# FACULTY AND LEARNING DISABILITIES IN HIGHER EDUCATION

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## ABSTRACT

*As increasing number of young adults with learning disability enter post-secondary settings, it is important to develop further understanding about the contextual processes and supports within college and university environments (Madaus & Shaw,2004). Faculty members play an important role in these students' educational experience, and hence it is important to increase the faculty awareness, knowledge and skills in order to teach these students effectively. This article will provide information on learning disabilities in higher education, identifying learning disabilities in classrooms and the various accommodations and instructional strategies that faculty can provide to students having learning disabilities. Particular attention is given to the process of making faculty aware of the academic accommodations that they can provide and potentially assist the students having learning disabilities.*

Key Words: *Learning disabilities, Faculty, Accommodations and Higher Education.*
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INTRODUCTION:

LEARNING DISABILITIES-

Students with learning disabilities (LD) are the fastest growing group of individuals with disabilities receiving services in postsecondary settings (Gajar, Murphy, & Hunt, 1982; Henderson, 1995). Due to legislation, advancement in technology and a more positive social acceptance an increasing number of students with learning disabilities are entering higher education and faculty play a very important role in the student's educational experience. Increasing the knowledge and skills of faculty to effectively teach students with diverse learning needs has the potential to improve postsecondary education and learning outcomes of these students.

DEFINITION OF LEARNING DISABILITIES-

Learning Disabilities (LD) is a general term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical skills. (National Joint Committee on Learning Disabilities 1981).

The National Center for Learning Disabilities (NCLD, 2009) defines a learning disability (LD) as "a neurological disorder that affects the brain's ability to receive process, store and respond to information".

Manifestations of LD vary from individual to individual.

- Learning differences
- Difficulty in one particular area of academic achievement such as spelling or reading
- Unique learning styles(norm rather than exception)
- Average to above average intelligence.
- Potential and ability
- Blocks/barriers to learning
- Family history of learning disabilities
- Learning disabilities do not go away when you graduate from high school
- May affect self-esteem and self-confidence
- May affect memory
- May affect interaction with peers
- May relate to concentration difficulties
- May be very frustrating at times.

TYPES OF LEARNING DISABILITIES-

Dyslexia is a specific learning difficulty which mainly affects the development of literacy and language related skills.

DYS - Meaning poor or inadequate

and

LEXIS - Meaning words or language

Dysgraphia: is a disorder that impacts writing or typing, and in some cases it may also affect eye-hand coordination.

Dyscalculia: is characterized with learning fundamentals and one or more of the basic numerical skills.

Dyspraxia: in that the person may have the word to be written or the proper order of steps in mind clearly, but carries the sequence out in the wrong order.

How to identify college students with LD

College students with LD are typically intelligent, talented, and motivated. These students often develop a variety of creative strategies for compensating for their LD. In fact, some students may not realize that they have a disability and remain undiagnosed until confronted with the rigors of a college or a graduate-level program. Problems may be noted in one or more of the following areas:

A. Cognitive Processing-

Students with LD may have difficulty with the underlying cognitive processes that involve the acquisition, application, integration, and expression of information. These may include difficulties with:

- Visual processing
- Auditory processing
- Speed of processing
- Perceptual and quantitative reasoning
- Expressive and receptive language

B. Executive Functioning-

Students with LD may have difficulty with executive functioning tasks such as planning, organizing, decision-making, self-monitoring, and evaluating the effectiveness of learning. These may manifest themselves as difficulties with:

- Working memory and recall
- Managing time and space
- Concentration/attention
- Problem-solving
- Critical thinking

C. Academic Achievement-

Learning disabilities can affect one or more areas of academic achievement such as reading, writing, expressive and receptive language, math, science, and technology.

READING SKILLS-

Students with LD may have problems in one or more of the following areas:

- Mastery of phonics (weak phonological awareness)
- Fluency and adjustment of pace of reading given the complexity of the text
- Comprehension or retention of printed materials or digital text
- Differentiating the main idea from supporting details
- Integrating and synthesizing information from multiple sources (e.g., lab, text, web site)
- Sustaining reading for long periods of time (fatigue)
- Reading aloud in front of others
- Actively engaging and using strategies while reading
- Following multi-step written directions
- Keeping up with the volume of assigned readings in college or graduate school.

