Dr. Jaman Welch

Helping Students with Learning Disabilities Succeed in College:

A STUDENT HANDBOOK

CUNY The City University of New York

Table of Contents

Introduction

College can be a shock for recent high school graduates and for students who attend it after years of being out of school. This is even truer for students with learning disabilities. When in high school, you might have been offered special education services, resource room support, and/or special accommodations on tests (e.g., extra time, use of a calculator). These services were required by law under the Individuals with Disabilities Education Act (IDEA, 2004). While this law does not apply in college, you are still covered by the Americans with Disabilities Act of 1990 and the Rehabilitation Act of 1973, which require colleges and universities to provide "reasonable accommodations" to students with disabilities. It is important to have an understanding of your rights and responsibilities as a student with a learning disability, as well as an understanding of how your particular learning disability affects you.

Many people with learning disabilities find difficulty in understanding why they have problems with reading, writing, and math because they often do well in other areas. To make matters worse, they don't always have sufficient understanding of how their disability affects them. Not only might it be hard for you to understand why you have the problems you do, but it might be difficult for some of your teachers to understand, and maybe even your family and friends. As a result of their limited understanding, some people describe students with learning disabilities as being "lazy" or "not trying hard enough." What is important to know is that these problems are not the result of laziness or lack of effort. Some people with learning disabilities might get frustrated by their problems with reading, writing, and math. As a result, they sometimes give up easily and people mistakenly call this laziness. In most cases, however, students with learning disabilities work extremely hard to succeed in school. This manual will provide an overview of the difficulties faced by students with learning disabilities and offers strategies that can be used to improve the chances of doing well in college. There are different types of learning disabilities and the problems experienced by one student might be very different from the problems experienced by another. Therefore, some information presented in this manual may not apply to everyone, however, many of the strategies that are discussed can be useful for any student. Before you continue reading, take a minute to think about your own learning disability. Ask yourself about the types of problems you encounter in school. If new to college, try to think of challenges that might come your way. Up to now, how have you worked around your learning problems? What strategies have you tried in the past that worked well? What strategies didn't work well? What don't you know about your learning disability that you would like to know? As you read through the manual, think back to these questions to help find new ways of working around your learning problems and gaining more understanding of your learning disability.

Characteristics of Students with Learning Disabilities

Learning disabilities are lifelong and involve an unexpected difficulty in reading, writing, and/or math, despite both motivation to learn and an ability to learn. Learning disabilities are not the result of English being a second language, limited education, or limited intelligence. The strengths, weaknesses and overall ability of one person with a learning disability can be very different from the strengths, weaknesses, and overall ability of another person with the same learning disability. The education and employment of people with learning disabilities are sometimes affected by difficulties in gaining the skills required for active listening, speaking, reading, writing, reasoning, and math. Since these methods are used to learn new information and later demonstrate an understanding of this information, seeing why students with learning disabilities often struggle in school is not difficult to do. Table 1 provides a list of some of the problems faced by students with learning disabilities.

Language-Based Learning Disabilities

Language-based learning disabilities are the most common type of learning disability and may affect one's ability to understand and use spoken language (Table 2). For people with this type of learning disability, reading is affected by problems understanding sounds and by poor basic reading skills. The poor understanding of sounds makes sounding out and spelling words a challenge. Most people with these problems have a reading disorder such as dyslexia.

While students with language-based learning disabilities sometimes recognize many words, their difficulty working with sounds can make it very hard for them to sound out words they do not know. Other people may not know as many words by sight. Some of these people will confuse words that look alike *(e.g., particularly and practically)*, switch around sounds and syllables *(e.g., felt for left and precent for percent),* or match syllables they recognize to other words they know *(e.g., particle for participate).* Others will have difficulty hearing the difference between words that sound alike *(e.g., prepare and repair).* These problems make it very hard for students with language-based learning disabilities to read fluently. They often get tripped up on words and have to work very hard at sounding them out. This results in a slow rate of reading that includes many pauses and frequent stumbles over words. In addition to mispronouncing words, students with these problems tend to ignore punctuation and do not use the purpose of reading to inform their reading rate. For example, when most people read for fun, they read at a faster rate than when reading about something new about which they need to learn. Most people take greater care and read at a slower rate when they have to learn about what they are reading.

COMMON PROBLEMS FACED BY STUDENTS WITH LEARNING DISABILITIES — TABLE 1

Expressive and receptive language problems

- Mispronunciation of words
- Confusion of words that sound alike
- Switching the order of letters, syllables, or numbers when reading, speaking, and writing
- Word finding problems
- Problems asking questions and understanding idioms, sarcasm, and, tone of voice

Auditory and visual memory problems

- Problems rehearsing information
- Problems storing information in memory
- Problems recalling information from memory

Motor problems

- Dysgraphia (Writing)
- Dyspraxia (Speaking)

Attention problems

- ADHD
- Poor habits of attention and organization

Social/emotional problems

- Depression
- Poor social relations
- Poor self-confidence and self-esteem
- Difficulty speaking up to make needs known

PROBLEMS ASSOCIATED WITH LANGUAGE-BASED LEARNING DISABILITIES — TABLE 2

- Poor understanding of sounds
- Problems recognizing words by sight, sounding out words, and spelling words
- Slow reading rate with many pauses
- Poor vocabulary and background knowledge
- Limited understanding of what is read and/or heard
- Difficulty understanding grammar
- Problems with expressive/receptive language

Considering that vocabulary is developed, in part, through reading, that many students with language-based learning disabilities have a limited vocabulary compared to others their age is not surprising. If you have these problems, finding synonyms for words or defining words without providing a lot of detail might be difficult to do. Even when learning new vocabulary words, using these words correctly might be difficult. Due to problems with sounding out and reading words, students with language-based learning disabilities may have limited background knowledge. This means they don't always have a good understanding of information that is needed to make sense of certain problems or situations. As a result of these struggles, students with language-based learning disabilities may find it very difficult to understand what they are reading and/or hearing. Difficulties with processing information that is spoken can make it difficult for these students to understand what they hear. If someone is speaking at a fast rate, one may not have enough time to process everything that is said.

Writing skills are also an area of difficulty for students with language-based learning disabilities. Spelling problems are very common. Some of these students may provide spellings that show that they have a poor understanding of what sounds go with what letters (e.g., ronde for rain). Others will try to work around these problems by relying heavily on their memory for what words look like. However, if someone has a weakness in his or her memory for what has been seen, the letters may get switched around (e.g., role for early) or the words spelled by how they sound (e.g., advencher for adventure). The handwriting of some students with learning disabilities may be hard to read. These students may also have problems with grammar and punctuation. Many times students with learning disabilities speak well but their written grammar is not as sophisticated. In addition, students with language-based learning disabilities may come up with good ideas when writing, but have a hard time organizing their thoughts on paper. Others will struggle with the early stages of writing and have difficulty coming up with ideas.

Nonverbal Learning Disabilities

Table 3 provides a list of problems commonly experienced by students with nonverbal learning disabilities. Students with nonverbal learning disabilities are often gifted in language areas and have an excellent command of vocabulary. However, directionality and trying to picture information in their minds might be a challenge. This might lead to confusing directions, such as left and right. People with nonverbal learning disabilities get lost easily when traveling and have difficulty reading pictures, maps, and charts. The saying "a picture is worth 1000 words" is not always true for people with this type of learning disability. Social skills can also be affected, as nonverbal learning disabilities make it hard to read people's facial expressions.

Students with nonverbal learning disabilities may have an excellent memory for information that they hear but struggle to remember what they see. For some, reading skills might be quite good, but math will be an area of significant difficulty. Writing can also be a challenge because of problems with motor coordination. Due to these types of problems, people with learning disabilities are sometimes clumsy. Issues with organization and time management are also seen in students who have nonverbal learning disabilities. They may attempt to work around these problems by using words to describe what they are looking at, which helps people with nonverbal learning disabilities make sense of what they see.

PROBLEMS ASSOCIATED WITH NONVERBAL LEARNING DISABILITIES **TABLE 3**

- Trouble telling the difference between left and right
- Trouble reading maps, pictures, and charts
- Problems picturing information in your mind and remembering what you see
- Difficulty with organization
- Math problems
- Difficulty understanding facial expressions

Math Disabilities

While learning disabilities are divided into language-based and nonverbal learning disabilities, math disabilities (i.e., dyscalculia) can result from problems in either of these areas. For example, the problems students with language-based learning disabilities have with processing language can make it difficult for them to make sense of word problems. Some people get distracted by information in word problems that is not needed to solve the problem or may have difficulty solving problems that involve more than one step. Math vocabulary might be hard for this group of students to grasp. As a result, they may not realize that terms like "difference" mean that subtraction should be used and a word such as "product" means that multiplication should be used.

