotional function, often rivaling the benefits seen from psychosocial interventions like counseling and skills training.”³

Specific teaching strategies for secondary students with attention deficits and multiple learning prob-

lems are discussed in this chapter. These suggestions include modification of teaching methods, assignments and testing and grading, provision of increased support and supervision, and increased use of technology. Age-appropriate suggestions for accommodations are also provided. The overview of effective intervention strategies and accommodations in Chapters 4 and 5 can also be helpful. Additional intervention strategies are available in the “Top Five Common Challenging AD/HD Behaviors” for this age group (Chapter 9). Several resources are listed in Appendix A that will help you implement these suggested intervention strategies.

Major deficits discussed in Chapters 9 to 11 should be noted in the student’s IEP or 504 plan along with specific intervention strategies. This applies not only to deficits in academics, but also deficits in organization, time management, behavioral control, and social skills.

Arthur Robin, Ph.D., a psychologist specializing in treating adolescents with AD/HD, reminds us that finding a student’s strengths and talents is also critical.⁴ Building on these strengths is essential for both academic and behavioral interventions. Teaching key skills and compensatory strategies, providing encouragement and positive feedback, and believing in the student’s

ability to succeed are invaluable elements of an effective educational plan.

Effective Teaching Strategies for Secondary Level Students

I. MODIFY TEACHING METHODS.

Students with attention deficits often have *limited working memory capacity, difficulty storing and retrieving information from long-term memory, difficulty organizing and sequencing information, and difficulty planning ahead.*

Several general principles can enhance the effectiveness of teaching this group of students.

✓ Use visual cues and hands-on activities.

Teachers may find that by using more visual cues and hands-on activities, students are more likely to retain information, follow the rules, and meet teacher expectations.

✓ Reduce demands on memory. Since these students often have *difficulty analyzing, organizing and remembering information*, they may struggle with written essays, complex math problems, and long-term projects. So it is very important to *reduce demands* on their already limited memory capacity.

✓ Provide assistance with organization and problem solving. Two key deficits related to executive function also cause problems for this age student: a) disorganization and b) weak problem-solving skills necessary for analysis of an assignment and the subsequent sequencing and synthesis required for completion of the work.

✓ Offer direct instruction. In other words, *teaching specific learning strategies or skills* is essential to the academic success of many of these students. Don Deshler, Ph.D., gives excellent tips for teaching strategies for *reading, writing (including paraphrasing and summarizing), memory, test taking, notetaking, math, and social skills* in *Teaching Adolescents with Learning Disabilities*⁵ These strategies are very effective — for example, the grades of students who are taught test-taking skills show, on average, a 10-point improvement in their grades. Direct instruc-

tion of organizational, time management, memory strategies, and study skills is also critical.^{6,7}

✓ Externalize prompts. Russell A. Barkley, Ph.D., suggests "*externalizing prompts*" to help students compensate for their deficits in several areas: memorization, time awareness, written expression, complex problem solving, and disorganization. Several specific strategies based on these five principles can be helpful, including the use of graphic organizers, sticky notes, alarm watches, and personal reminders. When learning an abstract concept such as time awareness, the student can actually "see the passage of time" with an external prompt such as a timer or clock, especially a colorful one like the Time Timer[®].

✓ Other effective teaching strategies include:

- "*Keeping the rules in view*" is a good example of providing visual cues.⁸ Since students with AD/HD have deficits in "following the rules," anything that reminds them of a behavioral or academic rule or teacher expectations reduces the need to retrieve the rule from memory.
- *Leave written step-by-step problem examples on the board.*
- *Use an overhead projector.* This teaching tool allows the teacher to "model" a new skill, such as how to write an essay. Then students are asked to practice that same task for class or homework. Some teachers find it helpful to cover the unused portion of the transparency so as not to overwhelm or confuse students.
- *Use a pointer.* Using a pointer tool to emphasize important information can benefit students with AD/HD.
- *Cue the student on key points.* These students often have difficulty picking out key points so be direct. Tell the student, "This is important; write this down."
- *Use graphic organizers* that give both visual cues and organizational guidance.⁹ For example, provide an outline of the major components of essay writing. A few sources for graphic organizers are listed in Appendix A.