WRITING SKILLS-

Students with LD may have problems in one or more of the following areas:

- Getting started with writing assignments
- Planning or creating an outline before starting to write a paper
- Generating compositions and essays of sufficient length
- Word choices are often simplistic relative to oral language skills
- Spelling resulting in frequent or unusual errors characterized by omissions, substitutions, and transpositions
- Sentence structure, syntax, and semantics (tendency to write in short sentences with limited vocabulary and use the same words repeatedly)

- Proofread written work and making edits or revisions
- Penmanship that resembles work of someone much younger (e.g., poorly formed letters, incorrect use of capitalization, trouble with spacing, overly large handwriting)
- Completing writing assignments on time and/or meeting deadlines for term papers

EXPRESSIVE LANGUAGE SKILLS-

Students with LD may have problems in one or more of the following areas:

- Concentrating on and comprehending spoken language when presented rapidly
- Oral expression (e.g., difficulty verbally explaining concepts that they do understand)
- Word pronunciation (e.g., saying "pacific" for "specific")
- Using terms in the correct context (e.g., saying "homey" for "homely"
- Word retrieval
- Talking in front of others or making in-class presentations
- Following multi-step oral directions

MATH AND SCIENCE SKILLS-

Students with LD may have problems in one or more of the following areas:

- Retrieving math facts such as multiplication tables and formulas (e.g., being calculator dependent)
- Accurately reading numbers and symbols in assignments, (e.g., confusing 6 for 9, or operational symbols such as + and x)
- Reading and understanding word problems
- Numeration (e.g., measurement, estimating size and distance, directionality, telling time, and performing conversations)
- Following all the logical steps in problem-solving (e.g., calculating the steps in the wrong order or missing a step)
- Interpreting charts, graphs, diagrams
- Self-monitoring for accuracy of the answer for a math or science problem

## D. TECHNOLOGY SKILLS-

Given the proliferation of online and blended courses in college, competencies with instructional and learning technologies are essential for all college students, including students with LD. Students with LD may have problems in one or more of the following areas with technology and the use of the internet:

- Conducting an internet search (e.g., knowing how to effectively identify search words and phrases, knowing when to stop searching, not being distracted by links, animation, symbols, and pop-ups on the internet)

- Deciphering authentic, peer-reviewed information from personal opinions posted on the internet

- Resisting click-copy-paste of information without concerns about plagiarism

- Being able to remain focused and on-task given multiple distractions on the World Wide Web

- Knowing how to use social media such as Facebook and Twitter safely and effectively

- Being able to problem-solve common computer malfunctions

- Keeping positional memory while reading off a computer screen (e.g., not being distracted while having to scroll to find information)

- Keeping up with specific requirements of online courses such as time-management, participation in real time discussions and pace of online postings

## E. Social Skills-

Many students with LD may have limitations in social skills which spill over into relationships with others. Students with LD may have problems in one or more of the following social skill areas:

- Interpreting what others are saying (e.g., interpreting information too literal)

- Understanding non-verbal messages and detecting sarcasm (e.g., body language, missing subtle changes in tone of voice)

- Self-advocacy skills (e.g., speaking up for themselves with faculty, roommates and other campus personnel)

- Self-esteem (e.g., demonstrating characteristics of learned helplessness by assuming that circumstances cannot be changed; feeling a lack of control over a situation)

- Self-monitoring behavior, social perception, and social interaction. These may co-occur with LD, but do not, by themselves, constitute a LD.

College students with LD who have weak social skills often have parents who have managed their social agenda for them in high school and may feel obliged to do the same in college, (e.g., "helicopter parents").

How a Learning Disability Affects Students in a Postsecondary Setting

- The ability to write comes and goes (erratic handwriting)

- The ability to solve mathematical problems is sporadic

- Words and phrases are reversed while taking notes in a lecture

- Intense anxiety is experienced during tests

- Student cannot sound out words

- Spelling is poor (letters get all jumbled up)

- Following and grasping mathematical concepts is difficult

- Memorizing is difficult

- Reading comprehension is poor

- Reading rate is slow

- Judging distances is difficult

- Verbal information is misinterpreted

- Student feels isolated, ashamed, and considers dropping out.