Other students with math disabilities might have the visual-spatial processing problems that are associated with nonverbal learning disabilities. These problems include difficulty with visualizing patterns or parts of math problems. Solving math problems in one's head might be particularly difficult. Many such students complain that they cannot "see" the numbers in their head. Another difficulty for this group is putting information in order. This can affect their ability to remember what operation to perform first when presented with a problem that involves more than one operation. For example, take a problem like 3 + 6 x 2. If one tries to figure it out, the answer is 15. Multiplication and division are always performed before addition and subtraction. Students with math disabilities may struggle with words that indicate position or amount; words like before, between, after, most, and fewest are sometimes confusing to this group. Even basic addition, subtraction, multiplication, and division may be a challenge. Many students with math disabilities are able to solve basic problems, but are very slow to do so. Without a sufficient understanding of basic math facts, moving on to more complicated concepts, such as algebra and trigonometry, is very difficult to do.

Social and Emotional Problems

Some of the most common problems seen in people with learning disabilities are social and emotional problems. Many people with learning disabilities have a hard time taking part in conversation and will avoid talking to people. This can lead to social problems. Since people with learning disabilities have a lifetime of difficulties in school and are often criticized by teachers and even family members, some of these individuals have a hard time getting along with others or have few friends. They might not feel good about themselves and feel like they have little control over their lives. Depression and feelings of sadness are also very common. Many are embarrassed by their difficulties and feel like others their age are better than they are at many things. Since people with learning disabilities might not feel like they have control over their lives, they don't give themselves credit for their successes and fail to see how their own actions can lead to some failures.

Many people with learning disabilities do not share with others that they struggle with reading because they are embarrassed, or do not recognize how serious their problems are, or they deny it. Past research has shown that teenagers with learning disabilities have a higher risk for suicide (Daniel, Walsh, Goldston, Arnold, Reboussin, & Wood, 2006), depression, and anxiety (Arnold et al., 2005) than teenagers who do not have learning disabilities. Additionally, college students with learning disabilities report that they do not feel as good about themselves or their lives as others their age who do not have learning disabilities (Davis, Nida, Zlomke, & Nebel-Schwalm, 2009). When people are depressed, concentrating and thinking clearly is much harder to do. This can make learning even harder for students who already have a learning disability. Sometimes people don't even know they are depressed. The questions listed in Table 4 can help you figure out if you might need some extra help.

TABLE 4 AM I DEPRESSED[1]?

1. Do you feel depressed most of the day, nearly every day?
2. Have you lost interest in activities that you used to enjoy?
3. Have you noticed an increase/decrease in your appetite? Have you lost weight even though you aren't on a diet? Have you gained weight?
4. Do you have trouble sleeping at night or waking up in the morning?
5. Do you walk or move around slower than usual?
6. Do you feel tired nearly every day or experience a loss of energy?
7. Have you had feelings that you are worthless or feelings of guilt nearly every day?
8. Is it harder for you to concentrate or make decisions than it was in the past?
9. Do you have recurrent thoughts of death or suicide?

You do not have to answer yes to all of these questions to be depressed, but answering yes to only one question does not mean you are depressed either. You should consider seeking help if you answered yes to three or more of these questions.

[1] These questions were adapted from the DSM-IV-TR (American Psychiatric Association, 2000) diagnostic criteria for major depression.

On Finding Help

Speaking with a counselor, therapist, psychologist, or psychiatrist about feelings of sadness or depression is very important. Many people think that only "crazy" people go for therapy, something that is not true. There are many reasons why someone might seek the help of a therapist. Therapy does not need to go on for the rest of one's life, nor is medication always needed. Sometimes people just need a little bit of extra help to work through their difficulties Students with learning disabilities often fail to see how these problems can make learning even more challenging for them. If one in need does not seek help, the likelihood of his or her grades suffering is high.

Strengths

While the previous sections discuss the problems faced by students with learning disabilities, remembering that strengths go along with learning disabilities is important to do. When people with learning disabilities succeed, they often do so because of a refusal to give up. This stubbornness can serve them well. Not giving up easily, they try more than one way of working around their learning problems. Some people have amazing artistic talents; they may be gifted musicians or have a knack for drawing, painting, or acting. People with learning disabilities are often described as being creative. They can approach problems by thinking outside of the box and can arrive at solutions others might not have thought about. Learning to identify one's strengths will help improve self-confidence and self-esteem. In addition, one's strengths can often be used to help find new ways of working around learning difficulties. Many people with learning disabilities are able to use their strengths to help them succeed at school and at work. For example, Richard Branson, Steven Spielberg, Anderson Cooper, Tommy Hilfiger, Magic Johnson, Danny Glover, Salma Hayek, Jay Leno, and the King of Sweden have all experienced success despite their learning disabilities.

Utilizing Services

College is a time when students are expected to take more responsibility for their learning. Unlike what happens in high school, professors aren't going to call the parents of students who are struggling. Some professors might not even approach the struggling students with concerns about poor performance until it is too late. Therefore, students need to be familiar with what services are available to them, and they should make every effort to seek out those services. In order to do this successfully, they need to develop self-advocacy skills.

Self-Advocacy

Simply stated, self-advocacy is the ability to speak up for oneself and make decisions on one's own. To accomplish this goal involves being aware of one's strengths and weaknesses, understanding one's rights and responsibilities, and being able to explain this information to others when seeking help. Self-advocacy is probably the most important skill that students with learning disabilities need to develop in college. As noted in the introduction, college students are expected to be independent. If having difficulty in a class, the student needs to take it upon him or herself to seek help. If the

student doesn't ask, he or she should not expect help to be volunteered. Asking for help is often hard for students with learning disabilities, as they feel embarrassed by their problems and don't want to be seen as different from their classmates. As a result, some students will wait to ask for help until it is too late.

Learning One's Rights

In order to become a good self-advocate, a student with a learning disability needs to be aware of their rights. When they were in high school, they may have had an Individualized Education Plan (IEP). There is no such thing as an IEP in college. As noted in the introduction, the same laws do not apply to college as to public school students. Just because one received accommodations and services in high school does not mean he or she will receive the same accommodations and services in college. The Americans with Disabilities Act of 1990 and the Rehabilitation Act of 1973 define a disability as an impairment that significantly limits a major life activity, such as learning. If one's learning disability significantly limits one's ability to learn, the student qualifies for protection under these laws. Section 504 of the Rehabilitation Act of 1973 forbids discrimination against children and adults with disabilities. However, let's say that a student received extra time on tests in middle school and high school because his or her reading rate was slow, but over time the reading improved and its rate became comparable to that of other students the same age. This student will no longer qualify for extended time in college, as his or her reading rate is no longer limiting the ability to learn. This does not mean that the student is being discriminated against; it just means that there is no longer a functional impairment that qualifies for accommodations.

Knowing One's Own Disability

The next step to becoming a good self-advocate is to gain a better understanding of one's own learning disability. Table 5 presents some questions that students should be able to answer about their disability. After being evaluated by a psychologist, he/she should have gone over the findings with you to help you understand your learning problems; however, this is a lot of information to process in a 30-60 minute appointment. Therefore, continuing this conversation with the Office of Disabilities Services and your academic advisor is a good idea. This point will be covered in more detail in later sections.

Before a student can begin advocating for him or herself, the student needs to have an awareness of his/her strengths and weaknesses, how the learning disability affects him/her in school, what accommodations will be helpful, and how to best learn. If you are one of these people, educate yourself about your disability. There are many resources on the Internet where one can find additional information about learning disabilities, including the Learning Disabilities Association of America (http://www.ldanatl.org/) and the National Center for Learning Disabilities (http://www.ncld.org/). Information about dyslexia can be found on sites such as the International Dyslexia Association (http://www.interdys.org/) and Everyone Reading (http://everyonereading.org/). Everyone Reading, which is based in New York City, offers a support group for adults with dyslexia that usually meets on the second Tuesday of every month. You can contact the office at 212-691-1930 to learn more about this group and when they will next meet.

QUESTIONS ABOUT YOUR LEARNING DISABILITY **TABLE 5**

- What is my learning disability?
- What are my strengths and weaknesses?
- How does my learning disability affect me in school?
- What accommodations would be helpful to me and why?
- How do I learn best? Do I prefer that information be presented visually or is it easier for me to understand information when it is spoken to me?

