

DOCUMENT RESUME

ED 358 880

JC 930 311

AUTHOR Flick-Hruska, Connie, Comp.; Blythe, Gretchen, Comp.

TITLE Disability Accommodation Handbook.

INSTITUTION Metropolitan Community Colleges of Kansas City, Mo.

SPONS AGENCY Office of Special Education and Rehabilitative Services (ED), Washington, DC.

PUB DATE Sep 92

NOTE 69p.

PUB TYPE Guides - Classroom Use - Teaching Guides (For Teacher) (052)

EDRS PRICE MF01/PC03 Plus Postage.

DESCRIPTORS *Accessibility (for Disabled); Acquired Immune Deficiency Syndrome; Classroom Environment; *Classroom Techniques; Community Colleges; *Disabilities; Handicap Identification; Hearing Impairments; Injuries; *Learning Disabilities; Mental Disorders; Perceptual Handicaps; *Physical Disabilities; Postsecondary Education; Special Needs Students; Speech Handicaps; Teacher Response; Teaching Methods; Two Year Colleges; Two Year College Students; Visual Impairments

ABSTRACT

Designed as a resource for two-year college faculty and staff working with students with disabilities, this handbook contains facts about various disabilities, practical suggestions for improving services, and resource points for further information. Following a brief introduction, legal implications regarding disabled students are discussed for postsecondary education institutions, and general suggestions for overcoming negative reactions to disabled students are provided. Next, the handbook describes symptoms and useful teaching techniques/classroom approaches for the following disabilities: learning disabilities; traumatic brain injury; mobility impairments; visual impairments (legal blindness); total blindness; hearing impairments, including information on using a relay system to call the hearing impaired and working with interpreters; back impairments; speech impairments; epilepsy; cerebral palsy; carpal tunnel syndrome; multiple sclerosis; rheumatoid arthritis; Tourette's syndrome; mental illness; suicide; Acquired Immune Deficiency Syndrome (AIDS); and substance abuse. For each disability, telephone numbers of institutions offering further information are provided. The manual then lists possible side effects of medication that students may be taking and reviews considerations regarding disabled student access to science laboratories. Finally, evacuation procedures for visually impaired, hearing impaired, and non-ambulatory students are considered. (MAB)

 * Reproductions supplied by EDRS are the best that can be made *
 * from the original document. *

Disability Accommodation Handbook

ED358880



THE METROPOLITAN
COMMUNITY COLLEGES
LONGVIEW • MAPLE WOODS • PENN VALLEY

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

J. G. Friend

EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)

BEST COPY AVAILABLE

2

U S DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

This document has been reproduced as
received from the person or organization
originating it
 Minor changes have been made to improve
reproduction quality

• Points of view or opinions stated in this docu-
ment do not necessarily represent official
OEI position or policy

DISABILITY ACCOMMODATION HANDBOOK

COMPILED BY:

CONNIE FLICK-HRUSKA, M.Ed., CRC
COUNSELOR,
LONGVIEW COMMUNITY COLLEGE

GRETCHEN BLYTHE, M.S.
CAREER DEVELOPMENT COORDINATOR,
WORKABILITY PROGRAM, METROPOLITAN COMMUNITY COLLEGES

WorkAbility is a three year demonstration project to enhance career services for students with disabilities in higher education. Funded by the U.S. Department of Education Office of Special Education and Rehabilitative Services and the Metropolitan Community Colleges.

ACKNOWLEDGEMENTS

- * **THE COLLEGE STUDENT WITH A DISABILITY: A FACULTY HANDBOOK.**
BY: The President's Committee on Employment of People with Disabilities.

- * **PROJECT ABLE FACULTY HANDBOOK.**
BY: St. Louis Community College at Florissant Valley.

- * **ACCESS TO POST-SECONDARY EDUCATION A FACULTY HANDBOOK.**
BY: Project Access Great Falls Vocational Technical Center.