- Facilitators could use this list to discuss possible problems that their students might be having in classes and in relationships. Facilitators should emphasize that each individual with learning difficulties has a unique configuration of characteristics that affects his or her learning style. These examples may or may not describe their specific situation.

Rose (2002) and Wilson (2002) advocate that academic staff should be encouraged to become more involved in teaching research methods and that practitioners and researchers should work together to determine the agenda for a research-based profession. Trying to meet the individual needs of all students is a difficult task, for any teacher today, but teachers are required to make instructional adjustments if students with learning disabilities are to be successful in an academic environment. The primary adjustment to be made is the way students are taught to read and write.

Swanson (2000), after reviewing teaching methods, drew the conclusion that the most effective approach for teaching basic academic skills to students with learning difficulties combines the following features:

- Carefully controlled and sequenced curriculum content
- Provision of abundant opportunities for practice and application of newly acquired knowledge and skills
- High levels of participation by the students(for example, answering the teacher's question; staying on task)
- Frequent feedback, correction and reinforcement from the teacher
- Interactive group teaching
- Modeling by the teacher of effective ways of completing school tasks
- Teaching students how best to attempt new learning tasks ( direct strategy training)
- Appropriate use of technology (e.g. computer assisted instruction)
- Provision of supplementary assistance (e.g. homework, parental tutoring, etc.).

LECTURES-

- Present an outline of the whole lecture at the start, giving the 'big picture'. Then say how many main points there are within the whole lecture, so that the students having learning disability can see the framework of the topic.
- Provide photocopied outline lecture notes for students. Whilst this is time-consuming, it makes a huge difference to students with LD who can see the main drift of the lecture, and then add extra notes around the main points/sections that you have outlined.

- Print key words on the board rather than writing them in cursive handwriting.

- If there is a choice, a blackboard is preferable to a white board, which can create a visual glare for some students with LD.

- Never ask the student having LD to read out loud. They have difficulties with visual tracking - following the text along the line and onto the next line - which can cause great embarrassment. Instead the teacher can read out loud where possible.

- Break down of task to small easily remembered pieces of information.

- Seating of student near the class teacher

- Handwriting practice to be given.

- Overhead projections (OHPs) present a particular visual difficulty, but a photocopied handout of the OHPs or Power Point pages can help tremendously.

- Allow five minutes at the end of a lecture for LD students to approach you individually about any points that have confused them.


ASSIGNMENTS-

- Avoid assignments to be copied from the board. When assignments are set, be sure to put them in writing on printed handouts.

- Try to read and assess an LD student's work for content and meaning. Poor spelling is not an indication of low intelligence, but of a learning difficulty with visual memory.

- Encourage a LD student to show you a rough draft of an essay so that you can provide some feedback before the final version is handed in.

- Tell your LD students about technological aids such as Speech Recognition programs, reading software, word prediction etc that will allow them to dictate their work into a word-processing program, without having to devote undue attention to spelling.

- Make sure that the LD students you teach are aware of any special services or support, which are available in your college.

- Encourage the LD student to attend a study skills course/ workshop or you conduct one.

- Flexible / additional work times to complete written assignments for students who work slowly.

- Pair with 'buddies' for peer-mediated learning for activities.

STUDY ACCOMMODATIONS ('ACADEMIC ADJUSTMENTS')-

- Present Text orally

- Color code while teaching reading and writing

- Provide books on the same theme or topic

- Allow students who need auditory input or have trouble maintaining attention to silently go to a quiet corner and read out loud to themselves.

- provide audio recording of lectures

- Provide an extra set of lecture notes for the student to keep home

- Read directions loud and follow up if they have understood the directions

- Reduce the need to copy from the board or book

- Make adjustments to accept modified homework that requires reduced amount of writing

- Substitute non written, hands on assignments and oral presentations for written assignments

- Provide note taking assistance

- Provide students with assistance with typing and printing than writing

- Post samples of how you want the students to do the assignment

- Access to assistive technology equipment

- Readers, scribes, note-takers; large print hand-outs, copies of overheads, copies of lecture notes etc.