Become an Effective Self-Advocate

When it comes time to self-advocate, there are certain traits a student with a learning disability wants to exhibit to become more effective. Remember, you know yourself better than anyone else knows you. Think of yourself as a self-expert. Your professors and the staff at the Office of Disabilities Services cannot read your mind. Therefore, communicating as clearly as possible what your needs are is important. While you may lack confidence in your abilities, you need to approach these situations with as much confidence as possible. Believe in yourself and ask for what you want, but keep in mind that you might not always get it. Express your feelings, but be careful not to become too aggressive or angry. The likelihood of someone helping you will be much less if you act demanding or start yelling at them. If meeting with a professor and feeling that the professor is being unfair or not taking your needs seriously, do not confront him or her. Instead, meet with someone at the Office of Disabilities Services to discuss your concerns. When asked questions about your needs, be honest in your responses. Do not be afraid to tell someone that a suggestion or strategy will not work for you, but be prepared to explain why. Keep in mind that there will be times that telling others about your learning disability is not necessary. For example, if you have a strength in math and will not require any accommodations in your math course, there is probably no need to tell your math professor about your learning disability.

Office of Disabilities Services

Perhaps the most important office in college to become familiar with is the Office of Disabilities Services. If you have been diagnosed with a learning disability and getting accommodations and services has been recommended, go to this office to request these modifications. The Office of Disabilities Services is responsible for reviewing the evaluation report written by the psychologist to verify your learning disability and what accommodations and services are needed. The staff will then arrange to have these put in place. They may also offer you counseling or referrals for other services. Remember that just because a student has a learning disability, there is no guarantee that he or she will be given all of the accommodations and services that are available. As was said earlier, colleges and universities are required to provide "reasonable accommodations." The point of accommodations is to even the playing field for students with disabilities, not to give them an advantage over

other students. A learning disability must impair some area of functioning for one to receive accommodations. If one has a math disability, the likelihood of that person will not get extended time on exams in classes other than math, as the disability does not impact upon the ability to read and write under timed conditions. A list of common recommendations for accommodations, services, and strategies are provided in Appendix A. If one has problems getting an accommodation from a professor or the accommodation that is provided is not the same as the accommodation that was recommended, this event needs to be reported to the Office of Disabilities Services.

If you are a student with a disability, prepare for your initial appointment with staff at the Office of Disabilities Services by thinking about your learning disability. Be able to answer as many questions as possible from Table 5. You should also come up with questions to ask staff during these appointments. These can include questions that will help you to better understand your strengths and weaknesses as well as what type of strategies might be helpful. While the psychologist who evaluated you knows about the accommodations that are usually available, your campus might offer additional services of which the psychologist was unaware. Ask about the types of accommodations and services available at your campus and discuss with the staff member at the Office of Disabilities Services how these might be helpful to you. Touching base with this office once or twice during the semester to check that you are doing everything you can do to succeed might be helpful for you.

Academic Advisement

In addition to the Office of Disabilities Services, one's academic advisor plays an important role in offering support. An academic advisor can serve as a "coach" for students who have difficulty with organization and time management. Meeting with one's advisor before each semester to work on planning out a schedule that will work as well as help set goals is of utmost importance.

Setting Goals

One of the greatest predictors of failure in college is having unrealistic expectations. Students sometimes start college thinking that they will finish an associate's degree in two years, a bachelor's degree by the fourth year, and/or a graduate degree in six to nine years. While some students might be able to meet these goals on the set time schedules, others may take significantly longer. Avoid setting goals that are time-driven. Students with learning disabilities are better served by setting short-term goals that lead up to a bigger goal. Not only will this give them a sense of accomplishment along the route to their ultimate goal, it will relieve some of the pressure that goes along with time-driven goals.

Know Your Strengths and Weaknesses.

and weaknesses is a good idea. Once again, be ready to answer the questions in Table 5. Talking with the advisor about what is most difficult is a good idea. This can help with organizing one's semester so that the student is not taking too many difficult classes during the same term. For example, if one is a student who has writing problems, he/she needs to avoid taking more than one writing intensive course during a semester and consider a lighter course load when taking this type of course. If math is an area of difficulty, taking math requirements during a lighter semester can help

the student focus more of his/her attention on that class. In addition, taking a math course during the summer session is not a good idea, as students are expected to learn the same amount of information they learn in the fall or spring, but over a much shorter period of time. Getting a copy, if possible, of course syllabi before registering for classes and bringing these to your academic advisor can be helpful. When meeting with one's advisor, the student can review the requirements of courses, and work on planning out a semester that is manageable.

Checking In

In addition to meeting with one's advisor before the semester, meeting with the advisor at least once or twice during the semester is a good idea. During these meetings, one can talk with the advisor about what is going well and what is not going well. The advisor might be able to help problem-solve and find ways to work around the student's difficulties. If worried about going to office hours or embarrassed to tell a professor about obstacles to understanding the material assigned, asking the advisor to use role playing is a good idea. If you are such a student, your advisor should play the role of the professor and you can play yourself. This gives you practice with asking questions and helps build the confidence you will need to self-advocate. After successfully doing this, changing roles can further help: play the role of professor and have your advisor play you. Doing this creates a greater appreciation of both roles.

Assistive Technology

In the past, advances in technology have ignored the needs of people with learning disabilities. More recently, however, technology has begun to catch up to these needs with many programs and devices offering applications that benefit people with learning disabilities. Appendix B of this manual provides a list of apps for iPad, iPhone, iPod Touch, and Android devices that may be useful to college students with learning disabilities. This appendix was adapted from lists created by Sue Ordinetz, PhD, OTR/L and the National Center for Learning Disabilities. One can always check with the Office of Disabilities Services about the availability of assistive technology on his/her campus.

There are many resources that are available to help students work around problems experienced in school. For students who have learning disabilities that affect their ability to read, Learning Ally and Bookshare are excellent programs. Both of these programs offer recorded textbooks. In order to become a member, a fee has to be paid every year. Keep in mind that it might take time to receive recorded textbooks. Therefore, if you are planning on joining, try to find out what textbooks will be assigned before the semester begins. If the textbook is not currently available as a recording, you can ask that these programs record it for you. This, however, will delay when one receives the recorded version.

In addition to Learning Ally and Bookshare, there are devices and programs that can read to students. The Franklin Electronic Merriam-Webster Speaking Dictionary and Thesaurus is a hand-held device that can be used to read words that one does not know. This device will read words one types in and provides definitions for these words. It is available at most electronics stores and can also be purchased on the Internet. Screen readers are also available. These programs will read almost any

type of text on a computer. This can include the papers one writes, information on websites or e-mail messages. Examples of this type of program are JAWS (http://www.freedomscientific.com/products/fs/jaws-product-page.asp) and Natural Reader (http://www.naturalreaders.com/).

Similar programs are available for writing. The most popular program is Dragon Naturally Speaking (http://www.nuance.com/dragon/index.htm). In order to use this program, one must read several scripts to train the computer to recognize his or her voice. Once the process is completed, the program will type anything that is said. If a student has trouble organizing thoughts when writing or struggles to come up with ideas when writing, he or she may want to look into Inspiration (http://www.inspiration.com/). This program helps with brainstorming when one starts to come up with an idea for a paper, as well as with planning and organizing written work.

Starting the Semester

One of the first things to do when starting the semester is to keep a positive attitude. If following the steps that have been discussed about preparing for the semester, one already has reason to be confident in his or her ability to have a successful semester. At this point, one should have a plan for the semester. Now it is time to put that plan into action.

Familiarizing Oneself with the Syllabus

Each student's professors should provide a course syllabus that describes the course, outlines the goals of the course, the professor's requirements and expectations, and the course schedule. Studying the syllabus as soon as one receives it and referring back to it throughout the semester is of utmost importance. If unable to obtain the syllabus before the semester began, write out all of the assignments, quizzes, exams, and other due dates on your calendar the very first day of classes. DO NOT use the same calendar for other purposes, such as the birthdays of family members and friends, doctor's appointments, or work schedules. Be sure to review the requirements for any major writing assignments, projects, or presentations. Make a note of anything that you don't understand or have questions about. E-mail or visit with your professors during their office hours to seek any needed clarification.

Meeting with Professors

If you have a learning disability, try, once the semester begins, to meet with your professors during their office hours to discuss your learning disability and needs. As previously mentioned, this is only necessary when taking a class in which your learning disability will pose a problem. Prepare for these meetings in much the same way as you would prepare for appointments with the Office of Disabilities Services and your academic advisor. Be ready to tell professors about your learning disability and how it will affect you in their class. You should have an awareness of what types of strategies helped in the past, and share those strategies with your professors. Also useful is to come to these meetings with questions. Before your meeting, review the course syllabus so that you can ask specific questions about the requirements of the course and what resources might be available to you. Ask your professors for any suggestions they might be able to provide for helping you succeed in their course.

In addition, ask your professors about providing copies of lecture notes, PowerPoint slides, or lecture outlines before each class so that you can review these notes. Attempting to meet with your professors at least two more times during the semester is a good idea. Meeting with them right before the midterm and final exam periods usually works best. Use these meetings to get feedback from them on areas that you need to continue working and provide the professors with feedback on what they are doing that helps and does not help. Additionally, let them know how you have been preparing for their exams and ask if there is anything else they would suggest you do.