- *Show model reports or projects.* The overall quality of long-term projects improves when students observe examples of excellent projects. Some teachers show examples of reports that earned grades of A, B, C, and F.
 - *Provide job cards.* Some teachers give job cards that list the four or five major steps required to complete a task.
 - *Break down tasks* such as essay writing into their component parts and *offer practice* opportunities until each skill is mastered.
 - *Provide teacher aides or peer tutors.* These students tend to do well with one-on-one instruction.
 - *Allow students to tutor other students.* Having the student explain the information to someone else is an excellent way to help him understand material.
 - *Increase class participation* through different *group response* techniques, such as hand signals, response cards, and writing answers on dry erase boards so they can be displayed easily for the teacher.¹⁰
 - *Writing on dry erase boards* can also increase a student's willingness to attempt difficult work because mistakes can be erased quickly and easily.
 - *Use color* to help students learn material and correct errors.¹¹ Some teachers report highlighting each step of a math problem in a different color can be helpful.
 - *Teach self-management strategies.*
 - Introduce strategies for memorization. Dr. Deshler provides several suggestions for helping students memorize information and retain it in long-term memory more effectively:¹²
 1. Link episodic and semantic information. For example, link words with pictures or events, give visual cues, or provide hands-on activities.
 2. Connect new information to prior knowledge.
 3. Elaborate on new information.
 4. Learn mnemonics or memory tricks, such as music and rhyming phrases.
 5. Organize key information in a logical concise manner. For example, use graphic organizers or notes provided by the teacher.
 - *Teach organizational, study, test taking, time management, and self-advocacy strategies.* Introducing traditional four-step time management skills similar to those of Stephen Covey can be very helpful.¹³ Specific tips on teaching time management, which are provided in *Teaching Teens with ADD and ADHD*, include:
 - Plan, prioritize, schedule, and follow the plan.
 - Schedule work on a timeline, going backwards from the due date.
 - ✓ *Teach the appropriate use of technology* as described in Section E.
 - ✓ *Educate students about their AD/HD.* Books and videos, such as those in Appendix A, can be helpful.
- ## 2. MODIFY ASSIGNMENTS.
- Students with an attention deficit can have difficulties with *verbal expression, slow processing speed, and fine motor coordination* that slow down the production of written work. These deficits have significant implications for notetaking and class and homework assignments. Many of these students cannot complete their work as quickly as their peers and ultimately *produce less written work* in the same period of time as their classmates! A student with AD/HD can spend an hour or more on assignments that other students complete in 30 minutes. Some students also have difficulty *listening to a teacher, identifying key points, and taking notes at the same time.* Those students with attention deficits who experience these challenges benefit from, having a notetaker, shorter assignments, and extra time to complete homework and projects.
- Sydney Zentall, Ph.D., and Sam Goldstein, Ph.D., have found that most teachers underestimate how long students with learning problems take to complete

homework.¹⁴ For example, a teacher may assign homework that requires 30 minutes to an hour to complete. For students with AD/HD, that assignment may require two hours — or more — to finish. These researchers also report that students often avoid homework because it is 1) *too long* or 2) *too difficult for their present level*. Drs. Goldberg and Zentall suggest this strategy to *determine whether the amount of homework is appropriate*: the teacher writes down how long the homework should take; the student and parents report back how long the assignment actually took to complete; and then the two times are compared. If there is a large discrepancy, then the assignments should be shortened.

Assigning reasonable amounts of homework is critical. Recommendations in a joint statement from the National Parent Teacher Association (PTA) and National Education Association (NEA) suggest that students in elementary and middle school spend *approximately 10 minutes per grade per night on homework* for all subjects.¹⁵ Of course, the amount of homework in high school can vary by subject, but generally speaking, ninth graders should spend a total of roughly 90 minutes an evening on all their homework assignments.