EXAMINATION SUPPORT-

The most frequently requested and provided services that students with LD receive through disability support offices are test accommodations (Bursuck, Rose, Cowen, & Yahaya, 1989; Nelson & Lignugaris-Kraft, 1989; Yost, Shaw, Cullen, & Bigaj, 1994).

- Provide tests that are easy to read: typed written and clear language, at least double spaced, cleanly printed, with ample margins. Avoid handwritten tests.

- State direction in clear and simple sentences

- Provide opportunities for short answer assessments: use multiple choice, matching or fill in the blanks items

- Provide students ahead of time with examples of different types of test questions that will be on the exam

- Test only what is being taught

- Avoid questions to trick students

- Take home tests

- Divide tests into parts, administering each part on different days than rushing students to complete lengthy tests in one class period.

- Use of more time to complete the test. "More time" is typically defined as one and a half to two times longer than a non-LD (NLD) peer is permitted to take the test (Brinckerhoff, 1991).

- Do not penalize the students for spelling, grammar, or punctuation but measure the content.

- Permit use of ear plugs to block auditory distractions

- Use of computer (word processor) to answer the questions.

- Allow supervised breaks during exams

- Ignore spelling mistakes while evaluating.

- Allow verbal answers in place of written.

- Allow separate invigilation to avoid distractions

ASSISTIVE TECHNOLOGY FOR LD-

- Speech Recognition Software – Dragon Naturally Speaking etc

- Word Prediction Software

- Reading Software – WYNN Reader, Kurzweil 3000 etc

EFFECT OF PRINT SIZE ON READING SPEED-

- Not only the spacing between letters, but the size of the letters themselves affects how quickly and easily dyslexics read.

- In a recent study, the researchers presented passages printed in progressively bigger letters to groups of dyslexic and normal readers, timing how long it took the participants to read each one.

- The children with dyslexia reached their maximum reading speed at a letter size bigger than that required by children who did not have the disorder.

Faculty should focus on skill development

Reading Skills:

Understanding and remembering written material; summarizing; highlighting; improved speed and fluency; multi-sensory memory strategies and learning techniques; visual and aural word and letter perception and tracking.

Writing Skills:

Correct and coherent writing, spelling rules, word-building and word division, grammar and punctuation, sentence construction and writing flow, paragraphing, proof-reading.

Essay Skills:

Planning and writing essays, including brainstorming for ideas; organization and planning of contents; basic essay structure; ordering and linking of sections; essay writing for exams.

Study Skills:

Training in effective study and revision; organization and presentation of material for easy learning; preparing revision schedules; motivation and reward; note taking; summarizing and highlighting.

Attention, Concentration and Memory:

Exercises to focus and sustain attention and concentration and memory techniques should be provided.

Structure and Organizing Skills:

- Calendar: record lecture dates, test dates, record assignment due dates, schedule timelines for schoolwork
- Assignment book
- Graphic organizer

Students with developmental conditions need the structure of daily routines to know and do what is expected.


CONCLUSION AND RECOMMENDATIONS:

Researchers have reported that many faculty members have little experience with students who have learning disabilities and are not sufficiently familiar with what specific accommodations are appropriate and what their role is in making accommodations. Hockenbury et al.(2000, p.9) conclude that the education needed by students with learning disabilities includes instruction that is 'more efficient, intensive relentless, carefully sequenced, and carefully monitored for effects'. The features most commonly found in effective classroom where learning disabilities are minimized according to Foorman et al.(2006) include

- Teachers applying proactive classroom management
- More time devoted to instructional activities
- Students more academically engaged
- More active and explicit instruction
- Teachers providing support ('scaffolding') to help students develop deeper understanding
- Tasks and activities well matched to students' varying abilities (differentiation)
- Students encouraged to become more independent and self regulated in their learning
- A good balance between teacher-directed and student centered activities.

It is important for colleges to focus on the skill development and training for faculty by increasing the knowledge about learning disabilities, and provide an understanding of how they can play a pivotal part in helping students with learning disabilities achieve their academic pursuits.

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