Reading Assignments

Some people think that a fast reader is a good reader. The truth is, we all read at different rates. If one reads too quickly he or she run the risk of missing information or not giving oneself enough time to process and understand what is being read. Think about the purpose of the reading assignments given to you in college. To learn the information assigned, one needs to take his or her time with it. One should not wait until the night before a lecture to complete reading assignments. One should allow his or herself time to complete the readings and then go back to review areas that were difficult. Simply reading the textbook and expecting to know the information right away is not realistic. SQ3R (SQRRR) is a good method of study that was developed specifically for helping college students with their reading, and it stands for **S**urvey, **Q**uestion, **R**ead, **R**ecite, and **R**eview. Below is a breakdown of this strategy:

Survey. Start each reading assignment by surveying the text. Skim through the chapters and write down the headings and subheadings. Look, as well, at the introduction to the chapter, the chapter summary, and write down any questions that are asked under the headings, subheadings, and at the end of the chapter. This helps give an idea of the main concepts that you need to be familiar with and the questions the chapter is trying to answer. It also helps pave the way for the second step, which is to question.

Question. Turn the headings, subheadings, introduction, and summary into questions. For example, if a heading in one of your history textbooks said, "The New Deal", you could ask, "What is the New Deal?" and "In what years were the New Deal put in place?" A list of other questions to ask oneself during this step are provided in Table 6.

Read. With this work done, you can proceed to the third step, which is to read. The goal is to read actively. You will not learn new information if you just read it from beginning to end. Ask yourself the questions listed above when reading and look for the answers to the questions you have written down. If there are pictures, graphs, or charts in the chapter, you should read the captions. Make a note of any of the words or phrases that are written in bold print, underlined, or italicized. The most important thing to remember during this step is to read one section at a time. In other words, read the information under one heading or subheading and then stop to summarize and reread parts that aren't clear.

TABLE 6 **STUDY QUESTIONS**

- What is the chapter about?
- What questions is the chapter trying to answer?
- How does this information help me?

Recite. After you finish reading, ask yourself questions aloud about what you read and say your answers aloud. You should say and/or write a brief summary of what you have read in your own words. You are more likely to remember information if you say and write it in a way that you can understand. Copying everything right from the book is not a good idea. Use all of your senses during this process; use your sense of hearing by summarizing information and answering questions aloud, and your sense of sight by looking at pictures, charts, graphs, and silently reading the notes you have written. In addition, try to explain pictures, charts, and graphs to yourself to help make more sense of this type of material. Finally, make a note of any information that you are having trouble with so that you can return to this information during the review stage.

Review. In order to prepare for exams, go back to the chapters read at an earlier date. Do not wait until the night or even week before an exam to review what you read. Review reading assignments within a week of completing the assignment. This involves implementing a combination of the read and recite stages mentioned above. Look at your notes to find sections that were difficult so that you can reread those sections. Review the questions you wrote about these sections as well as your answers. Ask yourself if there is anything you could do to make your answers more accurate. You should be able to summarize each of the sections and be familiar with the major concepts and terms that were discussed. If the chapter has review questions at the end, practice answering these questions. Repeat this process throughout the semester to increase your chances of remembering information on exams.

Lectures

Many students with learning disabilities have difficulty completing more than one task at a time. Having this problem can make lectures particularly difficult. Not only does one have to dedicate energy to listening to his/her professors and process the new information they are presenting, one has to figure out what information is important enough to write down and then work around your writing and language processing problems to get that information down on paper. The following strategies may improve your chances of understanding what your professors are trying to convey in class.

Minimizing distractions

Some classes may have assigned seating. If this is the case, ask your professors to assign you a seat in the front row. When seating is not assigned, you should always try to sit in the front row. This will help minimize the number of distractions in the room. If you bring your cellphone to class, turn it

completely off and put it away. Do not keep it on vibrate and do not check it during class. You need to dedicate your full attention to what your professors are saying during lectures. In addition, if one of your friends is in the same class, you should probably avoid sitting next to him or her, especially if you think that you will be tempted to converse during class.

Taking notes

If you have writing difficulties, you may be provided with a note taker in class. Making proper use of this accommodation is extremely important. First, and most importantly, always attend class and pay attention. Some students who have difficulty taking notes on their own have good listening comprehension skills. This is a strength that needs to be taken advantage of during lectures, by listening to and thinking about what the professors are saying. If you have a note taker, remember that your notes will be written by a fellow student. Their way of taking notes might be quite different from how you would take them. Therefore, you should still write down important words or phrases that are mentioned during the lecture. As soon as given a copy of the notes, review them immediately. The point of doing this is that it enables you to check if the notes match your understanding of the lecture. If the notes are unclear or something does not match with what you heard, contact the student who took the notes for clarification. If you find that the student was accurate in note taking, you may want to ask the professor for feedback to improve your understanding of the material.

One of the best strategies that you can use is to come to class prepared. Make sure you have completed the assigned readings for the lecture. Writing out the headings and subheadings in your notebook before coming to class might be helpful. Leave room under each of these headings so that you can write down information during the lecture that is related to that heading or subheading. This will help organize your notes. In addition, doing so helps connect information that the professor is saying during lectures to information you read when completing the reading assignment.

Asking questions

Some professors may speak quickly during lectures. This tendency can make processing all that is being said difficult for students with learning disabilities. Therefore, if you missed something or are confused by something the professor said, raise your hand and ask your professor to repeat or clarify the information. While you might be embarrassed to do this, remember that you have to take responsibility for your learning. In addition, the chances are that another student in the class also missed the same information or was confused. One way you can start a question is, “I’m sorry, I was trying to take a couple of notes and missed what you just said. Could you please repeat that?”, or “I’m not quite sure what you meant by that; were you saying [say what you thought you heard]?” If you are still confused, meet with your professor during his/her office hours to get more information.

Study Strategies

Many students are never taught good study strategies. One of the most commonly used strategies is highlighting. Studies, however, have shown that highlighting is one of the least effective strategies because students end up highlighting most of the chapter. Doing so makes studying that much harder. Other students will study by rereading chapters from beginning to end without stopping. This is not a good idea either. Take a more active approach to studying. When studying, keep in mind that the goal is to learn the information being studied, not just memorize it.

Find Your Study Space

The first step toward having good study skills is to find an appropriate place to study. Where do you normally study? If in a comfortable location, such as on a couch or on your bed, chances are you are not getting the most out of your study experience. Are there distractions around you? Some people claim that they study best when they have the TV on or music playing in the background. While it is true that quietly playing music that does not include words is sometimes helpful for people, the TV is too distracting. If there is an interesting program on, you will probably pay more attention to that program than to the information being studied. Finding a quiet place where there are no distractions is a more effective thing to do. As you do in your class, turn off your cellphone and put it away so that it is out of sight. Believe it or not, where we choose to study can affect what we remember. When studying in a place that is similar to the classroom setting, one is more likely to recall information studied when taking the test. Studying at a desk in a quiet place, like the library, is optimal.

Study Early and Often

Keep in mind that most learning occurs outside of the classroom. Students should study two to three hours each week for every hour spent in class. For example, if you spent two hours in your math class this week, spend four to six hours studying. One of the biggest mistakes that students with learning disabilities make is cramming for exams. Doing so has them run the risk of forgetting information already learned. When cramming for exams, students will not gain a full understanding of the material. Instead of waiting until the last minute to study, start studying on the first day of classes. It is better to study in smaller rather than larger doses. Decide on a period of time to study and then set a timer to achieve it. When the timer goes off, reset the timer and take a timed break. Breaks are very important, as they allow time for the information being studied to be consolidated in memory.

Specific Study Strategies

There are many different ways to study for exams. Seeing that most of one's grade in many classes will be based on exam performance, take advantage of as many study strategies as possible. Multisensory study strategies are very useful to students with learning disabilities. These strategies involve using as many senses as possible (sight, hearing, and touch) and they increase the number of ways that you learn the information. If having difficulty remembering what is being seen, putting the sights into words is helpful. If you are one of these people, describe pictures to yourself to help make sense of them. If you have more difficulty remembering what you read and hear, draw pictures and diagrams

to help make sense of what you are trying to study. Whenever possible, make the information relevant to yourself; think of examples in everyday life that can be used to remember information. This will increase the likelihood of meeting with success on exams.

Categorizing information The first step to studying is to identify the main points that were discussed in lectures and the assigned readings. If you used the SQ3R method when completing your reading assignments, meeting with success will be likely. The headings, subheadings, graphics, and vocabulary that you noted during the survey stage are a good place to start looking for the main points. Look at your lecture notes to find which of these points were repeated. Focus on those points and any related facts. In order to make information easier to recall, categorize the information to be remembered. For instance, if studying for a test on the Civil War and you had to remember the names of different key people, categorize these people by which side of the war they were on (i.e., the Union/North, and the Confederacy/South).