Teachers can *reduce the amount of written work* in several ways without compromising the amount of academic material mastered:

- ✓ Shorten class and homework assignments. If assignments are not reduced to a reasonable length, students will begin avoiding homework.
- ✓ Allow students to write down only the correct answers (not the question).
- ✓ Photocopy questions and have the student write the answers on the paper.
- ✓ Offer alternative activities involving other forms of expression, such as recording a book report on video or audiotape.
- ✓ Give tips on notetaking. Teach students strategies for notetaking, such as taking notes in two columns. Draw a line down the page, dividing the paper into sections. Then write the main idea in the left-hand column and the supporting details in the right-hand column.

- ✓ Teach shorthand. Show students how to take notes in the form of shorthand, substituting symbols for some words. Unfortunately, this may not work for some students since memorizing the shorthand symbols can be difficult. However, all students should learn a few common abbreviations to facilitate accurate recording of assignments in their planners.
- ✓ Provide a notetaker. Sometimes teachers select a notetaker for several students, ask the notetaker to make copies of the day's notes, and then make notes available to any interested student. If the school provides NCR paper, the notetaker keeps the top copy, the second copy is kept in a classroom binder, available for viewing or copying by any student, and the third copy is sent to the special education department. Special education teachers can provide more effective support when they have access to the complete notes for each class. Some students with attention deficits pay attention better when they take notes as best they can, in addition to using the notetaker's class notes.
- ✓ Offer outlines and study guides. Some teachers give outlines, study guides, and long-term assignments in advance to parents of children who are struggling academically. Outlines and study guides help students clearly identify key information to study.

Long-term assignments are especially troublesome for students with AD/HD. Their *forgetfulness, impaired sense of time, limited organizational skills, and difficulty planning ahead* make it extremely difficult to complete these assignments in a timely manner. On researcher reports that the time lag between the assignment and due date creates a disability for these students.¹⁶

1. Provide organizational support.
 - a. Break down long-term assignments into two or three segments. Some of these students are overwhelmed by long-term projects. By breaking the project into segments, the teacher provides the student with a better understanding of how to a)

analyze the problem, b) know where to start, and c) identify the steps to complete a project.

- b. *Give separate due dates and grades.* Students often lack the ability to estimate the amount of time required to complete a project and don't know how to schedule a timeline backward to know when they must begin working. As a result, they often put off the work until the last minute and are more likely to totally forget the project or complete it hurriedly in an unsatisfactory manner.
- c. *Notify parents of due dates.* Parents often like to be *notified in advance of any major projects* so that their teenager doesn't come home on a Thursday night and say, "By the way, Mom, my semester project is due tomorrow."
 - i. *List parental notification as an accommodation.* If the student has an IEP or 504 plan, advance notice of tests and long-term projects is a very helpful accommodation.
- d. *Provide a graphic organizer.* Showing students how to use a *graphic organizer for a long-term project*, such as the one described in *Teaching Teens with ADD and ADHD*, provides important structure and guidance. In addition, teachers can also create graphic organizers that are appropriate for their specific subject matter.¹⁷ (These resources are listed in Appendix A.) Once a student learns how to use any graphic organizer, providing the same organizer for a later assignment reminds students of the recommended or required structure.
 - i. *Teach students to develop graphic organizers.* Some teachers have taught their students how to make their own graphic organizers.

3. MODIFY TESTING AND GRADING.

Some students with attention deficits experience serious learning deficits that interfere with their ability to 1) *complete class and homework in a timely manner* and 2) *accurately reflect their knowledge and skills on timed essays and tests.* For example, *weak verbal expression*

skills, slow processing speed, and poor fine motor coordination often interfere with the ability to rapidly get ideas down on paper. Furthermore, limited *working memory* capacity makes it difficult for them to hold information (math facts or thoughts that must be organized into paragraphs) in their heads while problem solving or writing a composition. As part of their verbal expression deficits, these students can also struggle with *rapid retrieval of information* stored in long-term memory, such as grammar and spelling rules when polishing a final essay.