WORKABILITY
METROPOLITAN COMMUNITY COLLEGES
3201 SOUTHWEST TRAFFICWAY
KANSAS CITY, MO 64111
(816) 759-4153

SEPTEMBER, 1992

TABLE OF CONTENTS

INTRODUCTION	i
LEGAL IMPLICATIONS	ii
GENERAL SUGGESTIONS	1
LEARNING DISABILITIES	4
TRAUMATIC BRAIN INJURY	15
MOBILITY IMPAIRMENTS	17
VISUAL IMPAIRMENTS	20
BLINDNESS	22
HEARING IMPAIRMENTS	25
HOW TO USE THE RELAY SYSTEM TO CALL THE HEARING IMPAIRED	30
HOW TO WORK WITH AN INTERPRETER	31
COMMUNICATING WITH HARD OF HEARING PEOPLE	32
BACK IMPAIRMENTS	33
SPEECH IMPAIRMENTS	34
EPILEPSY	35
CEREBRAL PALSY	36
CARPAL TUNNEL SYNDROME	37
MULTIPLE SCLEROSIS	38
RHEUMATOID ARTHRITIS	39
TOURETTE'S SYNDROME	40
MENTAL ILLNESS	42
SUICIDE	46

AIDS (ACQUIRED IMMUNE DEFICIENCY SYNDROME).....49
SUBSTANCE ABUSE51
EFFECTS OF MEDICATION.....52
SCIENCE LABORATORY ACCESS.....53
EVACUATION PROCEDURES59



INTRODUCTION

It is estimated that there are 36-40 million Americans with disabilities (one out of every six people). These numbers comprise many kinds of disabilities and represent much human potential.

In the years to come, faculty and staff can expect to see more and more students with disabilities enter college. The results of mainstreaming in the secondary schools, combined with a sincere effort to eliminate architectural and program barriers at the postsecondary level, have allowed many individuals with disabilities to pursue a higher education. Additionally, increasing numbers of people with disabilities see a higher education as a means for expanding options for employment and independence.

As we attempt to eliminate barriers, we come to realize how critical the understanding and support of faculty and staff is to this process. It is because of this fact that we have prepared this handbook.

This handbook combines materials from many sources. It is designed to assist faculty and staff in working effectively with students with disabilities. It contains facts about various disabilities as well as practical information about services and resources. A video is available for students to view to help them function as independently as possible in the academic setting.

Each student with a disability will have a different level of functioning even within the same disability category. Also, compensation skills will vary widely from one student to another. Consequently, the information presented in this handbook should be seen as a general guide to instruction of students with disabilities. This handbook is designed as a reference book that the instructor can consult when working with a student with a particular disability. It is not meant as a substitute for interaction between instructor and students, but rather to facilitate it. The student with the disability is the "expert" regarding his/her needs and can usually suggest a solution.

Contact resources for each campus:

Mary Sturdivant or Connie Flick-Hruska	763-7777 Ext. 254	LV/BSC
Murvell McMurray or Chris Huff	759-4131, 759-4134	PV
Kathy Acosta or Janet Weaver	437-3192, 437-3095	MW

We welcome comments and suggestions for changes or additions to this handbook. We recognize that many unique situations and problems may develop in attempting to provide reasonable accommodations to persons with disabilities. **Work Ability is always available to faculty and staff to advise, assist, or refer to resources.** Faculty, staff, and students often come up with ideas for accommodations which greatly enhance a student's ability to benefit from the educational environment. We hope that these people will share their ideas with Work Ability.

LEGAL IMPLICATIONS

The Rehabilitation Act of 1973 (Public Law 93-112), Section 504, provides that "no otherwise qualified handicapped individual in the United States...shall, solely by reason of...handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

Implications for Postsecondary Education

Section 504 applies to postsecondary education programs and activities. It designates that:

1. Students with disabilities must be afforded an equal opportunity to participate in and benefit from all postsecondary education programs and activities. That includes any course, course of study, or activity offered.
2. Rules which limit the students with disabilities participation in the program or activity may not be imposed upon the students with disabilities. (For example, prohibiting tape recorders and calculators in classrooms or guide dogs in campus buildings.)
3. Academic requirements must be modified, on a case-by-case basis, to afford qualified students with disabilities an equal educational opportunity.



GENERAL SUGGESTIONS

So many of us have gone through our lives with little or no contact with persons with disabilities. The appearance of a student with a severe disability in class may prove unsettling. Questions like "How will this person communicate?" "How can I test this person?" "Can this person find employment?" are all normal. It is for this reason that this section is written. Hopefully, it will provide some answers or assurances.