Making associations. As was stated earlier, make the information being studied meaningful to you. Even if it has nothing to do with the subject you are studying, make any associations to it that you can. Let's say that you have to learn steps in a math or science class. To help learn this information, associate each step with something you know. For example, picture the home you grew up in and then walk through each room in your mind. Upon entering each room, picture one of the steps that you are trying to learn. Then when it comes time to take the exam, walk through the house in your mind to help you recall each of the steps. When we associate new information with something we already know, the chances of recalling the new information at a later date is greatly increased.

Verbal mnemonics are also useful in helping to retain information. A mnemonic is any technique that is used to break information down into smaller parts to make it easier to remember. For example, if one has ever taken algebra, he or she is probably familiar with FOIL. This is a verbal mnemonic for the order of steps to be completed when solving an algebraic problem (**F**irst, **O**utside, **I**nside, **L**ast). Another well-known mnemonic that has been used to help people remember the order and names of the planets is, "**M**y **v**ery **e**nergetic **m**other **j**ust **s**erved **u**s **n**achos," in which m stands for Mercury, v for Venus, e for Earth, m for Mars, j for Jupiter, s for Saturn, u for Uranus and n for Neptune.

Writing. Writing information is very helpful to memory. Rewrite your notes after each class as a way to review and reorganize information. When doing so, try to make additional connections with information that you read and identify any information that was not very clear so that you can spend more time reviewing that information. Reading what you are writing can sometimes be helpful. This is an example of a multisensory strategy, one that uses both sight and hearing. Writing can be a useful strategy when trying to learn new vocabulary words. Write the words out many times along with their definitions. Each time you write out the word and the definition, read it aloud as well. Remember, however, that memorization is different from learning. Therefore, to learn these words, practice writing them in sentences.

Flash cards. Flash cards are a very useful study tool, especially if you have used the SQ3R method when reading textbooks. To make use of them, put questions written during the question stage of SQ3R on flashcards. On one side of the card write the concept or term needing to be identified and on the

other side write the definition or other important points related to the concept. In order to increase ways to understand information, practice reviewing both sides of the flash card. For example, if one side of the flashcard states "dog" and the other "a furry animal that barks," start out by looking at the word dog and trying to remember the definition. Later on, go back and look at the definition and see if the word remembered goes with it. Flash cards can also be used to identify something by how it looks, such as a country. Put a picture of that state or country on one side of the flash card and the name of the state or country on the other side. Make flashcards early on in the semester and refer back to them throughout it.

Practice Tests. One of the most effective study strategies is taking practice tests. Some professors will hand out old exams as review material. While the questions given may not be the same questions that are on the actual exam, practice tests provide an idea of the types of questions that will be asked. In addition, practice tests provide opportunities to practice taking tests under timed conditions. When reviewing practice tests, do not just memorize the answers. As just stated, the likelihood that the same questions will be on the exam is very small. However, when reading a question on the actual exam, the practice test can serve as a reminder, which may help students find the right answer on the actual exam. Keep in mind that there is more than one way to use practice tests. In addition to reading the questions and coming up with the answer, one can look at the answers on multiple choice tests and practice defining or explaining each answer choice. This helps increase the number of ways to know and understand information.

Repetition. When it comes to any skill in life, we only get good at it after a great deal of practice. Think of a baseball player. A baseball player might spend all day hitting baseballs. Why? The more the player does it the better he or she gets at it. The same holds true for college. While repetition is important for all students, it is extremely important for students with learning disabilities. Have you ever noticed that you knew how to do something in class one day but could not remember how to do it the next day? Chances are this happened because you did not get enough practice. Continue studying information until you know it automatically. Don't stop just because you got a question right after answering it wrong the previous three or four times. You have to continue studying it. Even if you do know something automatically, you should still review it occasionally to reduce the chances of forgetting it.

Math and Science. Some students with learning disabilities hate math and science. Unfortunately, it is highly unlikely that students will be able to avoid taking these classes in college. While these subjects may be particularly difficult for you, there are strategies one can use to increase the chances of learning the information being taught. Many students with math disabilities find it useful to use graph paper when completing practice problems in class or at home. This helps them keep the numbers lined up. When getting practice working with concepts, one should try to use a script. In other words, one should listen to how his or her professor teaches the class about a concept and then use the same words when practicing at home. Since math and the sciences are often visual subjects, putting as much information as possible into words would be helpful. In addition to asking for extra help when needed, one can try to relate concepts that are taught in his/her math and science courses to everyday life. Remember, the more meaningful one makes information the more likely one is to learn it and recall it at a later time.

Assessment of Performance

Professors will use different ways of grading a student's performance during the semester. This can include a combination of participation in class discussions and successful completion of papers, projects, presentations, quizzes, and exams. You should begin thinking about how you will tackle each of these areas at the very start of the semester.

Class Participation

Some professors will count class participation toward a student's grade. The expressive language problems of some students with learning disabilities can make this very difficult. If your learning disability will affect your ability to participate in class discussions, be sure to let your professor know at the very beginning of the semester. It can be helpful to ask your professor to give you a list of discussion questions before the lecture in which the discussion will take place. This will give you time to think about what you will say and allow you to plan out your responses ahead of time. When raising your hand to ask a question or add something to a class discussion, take your time and think about what you want to ask or say. Some students find writing out what they want to say or asking before raising their hand a helpful thing to do. If you still think you will have trouble participating in class discussions, talk to your professors about other options. For example, you can ask your professor about doing a small presentation to make up for class participation. Another option would be to ask that you not be called on during class. However, you should still make every effort to raise your hand and add something to class discussions when able to.

Writing Assignments, Projects, and Presentations

Before starting any paper, project, or presentation, make sure that you have a clear understanding of what your professor is looking for and when the final product is due. If you do not think you will have enough time to complete the assignment, talk to your professor immediately. Do not wait until the week before the due date to ask for an extension. If you have trouble understanding the assignment, e-mail your professor a short summary of what you think the assignment is about and then ask him/her to give feedback on what you have said. If your professor has not provided the class with a sample of what he or she considers good writing, ask the professor if you can look at work done by a student in the past. This helps give a better idea of what your professor will be looking for. When you first start working on these types of assignments, it can be very overwhelming and you might not know where to start. If you do not have to hand in outlines or any other materials before the due date, you need to break the assignment down into manageable parts.

In addition to breaking down the assignment, break down the topic. What is the general topic that you will be talking about? Are there subtopics or a question that you are required to answer? Write any words or phrases that are related to this information and try to think about it in different ways. You can do this by describing your topic, raising questions such as the following ones: What is my topic? What is interesting or unique about my topic? What are the problems that are related to my topic? How is my topic different from similar topics? You can follow the history of your topic by asking these questions: What is the history of my topic? How has my topic changed over time? What has

influenced changes in my topic over time? Then you can map out your topic (What is my topic related to? How is your work on the topic related to the work of others? Does your topic influence other areas in other fields?). The questions in Table 7 will help you identify whether you have done your job of covering the material when preparing written materials for assignments.

When preparing a paper or the words you will speak during a presentation, reading them aloud is very important. This helps many students identify errors. If you have a friend you trust, you could also ask him/her to review your work. Additionally, if you aren't required to hand in drafts to your professor, ask your professor if he/she would be willing to look over your outline and/or draft and give you feedback. Students who are still struggling should make use of the writing lab on campus. However, it is very important that you come to the writing lab with something already written. They will not be able to help you if you show up with a blank piece of paper. It is your job to write the paper and the writing lab technician's job to give you feedback and suggestions based on what you have written.

TABLE 7 GENERAL QUESTIONS TO ASK YOURSELF WHEN COMPLETING WRITTEN ASSIGNMENTS

1. Have I described the topic?
2. Did I relate the topic to other areas covered in the readings and lectures?
3. Did I analyze the topic, pointing out the strengths and weaknesses?
4. Did I apply the topic to other situations?
5. Did I argue for and against the topic?

Quizzes and Exams

There are many different types of tests your professors might give, including multiple choice, short answer, essay, or a combination of the three. This section will provide you with tips on how to improve performance when taking exams.

Know the test. Before you take any test, you need to be sure that you understand what type of test it is. Many times when a test uses a combination of multiple choice, short answer, and essay questions, the short answer and essay questions are worth more points than the multiple choice questions. Knowing this information can help you plan out your strategy for taking the test. You also want to find out if there is a penalty for wrong answers. Some professors will take off points for wrong answers. Others will only give you points for the correct answers and not take points away for wrong answers. If points are not taken off for wrong answers on a multiple choice test, always try to eliminate as many choices as possible and guess from the remaining choices.