- ✓ **Give extended time on assignments and tests.** Students with attention deficits in middle and high school often say that *extended time on tests and some assignments* is one of the most helpful *accommodations* they receive. One student who completed a standardized test within the usual time limit said that just knowing extra time was available enabled her to complete the test within the usual time limit.
- ✓ **Modify test style.** Some students find that tests involving *recognition skills* rather than cold recall of facts can more accurately reflect their mastery of information — *multiple choice, true/false, fill-in-the-blank, and word banks* instead of essay exams. Those students with serious written expression problems may require oral exams.
- ✓ **Request accommodations on state tests.** Eligible students can also be given *accommodations during special testing* situations, such as state academic achievement tests, competency exams for graduation, and college entrance tests (SAT and ACT). Clearly, testing accommodations minimize the impact of the disability to "level the playing field," not simply to help a student perform better on the tests. The necessary accommodations should be stated in the IEP or 504 plan.
- ✓ **Adjust grading system.** Some teachers *adjust grading techniques* by allowing students to:
 - *Drop their lowest grade or earn extra credit*, especially when they are in danger of failing, yet seem to understand the material.

- *Submit homework late for credit.* If students turn in homework late, allow them to *do the make-up work for full credit.*
- *Reduce the amount of make-up work.* Some teachers allow students to do *reduced amounts of make-up work* until they are caught up. Otherwise, these students can become so discouraged and overwhelmed that they simply give up.
- *Implement a correction plan.* However, to ensure that homework is completed in the future, simultaneously *institute a plan*, such as using a *weekly report*, to monitor and correct the homework problem.

A Parent's Perspective on Homework. Parents often have serious concerns about just how far to push their frustrated, and sometimes depressed, teens to complete their homework. Data on suicide does give them pause for concern. In one study, 10 percent of youngsters with AD/HD attempted suicide while none of the non-AD/HD youth in this study ever made an attempt.¹⁸

Give parents some control. After many evenings of tears and screaming fights, one Texas parent and special education consultant came up with a unique solution to this problem. The parents and school agreed to include a statement in the teenager's IEP that parents would *"determine when enough homework was enough,"* even if the assignment was not complete. Anticipate occasions when these teens become so overwhelmed that they can be pushed no further.

4. INCREASE SUPPORT AND SUPERVISION.

The four to six year developmental delay often associated with AD/HD in middle and high schoolers necessitates *more supervision and support* than would ordinarily be expected for these students. If students are expected to cope successfully with problems related to executive function deficits, such as *disorganization, forgotten assignments, limited memory capacity, and incomplete homework*, extra support and supervision are critical. Utilization of effective classroom management strategies like those in Chapter 5 and those recom-

mended by others like Robert Reid, Ph.D., University of Nebraska at Lincoln, are also effective.¹⁹

- ✓ **Monitor an assignment book.** For some students with attention deficits, simply monitoring an assignment book on a daily basis corrects problems with homework completion. However, many others need additional support.
- ✓ **Recruit others to help.** Some teachers use creative strategies to increase supervision without making extra work for themselves. For example, teachers can recruit other students or adults to help these teenagers in a variety of ways.
 - *Row captains.* As Clare B. Jones, Ph.D., suggests, teachers can appoint *"row captains"* who pick up homework each day and check that all students have written down their homework assignments.²⁰
 - *Homework buddy.* A *"homework buddy"* can check that the student has recorded homework correctly.
 - *Organizational coach.* A close friend, peer tutor, or teacher aide can *meet the student* at the locker after school to ensure the student takes home assignments and the correct books. This intensive level of support is only used when a student is failing or consistently not turning in assignments. Later, after the student masters the skill, the level of supervision can be reduced.
 - One parent *paid a high school senior* to meet her freshman daughter at her locker each day to organize homework materials.
 - *School counselors.* The student can *stop by the counselor's office* after school for a calendar check and possibly a reward.
 - *Parents.* Parents can *monitor the assignment book and homework completion* on a daily basis.
 - *Students.* Some students with attention deficits *carry everything in their backpacks*, preferring a heavy backpack to the dangers of leaving necessary materials in their lockers.
- ✓ **Hire a tutor.** All teenagers want to be less dependent on their parents. Some, especially those with AD/HD, can be resistant to parental "interfer-



ence” regarding homework. If homework battles erupt frequently, parents can consider *hiring someone else* to provide afterschool tutoring or homework supervision to remove the homework battle from the parent-child relationship.