Some common reactions to students with disabilities are:

- **All that matters is your label.** Individuals adopt a label, usually based on a student's disability. There is little regard for the individuality of the student: The blind have all the same needs; all quadriplegics have the same interests and abilities; people who use wheelchairs are referred to as "wheelchairs"; people with any kind of physical impairment are "the handicapped" or "the crippled" and all become "cases."
- **I feel sorry for you.** In this syndrome of pity, focus is inordinately on the negative aspects of the student's life: a life filled with pain, suffering, difficulty, frustration, fear, and rejection. The student is believed to be fragile, hopeless, despairing, and a victim of misfortune. Although a person may be aware of these negative feelings and try not to show them, the feelings emerge, often through the tone of voice or in the expression on the face.
- **Do not worry, I'll save you.** Characteristics of this syndrome are expressions such as the following: "I'll do it for you."; "Give the student a break."; "Don't worry about it; I'll take care of it."; "You have enough to worry about."; "It's too difficult for you."
- **I know what's best for you.** This syndrome, particularly common in vocational planning, is characterized by such expressions as "you shouldn't, you'll never, you can't, limitations, unrealistic dreamer."
- **Who's more anxious, you or I?** Characteristic comments about the student are typically communicated to colleagues, family members and friends. These include "makes me uncomfortable"; "It's so frustrating"; "I can't deal with"; and "inadequate."

To free yourself from the limitations of these reactions, keep in mind these general suggestions:

Be generous with yourself. Admit that the uneasiness you feel is your problem and realize that it will pass with time and exposure. If your goal is to teach or assist, you will, in time, see a person, not a disability. In addition, you have no obligation to like all persons with a disability or to always expect them to do well.

Learn all you can about the disability. This handbook offers information regarding common disabilities. The student with a disability is usually a good source of information and should be relied upon to state specific needs, give

information regarding limitations, and allow you adequate advance notice of providing accommodations.

Every person has limitations. Students with disabilities also have some limitations. Do not overestimate those limitations and do not accommodate the student beyond what is reasonable. Students with disabilities should be viewed as individuals rather than as "they," "those," "them," "the handicapped" or by the name of the disability, for example, "the blind." Words like "cripple," "affliction," or phrases such as "victim of..." are offensive and hurtful.

Allow a student the opportunity to fail. This may be very difficult for sensitive, caring persons to follow. As adults, we understand the necessity for choices, even poor choices, in our total development. Failure is an essential ingredient in reaching maturity. The sensitive faculty or staff member needs to provide plentiful opportunities for success and a supportive environment for the student facing failure. The objective is not to eliminate the experience or failure but to capitalize on its potential for learning.

Expect the student with a disability to meet the same standards of academic performance as all students. They are here because of all their abilities, not their disabilities.

Make a general announcement at the beginning of class. Instructors can help at the start of the semester with a general announcement of their willingness to discuss individually any student's special needs. This might encourage some students whose disabilities are not readily discernable to vocalize their needs early in the semester.

Ask questions. The student with a disability is the single best source of information. What is your disability? How long have you been disabled? What are some of the coping skills and adaptations you have employed in the past?

Do not apply blanket accommodations. Needs vary much among individuals, even those with the same disability. Therefore, all accommodations are not automatically applicable to all students with a particular disabling condition. A disability can vary in terms of the degree of limitation, the length of time the person has been disabled, and the stability of the condition.

Do not feel students with a disability are getting unfair advantages. More time and energy may be spent on a student with a disability than other able-bodied students in the class. However, this minimal extra expenditure merely assures students with a disability of receiving educational opportunity equal to that of their nondisabled peers. Students with disabilities do not get by with less work. Often, they must work harder than the able-bodied student.

Do not be afraid of saying or doing the wrong thing. By avoiding communication or contact with a person with disabilities, fears and misconceptions cannot be curbed. Discomfort can and will be eased if persons with disabilities and persons without disabilities see and interact with each other more often in school, work, and social settings.

Recognize that a student with a disability may afford you a unique opportunity. What is not always readily appreciated is the unique input of a person whose life experiences are different from the norm. We often forget how

easy it would be for the student with a disability to want to remain invisible, to avoid the risk of participating with the rest of the class. The very fact that a student with a disability has chosen to come to the Metropolitan Community Colleges and to face the daily challenge is a statement of a tremendous desire to learn and to contribute. If we view this situation as a learning experience rather than a problem, we can all be enriched by it.

Try to remember that a disability does not automatically prevent a student from participating in certain activities or classes. A student with a visual disability may benefit from an art class, and a student with a hearing disability, from a music class, with certain modifications and adaptations. A student without the use of hands can learn the process and results of a chemistry experiment.