As soon as the test begins, read through all of the instructions to ensure that you are completing it properly. For example, some tests might say, "Answer two of the three short answer questions." If you don't read that instruction, you might end up answering all three, which will use up time that you could have spent on other questions. You should also preview the test before you start answering questions. If your professor didn't tell you ahead of time how much of the test would be multiple

choice, short answer, and essay questions, you should look through the entire test to find out for yourself. Not only does this allow one to plan out how much time will be needed to spend on each part of the test, it will allow one to pick out the questions that will be easiest, as these questions should be answered first.

Planning your strategy. As you just read, it is important to have a plan for how you are going to attack the test. Some students might be given extended time on exams. Regardless of whether you are given this accommodation, you need to use all of the time you are given. Do not get anxious when you see other students finishing before you. Just because someone finishes a test quickly does not mean that that person did well on the test. Always keep in mind how much time you have to complete the test. You want to set aside some time before the end to make sure you didn't skip any questions. You need, as well, to review your answers, go back to questions you have skipped, and answer the most difficult questions. If you read a test question and don't understand it, reread the question. If it still doesn't make sense, mark that question and come back to it at the end. You don't want to spend too much time at the beginning on difficult questions, as it will limit the amount of time you have to answer the easier questions.

Multiple choice tests. There are several strategies that are useful when taking multiple choice tests. As you read earlier, if points are not taken away for incorrect answers, try to answer all of the questions. This means that if there is a question that you don't know the answer to, you should try to see if there are any choices that are definitely wrong. Cross out those choices and pick one of the remaining choices. When you read a multiple choice question, it is sometimes useful to cover up the answers and see if you can come up with your own answer to the question. Then, look at the choices and see if any of the choices are close to the answer with which you came up.

A common mistake made by students taking multiple choice tests is to stop reading the choices after they see one that they think is right. If a student picks choice B before reading choices C and D, he/she might later find that choice D was the BEST answer. Some questions will have more than one right answer and your job will be to figure out which one is best. Sometimes you will have to read a passage and then answer multiple choice questions. Before you read the passage, read all of the questions. This will help you identify the purpose of the reading and provide an understanding of what the passage is going to be about. In addition, you can keep these questions in mind as you are reading, which will make it easier to find the correct answers.

Written Tests. When tests contain both short answer and essay questions, always answer the short answer questions first, as they will take less time to write. Before you write your answer to an essay question, create an outline to help organize your thoughts. You should hand this outline in with your examination along with any other notes. That way, if you run out of time and cannot complete your answer to the question or are having trouble getting your thoughts down on paper, your professor can look over these materials to see if you should be given additional points. Keep in mind that there is no guarantee your professor will give you additional points. You should speak to him/her before the exam to ask whether he/she would be willing to look at outlines in addition to the responses that you wrote.

Reviewing the test. Some professors will review tests with the class after they have been scored. Going to these classes is very important, even if they are held at a time that is different from your normal class time. Some classes will have a cumulative final, which includes information from the beginning of the semester to the end. This review will help you find out what information you need to learn better. In addition, some of the questions could appear on the final, so it is important that you know where you went wrong.

If your professor does not review the test with the class, you should ask if he or she would be willing to sit down with you during office hours to discuss the test and the questions with which you had problems. However, it is not your professor's job to give you the answers. You need to learn how to find the answers on your own. Therefore, the professor may ask you to sit in another room to look over the exam. If you are having difficulty understanding where you went wrong with a question, ask your professor about this. However, avoid saying things like, "I don't get it." While this might be true, you need to be more specific. What is it about the question that confused you? Describe to your professor your understanding and what it is that you are having trouble understanding.

Final Thoughts

Having a learning disability does not mean that one is not capable of successfully completing college. However, it might make college more challenging for that person than for other students who do not have learning disabilities. The first step to succeeding in college is to have an understanding of what your particular learning disability is and an awareness of your strengths and weaknesses. You need to be able to communicate this information to others so that you can educate them about your needs and seek the appropriate accommodations and services. Do not be afraid to ask for help when you have difficulties. Remember, you are in college to learn. If you do not understand something you have the right to ask questions. Secondly, you need to have realistic expectations. Approach every class with a plan. Do not expect that a class will "be a breeze." This can lead to procrastination. Students with learning disabilities need to make sure that they are staying on top of their assignments from the very first day, no matter how easy the course might seem. Finally, do not set time-driven goals. Someone who finishes their associate's degree in two years is no different than a person who finishes their associate's degree in four or five years. In the end, both of these people will have the same degree.

As you read at the beginning of this manual, you might not experience all of the problems that were discussed here, but you should try to use as many of the suggested strategies as possible. There are many different ways of knowing and understanding information. You have to be as creative as possible and find new ways to help improve your understanding of your classes. Make information meaningful to you. If you have difficulty doing this, ask your classmates or professors for ideas on how to make information more meaningful. Even if the connections you make are not related to the course itself, you are greatly increasing the chances of remembering that information on a test. No matter what your learning disability is and how it affects you, you must approach college with a fair degree of confidence. Granted, you don't want to be overly confident, as this will prevent you from recognizing when you have difficulty with something. However, if you believe in yourself, put forth good effort, and find ways to work around your learning problems, the likelihood that you will succeed in college is high.

References

Arnold, E.M., Goldston, D.B., Walsh, A.K., Reboussin, B.A., Daniel, S.S., Hickman, E., et al. (2005). Severity of emotional and behavior problems among poor and typical readers. *Journal of Abnormal Child Psychology, 33 (2),* 205-217.

Daniel, S.S., Walsh, A.K., Goldston, D.B., Arnold, E.M., Reboussin, B.A., & Wood, F.B. (2006). Suicidality, school dropout, and reading problems among adolescents. *Journal of Learning Disabilities, 39 (6),* 507-514.

Davis, T.E., III, Nida, R.E., Zlomke, K.R., & Nebel-Schwalm, M.S. (2009). Health-related quality of life in college undergraduates with learning disabilities: The mediational roles of anxiety and sadness. *Journal of Psychopathology and Behavior Assessment, 31,* 228-234.

APPENDIX A

Useful Accommodations & Recommendations

Standard

Extended time (1.5x or 2x) to complete all examinations, including in-class quizzes and tests, final exams, and standardized tests.

Access to a note taker.

Course-specific one-to-one tutoring as needed.

Reading

Student would benefit from direct instruction in reading comprehension strategies. A method such as reciprocal teaching would be appropriate.

Student would profit from further study of vocabulary and general knowledge. Vocabulary and background knowledge are key elements to general reading comprehension. Spending some time reading newspapers, magazines and novels would result in increased knowledge.

Student needs to take an active approach to reading comprehension. This should include discussing or thinking about the subject matter prior to reading; pre-reading chapter summaries, abstracts, and chapter sub-headings to establish a good cognitive set for reading; and, pausing to summarize or paraphrase information at the end of each paragraph.

Student's comprehension skills could be addressed through listening comprehension. This should include an effort to increase his/her understanding of vocabulary words and build his/her fund of background knowledge. As his/her basic reading skills improve, his/her reading comprehension should be monitored carefully.

When reading texts, student should always read chapter summaries, abstracts, and chapter headings before beginning to read. This will help him/her to develop ideas about what he/she is going to read and to develop his/her "head set" for reading.

Student should make a concerted effort to work on his/her vocabulary skills. He/she should read every day and use a dictionary to define at least two words with which he/she is not familiar. He/she may also benefit from the lessons available at www.vocabulary.com.

When reading for comprehension, student should read paragraph by paragraph. At the end of each paragraph he/she should try to summarize or restate what he/she has read. He/she should identify vocabulary or concepts that are making comprehension difficult and seek assistance in understanding them.

To further build his/her reading comprehension power, student should actively engage in vocabulary and information development. He/she should try to read magazines, newspapers, and books unrelated to schoolwork to develop her background knowledge and to expand her understanding of word meanings.

Student might benefit from rate training to help him/her improve the efficiency of his/her reading. Rate training should utilize reading materials that are relatively simple for the student. The passages selected for rate training should be approximately 200 to 300 words in length. The student should read the passages silently as he/she times him/herself. He/she should then reread the same passage again, trying to increase his/her rate. He/she should repeat the specific paragraph three to five times, keeping track of the time it takes to complete the paragraph with each reading. As his/her rate increases he/she should select more difficult passages to read. If he/she finds that his/her reading comprehension is sacrificed as his/her rate increases, he/she should discontinue rate training.

Writing

Spelling should not be considered when written work is evaluated. If spelling is to be considered, the student should be permitted use of a laptop computer with a spell check or a hand-held speller.

Student requires help to improve his/her writing. He/she may benefit from being taught outlining techniques to help guide the organization of his/her written work. Vocabulary and grammar instruction should be part of his/her writing program.