School-Home Communication. Communication between school and home is essential to the academic success of these children. Several strategies can be helpful:

1. **Weekly reports.** Weekly reports monitored by both teachers and parents are extremely effective with these students. Daily reports may be necessary for some students. Home-school contracts may also be helpful in clearly stating expectations for the

student, parent, and teacher.²¹ See Appendices C.3 and C.4 for sample weekly reports. Detailed guidelines for establishing a school-home daily report card are available from the Center for Children and Families at the State University of New York at Buffalo *Summer Treatment Program* website, <http://www.wings.buffalo.edu/adhd>.

2. **Homework hotlines.** Schools may provide *homework “hotlines”* where teachers record the homework each day and any student can call in to get it.
3. **Teacher website.** Individual teachers can establish a website where the daily assignments are listed.
4. **E-mail.** Teachers can *e-mail updated information* to parents about assignment completion or better yet, ask parents to e-mail them each week so teachers only have to reply to the e-mail.
5. **Post assignments.** Teachers can *post assignments* for an entire week in a specific place at the front of the room.
 - a. One teacher posted homework assignments in the *classroom window, facing out*, for a nearby student who chronically forgot his assignments.
6. **Extra books.** An *extra book or set of textbooks* at home can be the easiest way to ensure that students have the necessary materials.
7. **Electronic communication.** One innovative program, *MyADHD.com*, enables stakeholders, such as parents, educators, health care providers, and adults with AD/HD, to stay connected with one another. This website contains dozens of behavior rating scales (in English and Spanish) and history forms that can be completed electronically and stored in the subscriber’s secure private account. A doctor, for example, can send a rating scale to a teacher via e-mail for completion and when filled out online the completed form is sent back to the doctor’s private MyADHD.com account. The site also contains many tools for behavior management, family communication, study strategies, cognitive therapy, and management of ADHD symptoms in adults. If a student is struggling, teachers can suggest that parents talk to their treatment professional about MyADHD.com.

A membership fee is required for accessing services from MyADHD.com.

5. INCREASE USE OF TECHNOLOGY.

Technology is considered a lifesaver for many students with attention deficits. In fact, if a student has an IEP, the IEP team is required to consider whether assistive technology is necessary. Schools must remember that assistive technology is as important for students with learning and attention problems as it is for students with visual or physical disabilities.

- ✓ **Computers.** Computers are excellent tools for students with attention deficits. Having a copy of their work saved on the computer is helpful, considering their propensity to lose homework.
 - Students can type up homework rather than labor with poor fine motor skills and slow processing speed.
 - *Keyboarding skills.* It is, however, important to evaluate a student's keyboarding skills, which may be weak. Because of their *slow processing speed, limited working memory capacity, and slow retrieval of information from long-term memory*, some students are unable to type rapidly. *Shortened assignments* in keyboarding classes can be essential for some of these students.
 - *Keyboarding software.* Software is available to provide keyboarding instruction, which

should be provided as early as possible to avoid the development of ineffective "hunt and peck" strategies. One of these programs may be helpful: Type to Learn[®] or Mavis Bacon Teaches Typing for Kids.[®]

- Academic software programs for some subjects or organizational or time management are also available.
 - *Inspiration.*[®] Many educators have found that Inspiration software helps students improve their outlining, writing, and organizational skills.
 - *Dragon NaturallySpeaking.*[®] Users can dictate into most Windows-based applications at speeds of up to 160 words per minute and turn speech into text (<http://www.scansoft.com>).
 - *Spell and grammar checkers.* Spell checkers and grammar checkers also simplify writing tasks. Handheld spell checkers, such as the Franklin Speller,[®] are often beneficial.
 - *Organizational software.* Most computers are also equipped with software to assist with *time management and organization*, such as Microsoft's Outlook[®] and Apple's iCal.[®] Both have yellow "sticky notes" that can be posted on the screen as reminders.
 - *Earning make-up credits.* Some schools, such as Kenosha Unified in Wisconsin, use self-paced *computer software programs for students to earn make-up credits*, enabling them to graduate on time with their classmates.
- *Books on tape (audiobooks).* Some students have found that listening to *books on tape* while reading the material makes learning easier. Information on this free program is available from your local library.
- *Other electronic devices.* Other electronic devices can help students compensate for their *difficulty memorizing, retaining, and quickly retrieving information*.
 - *Calculator.* Many of these students can benefit from using calculators. It is not unusual