Student would benefit from instruction in basic sentence development:
- complete versus fragment sentences
- adding adjectives and adverbs to simple sentences
- combining simple sentences
- knowledge of tense, number agreement and punctuation

Student would benefit from instruction on paragraph development:
- topic sentences and supporting detail sentences
- paragraph style (e.g., varied sentence starters, varied vocabulary, use of transition words)
- paragraph type (e.g., expository, descriptive, persuasive, narrative or compare/contrast)

Student would benefit from instruction in pre-writing skills, such as brainstorming and outlining

Student would benefit from instruction in editing skills. Develop recognition of errors in spelling, capitalization, punctuation and tense agreement.

Math/Nonverbal LD

Use of a calculator for all math courses, for both in-class tasks and examinations.

Since the student's strengths are in verbal areas, it would be helpful to him/her to have detailed, precise verbal explanations when learning math skills, rules, or problem-solving routines.

Simplifying the visual processing demands of various tasks may be useful to the student. Enlarging graphics such as charts, maps, and pictures may help to increase their clarity and usefulness. Color-coding may assist in organization of paperwork.

Student should seek to make the information he/she needs to study and memorize as accessible as possible. It may be beneficial for him/her to increase the visual impact of materials he/she is studying to make them easier to remember. For example, color coding categories of information or enlarging charts and graphs to make them clearer may be helpful.

Student can depend on his/her verbal memory and should exploit that ability when studying. Pairing information or using categories or chains (links) might help to enhance recall. Borrowing verbal mnemonics from others may also be useful.

Attention/Memory Problems

In order to circumvent the attention problems and difficulties in visual memory that make it difficult for the student to recall specific formulas, rules, or dates, he/she should be permitted access to memory devices such as lists of background information (e.g., formulas or dates) to be used in problem solving or essay writing.

The student has attention deficit hyperactivity disorder and should be allowed accommodations in an academic setting. Specifically she should be permitted to take tests in a private location with extended time.

Student should consult with a psychiatrist regarding treatment options for her attention problems.

Student may benefit from using the following strategies to improve attention during studying:

- Use frequent self-monitoring by asking, "What should I be doing now?"
- Schedule time to reflect on thoughts that intrude during studying
- Allow breaks for physical activity
- Distribute practice, schedule frequent shorter study times rather than cram
- Work on active learning; repeat material heard or read
- Allow rewards earned by periods of concentrated studying.

Student would benefit from a "coach" who could help him to sustain his efforts at organization and time management. A school counselor could play this role.

Student should work with a coach to develop strategies to help him/her sustain focused attention during academic or work tasks. A series of books by Edward Hallowell and John Ratey may provide some useful information *(Driven to Distraction, Answers to Distraction, and Delivered from Distraction)*.

Assistive Technology

Student might benefit from Inspiration software to help him/her organize their thoughts when writing. This program helps to develop and organize brainstorming diagrams and outlines for writing (www.inspiration.com). He/she might also benefit from the use of Dragon Naturally Speaking, a speech to text synthesizer.

Student would benefit from use of a speaking speller that would help him/her to identify unfamiliar words so he/she could improve their functioning around daily literacy tasks. Information regarding this equipment can be found at franklin.com.

Since student has good keyboarding skills he/she might benefit from the use of a word processor for notetaking. This would help contribute a motor component that might help support his/her memory for class lectures. Information about the Alpha Smart, a highly portable device that allows for easy downloading into a computer, can be found at alphasmart.com.

Student would benefit from the use of recorded books. Patient is encouraged to contact Learning Ally (www.learningally.com) or Bookshare (www.bookshare.org) to obtain recorded books, including textbooks.

Considering the student's average listening comprehension, he/she should explore the use of text-to-speech technology such as Aspire Reader (www.axistive.com/aspirereader-4-0.html) or Snap and Read (http://www.donjohnston.com/products/snap-read/index.html), which read almost any sort of digitized text. The use of speech-to-text technology such as Dragon Naturally Speaking (www.scansoft.com), which converts the spoken word into text that can be word processed, would also be helpful.

Student should consider using a small tape recorder to help him/her remember important information or tasks.

Study Skills

Student should consider the following study strategies:

- Study in smaller rather than larger doses. Study for a specific amount of time and then take a timed break. This would help to provide the time needed to consolidate new information in memory.

- Record all classes. Use the tape to review or to fill in notes when uncertain about specific information.

- Because writing information appears helpful to memory, rewrite notes after classes as a way to review and reorganize information.
- Focus on the main points and the facts that are related to those points. Categorize the information to be remembered around main points to make it easier to recall. If it is difficult to detect the main points, discuss the information with professors or other students, use chapter headings, subheadings and graphics in textbooks, and look for technical vocabulary that is repeated in lectures, notes, and texts.

When studying, the student should attempt to put the information he/she needs to memorize into words. Outlines or other sequential learning aids may be helpful. Visual information should be enlarged and highlighted to help draw attention to the information to be remembered.

A study method such as SQ3R may be useful. The student should consult the website www.csbsju.edu/academicadvising/helplist.html. Other university websites have similar information available.

Student benefits from structure inherent in some types of information. He/she should try to impose a structure on other information by grouping, classifying, outlining, or categorizing it. Take advantage of the structure inherent in textbooks and journal articles by reading abstracts and summaries first.

Student's strengths are in verbal areas. He/she should use "self-talk" to complete tasks and assignments. He/she should attempt to translate non-verbal information (pictures, charts, graphs, etc.) into words.

The book, *Learning Outside the Lines* (authors Mooney and Cole, publisher Simon and Schuster) may be a good resource for the student. It has many suggestions for college students with learning and attention problems including ways to manage time, get organized, and learn study skills.

The use of memory strategies such as rehearsal, grouping, classification, and association may help the student increase his/her ability to recall information. Although written for younger students, the book *Keeping Ahead in School* (author Mel Levine, publisher Educator's Publishing Service) may be a helpful resource for developing these skills.

The student's studying should focus on verbal (rather than visual) strategies. As he/she is reading, he/she should stop at logical points (paragraphs or short sections) and summarize what he/she has read. He/she should question him/herself to insure that he/she understands what he/she is reading. If he/she finds vocabulary and concepts that he/she does not understand, he/she should seek clarification by further reading, re-reading, going to other written sources, or asking other people for assistance. He/she should make an effort to produce written summaries of what he/she has read to support his/her recall. Outlines may be superior to diagrams as study aids.

Student needs to create a realistic timeline for studying for tests. When test dates are first announced, he/she should list the dates of tests on a large wall calendar in plain sight. Hours needed for study should be calculated and study dates and times written on the calendar.

Given that the student learns best through listening, it is recommended that he/she be allowed to tape class lectures so that he/she can listen to them to study for tests. He/she should also tape record his/her own summaries of important material from textbooks and/or lecture notes and listen to the tapes in order to memorize material.

Given the student's good visual skills, he/she should prepare for tests by drawing pictures or diagrams of test material and write in important words or information to be memorized. This approach is best suited for biology, history, as well as other subjects. After studying them, he/she should attempt to visualize the drawings with his/her eyes closed and recreate the drawings from memory. Continue practicing until all necessary information can be visualized and written from memory.

Student needs to understand that repetition is necessary for effective studying of test material. Lists of facts, keywords, and/or summaries must be practiced many times to prepare for tests. Oral and written repetition of material is recommended. For example, if memorizing lists, first read the list aloud, then look away or close your eyes and repeat the list as well as you can. After that, look at the list and write it out. Then write as much as you can from memory. Continue until you can repeat the list and write it from memory. When possible, arrange the key words into a pronounceable nonword or common abbreviation (FBI, CBS, ABC, for example) that can be used to recall the information for tests. The names of the Great Lakes are remembered by HOMES that stands for the first letters of the lakes Huron, Ontario, Michigan, Erie, Superior.

To study textbook material more effectively, the student needs to avoid highlighting sentences in the text. Instead, he/she should write a short summary of important information in his/her own words for each paragraph if the material is dense (biology, for example). If the subject matter is less detailed, he/she should write a short summary of important information for each page. The student should think about the material before he/she writes the summaries. To study for tests, these summaries should be rewritten in order on another piece of paper and memorized.

When studying for a test based on a textbook, first read the introduction to determine the main ideas and the purpose of the text. Read and write down chapter titles and side headings to determine the most important points. Take notes under these headings. Examine all of the illustrations and read the captions. If there are questions at the end of each chapter, read the questions, write out the answers, and then recite the answers aloud or rewrite them until memorized. Write your own questions on information that you think might be important. Be sure to check on the correctness of your answers by referring to the text itself.

Test-Taking Strategies

Student needs to carefully read the instructions before starting the test to ensure it is completed properly.

Student needs to look through the entire test prior to starting to determine how much time needs to be dedicated to each section and answering easier questions first.

Student needs to save time at the end of the test to:

- Check answers for errors (e.g., putting the answer on the wrong line, incorrect answers).
- Ensure that all questions have been answered.
- Complete most difficult questions.

When confused by reading a question, the student should read the question once more. If the question is still unclear, the student should circle the question and return to it later.

When taking a multiple-choice test, the student needs to:

- Check the instructions to determine whether incorrect responses are penalized. If they are not penalized, they should try to narrow down response options and take a guess.
- Read the question immediately before reading each response option.
- Respond to test items they find easier and then return to more difficult items.
- Cross out response options they know to be incorrect.
- Cover response options when reading questions and attempt to answer the question on their own. After doing so they should check the response options and see if any match their answer.
- Read every response option even if they believe they have already found the correct answer.
- Save time at the end of the exam to review their work and make sure they have not forgotten to respond to any questions.

When taking a written test, the student needs to:

- Answer short answer questions first.
- Create an outline before beginning essay questions in order to organize their thoughts.

If the instructor reviews the exam at a later date, the student needs to attend this class, as an exam review often reinforces information in long-term memory and may help them on future exams.

When preparing for standardized tests, the student should begin by taking practice tests untimed and allowing him/herself to develop a good understanding of the types of reading materials and questions that are presented. Once he/she is able to perform well on practice tests untimed, he/she should then begin to work on decreasing the amount of time it takes him to complete practice tests.

When taking multiple choice tests, the student should read the questions prior to reading the passages to establish a purpose for reading.

Appendix B

Organization: Apps for Note Taking, Studying, and Time Management

APP NAME (DEVICE)	COST	DESCRIPTION
AnkiMobile/AnkiDroid (iPad, iPhone, iPod Touch, Android)	$24.99 (iPad, iPhone, iPod Touch) Free (Android)	Create your own flashcards or download flashcards; use on your computer when you pay $24.99
AudioNote (iPad, iPhone, iPod Touch)	$4.99 (Lite version is free)	Record spoken notes; free version allows 10 minutes per note with a max of 2 hours
Awesome Note (iPad, iPhone, iPod Touch)	$4.99	Keep your schedule organized, make to-do-lists, write ideas
Best Kitchen Timer (iPad, iPhone)	Free	Set a timer for up to 60 minutes to keep you on task
CamScannerHD/CamScanner (Android)	$4.99 (Lite version is free)	Use your tablet or phone to take a picture of a document and create a PDF document from it; free version limited to 50 scans of 10 pages each and has watermark
Classes-Schedule/Classes Lite (iPad, iPhone, iPod Touch)	$1.99 (Classes Lite is free)	Helps you keep track of your class schedule and your homework assignments
ColorNote (Android)	Free	Write notes and to-do lists; keep track of due dates; organize information by color
Complete Class Organizer (iPad)	$4.99	Take notes while you record lectures; app syncs audio to the text; manage homework assignments, exam dates, and information for each class

APP NAME (DEVICE)	COST	DESCRIPTION
Dropbox (iPad, iPhone, iPod Touch, Android)	Free	Provides online web storage where you can save and upload files
Educreations Interactive Whiteboard (iPad)	Free	Create diagrams and other drawings, write out formulas, and record explanations
EduPort (Android)	Free	Watch lectures and talks from different sites (e.g., YouTube, TED, Stanford University)
EverNote (iPad, iPhone, iPod Touch, Android)	Free	Take notes, pictures, create to-do-lists, and record voice reminders; search function allows you to look for notes at a later date
Evernote Peek (iPad)	Free	Turn your notes in EverNote into study materials; study for tests or improve your memory by reading questions with the answers covered and then check the answers
EverStudent (Android)	Free	Keep track of tasks and assignments for each course; use color coding to organize information
GoodNotes (iPad)	$5.99 (Free for lite version)	Take handwritten notes, draw diagrams, write on PDF documents, and organize on a bookshelf
HomeWork (Android)	Free	Keep track of homework assignments and progress with assignments as well as test dates

APP NAME (DEVICE)	COST	DESCRIPTION
inClass (iPad, iPhone, iPod Touch)	Free	Helps you stay on top of your courses by taking audio notes, video notes, photo notes, or text notes; keep track of assignments and test dates; set alarms for important dates
iStudiez Pro (Mac, iPad, iPhone)	$2.99	A planner that helps you keep track of deadlines and appointments; allows you to keep track of your grades during the semester
iThoughtsHD(iPad)	$9.99	Visually organize your thoughts, ideas, and information; use to brainstorm, create task lists, plan projects, set goals, and take notes
Min to Go (iPad, iPhone, iPod Touch)	$1.99	Timer and alarm clock that can help you stay on task when studying or allow for timed breaks; use to take practice tests under timed conditions
My Class Schedule (Android)	Free with ads ($1.31 no ads)	Keep track of upcoming classes, assignments, exams, and grades; use color coding to organize information
myHomework (iPad, iPhone, iPod Touch, Android)	Free ($1.99 for online account)	Keep track of your classes, homework, tests, and assignments
Next Thing (iPad, iPhone, iPod Touch)	$4.99	Acts like a sticky note; use to leave yourself reminders
Notability (iPad)	$1.99	Write, type, or speak notes; take notes on PDF documents; add pictures to notes or create outlines

APP NAME (DEVICE)	COST	DESCRIPTION
Note Everything (Android)	$4.19 (Free for lite version)	Create text, voice, and picture notes or checklists; organize notes in folders
NotetakerHD (iPad)	$4.99	Write and organize handwritten notes and diagrams; take notes on PDF documents;
Pearltrees (iPad, iPhone, iPod Touch)	Free	Gather and organize information from the Internet; organize information based on interests or categories
Pocket (iPad, iPhone, iPod Touch, Android)	Free	Read and save websites for offline reading; save articles and videos
Popplet (iPad, iPhone, iPod Touch)	$4.99 (Free for lite version)	Collect and organize your thoughts and ideas; sort ideas visually; use for studying, note taking, and brainstorming
Sketchbook Express (iPad, iPhone, Android)	$4.99 (Free for lite version)	Draw pictures or diagrams to help you study information
Skitch (iPad, iPhone, Android)	Free	Write on a PDF document, photo, or draw pictures or diagrams to help you study information
SoundNote (iPad)	$4.99	Tracks what you write and draw while recording lectures; tap a word during playback and the audio will jump to what was being said when you wrote that word
StayOnTask (Android)	Free	Set timer to study for a random period of time; user doesn't know when timer will go off, which helps keep your focus on the material

APP NAME (DEVICE)	COST	DESCRIPTION
Sticky Notes (iPad)	Free	Speak or type notes; use colors, drag, and drop to organize notes
Study Blue (iPad, iPhone, iPod Touch, Android)	Free	A free account with StudyBlue.com is required; make flashcards with text and images; requires Internet connection to create flashcards but you can review them offline
Sync Voice Note (Android)	Free	Record notes and search your notes later; highlights text during playback
Time for School (Android)	Free with ads ($1.49 no ads)	Keep track of your school schedule and set alarms; notifications tell you where and when your next class starts
Timer+ (iPad, iPhone, iPod Touch)	Free	Use countdown timer to keep you on track or practice taking tests under timed conditions
Timer (Intuitit) (Android)	Free	Use timer to study for specific period of time or to practice taking tests under timed conditions.

Adapted from lists created by Sue Ordinetz, PhD, OTR/L & the National Center for Learning Disabilities

Acknowledgements

Author

Jaman Welch, PhD is Co-Director of the Adult Literacy Program at the Fisher Landau Center for the Treatment of Learning Disabilities and an instructor of pediatrics at the Albert Einstein College of Medicine of Yeshiva University. After graduating from Binghamton University, Dr. Welch earned his MA and PhD in Clinical Psychology (Health Emphasis) from the Ferkauf Graduate School of Psychology, Yeshiva University. He has extensive experience with evaluating and treating adults with learning disabilities and has conducted research on the health issues, psychosocial stressors, and academic problems faced by this population.

Editorial Assistant

Elyse Zucker is an Assistant Professor of English at Hostos Community College of The City University of New York, where she cochairs the Disabilities Issues Committee. She received her MA and PhD in English and American Literature from New York University. Her interests include Modern and 19th Century American Literature, ecocriticism, literature and psychoanalysis, interdisciplinary studies, disabilities issues, and pedagogy: topics on which she has designed courses, been awarded grants and a fellowship, published in peer-reviewed journals, and presented papers at national and international conferences.

Design and production by zoLo design, inc.

CUNY Learning Disability Project

Mariam Chohan, coordinator

500 Grand Concourse

Bronx, NY 10451

Tel: 718-518-4356

Fax: 718-518-4433

Email: mchohan@hostos.cuny.edu

Published April 2014