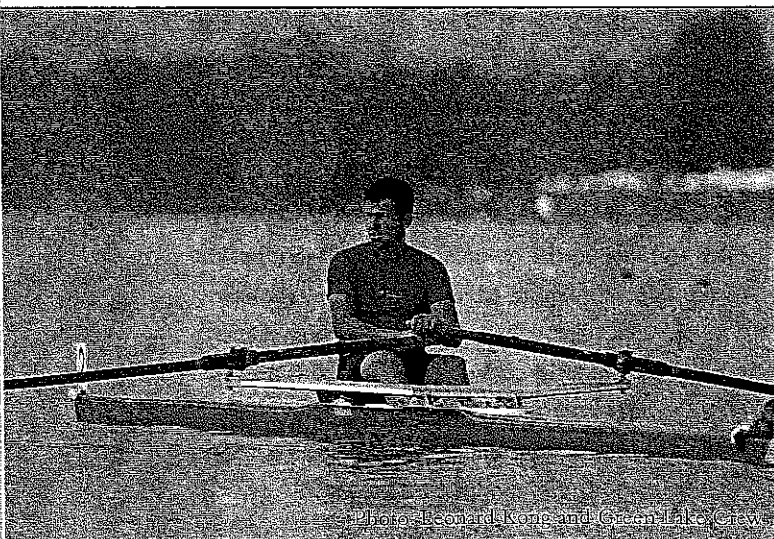


Photo: Leonard Kong and Green Lake Crew

- for even bright students with attention deficits to have difficulty memorizing basic math facts, such as addition or multiplication, and quickly retrieving the information.
- *Alarms.* Some students like to use *special watches or beepers*, such as *WatchMinder* (Patent #5,861,797), that have an alarm that beeps to remind them of important meetings, to stay after school, or to take medication. Often, alarms can be set to vibrate to avoid unwanted attention or disruption to other students. Computers also have alarms that can be set as reminders.
 - *PDA.* Some students use *electronic calendars and schedules* on handheld PDAs, such as a Wizard, iPAQ,[®] or any Palm product to help them remember important assignments and meetings. Of course, students must learn to use these tools responsibly and not as toys.

Effective Classroom Accommodations for Secondary Level Students

Several excellent classroom accommodations were suggested in 1991 in a joint policy memo regarding students with attention deficits from the U.S. Department of Education and Office of Civil Rights. These accommodations, which are still relevant today, include:

- ✓ extended time on schoolwork and tests
- ✓ use of visual aids
- ✓ modified homework assignments
- ✓ notetakers
- ✓ tutors
- ✓ structured learning environment
- ✓ repeated and simplified instructions
- ✓ behavior management
- ✓ adjusted class schedules
- ✓ tape recorders

- ✓ computer-aided instruction
- ✓ audiovisual equipment
- ✓ modified textbooks or workbooks
- ✓ consultation
- ✓ reduced class size
- ✓ special resources
- ✓ classroom aides
- ✓ case managers to monitor student progress
- ✓ modified nonacademic times

ACCOMMODATIONS FOR STUDENTS IN PRIVATE VS. PUBLIC SCHOOLS

Private schools that receive any federal funds, except for those with a religious affiliation, are governed by Section 504 and/or the American with Disabilities Act (ADA). So technically speaking, students should be eligible similar accommodations in either public or most private school settings. Over the last few years, most private schools have made a special effort to expand their knowledge and expertise with students with AD/HD. In fact, some private schools now specialize in educating students with attention deficits.

A Few Closing Thoughts...

Because students with attention deficits often have subtle learning problems, teachers are more effective if they use multisensory teaching strategies such as those described in this chapter. At some point, it may be tempting to believe that *"I've done all I can do, so it must be the child's fault that he is not succeeding in school."* However, David Turner, a veteran educator and director of a model Section 504 program in Utah known as CLASS Act, made this observation:

"If you keep teaching the same way you've always taught and kids keep failing, who is the slow learner?"