Offer assistance before providing it. By asking students if they need assistance, you are giving them the option to accept.

Talk directly to the student with a disability. Comments such as "does he or she want to..." should be avoided. Even when a deaf student is using an interpreter, look at the student and direct all questions and comments to the student.

Call or contact your Special Needs Counselor. Your Special Needs Counselor welcomes your questions or comments. If we do not have the answer to specific problems, we will work with you and the student to arrive at workable solutions. We also look forward to learning from you as you develop ways to accommodate students.

Students with disabilities are people too! They are remarkably like everybody else. They pass; they fail; they succeed; they go bankrupt; they take trips; they stay at home; they are bright; they are good people; they are pains in the neck; they are just trying to get by.



LEARNING DISABILITIES

Learning disability (LD) is a hidden disability. Unlike the person who uses sign language or walks with crutches, the learning-disabled student shows no visible characteristics of a disability. Because it is a hidden disability, the student may have been accused of "faking it" or "being lazy."

Thomas Edison, Albert Einstein, Leonardo da Vinci, Nelson Rockefeller, Bruce Jenner, and Agatha Christi all have or had learning disabilities. Today as many as 20% of the population may have mild or severe learning disabilities.

Learning disabilities are so individualized that any generalization about specific signs or symptoms is of limited value. Each student will be better able to describe how she/he functions in relation to his/her learning disability. Keeping this in mind, a brief description of problems a learning disabled student may have to deal with follows. No student exhibits all, and each student has varying degrees within the categories.

Dyslexia: inability to read for a medical reason.

Dyscalculia: inability to do arithmetic.

Dysgraphia: inability to put words down.

Dysphasia: impairment of the ability to speak or sometimes understand language.

Figure-ground perception: picking out an object from a background of competing objects.

Visual discrimination: telling the difference in objects.

Spatial perception: seeing things in the right order.

Auditory figure-ground perception: hearing one sound against a background of noises.

Auditory sequencing: hearing sounds in the correct order.

Dysfunction in one's sense of balance:

Apraxia: dysfunction in motor planning or knowing where you are in space.

Tactile reflex is disturbed, causing problems with the sense of touch (holding a pencil, turning pages).

If you suspect that a student in your class is learning disabled, your Special Needs Counselor has a list of diagnostic centers and can refer students for testing. Many of the state and federal programs, such as textbooks on tape, readers/writers, tutors, etc., require that the student document his/her learning disability.

Some Facts About Learning-Disabled Persons

- Learning disabled students are not retarded or otherwise lacking in intelligence. They are average to above average in intelligence.

- The LD student's needs center around information processing.
- The LD student's capacity for learning is intact; only the means by which information is processed is different.
- Sometimes a student may have a poor self-concept from previous failure and frustration.
- Most of these students exhibit a high level of inconsistency in the way they perform. For example, Nelson Rockefeller learned to speak fluently in several languages, but he had to have his speeches written out in large letters and spaced in such a way that he could decipher when giving speeches on TV.
- One of the most common but least understood characteristic of learning-disabled people has recently had a new label coined for it called "social dysperception." This is the inability to perceive accepted rules and customs of society. A common remark which may be heard concerning learning-disabled individuals is that they are immature.

Teaching a Student with Disabilities in Learning

Toward increasing an awareness about what you as a college professor can and should do to assist learning disabled student, perhaps the first priority should be to develop a few ideas about what you are not expected to do.

First, you are not expected to lower your own standards of teaching excellence. Learning disabled students are not in your class for a free ride nor the gift of a good grade. Having earned the right to be in college, they have also earned the right to succeed or fail.

Second, you are not asked to be an educational therapist, part of whose job is to "remediate" or diagnose or prescribe. In the first place, these students have probably been "remediated" until it is coming out their ears, from nursery school on up. If they are not "cured" by the time they reach college, then it is time to take a different approach. Some learning disabilities will never be cured, any more than some blindness or deafness can be cured. The teacher's responsibility is to teach the content and not to cure or remediate learning problems.

But there are some things you can and should do, strategies with which you can personally be comfortable. Many of them you may already have employed in working with blind, deaf, or physically-disabled students. These adjustments circumvent the student's learning problems and teaches them how to use their strengths.

You may have understandable doubts about the following list of alternative ways of teaching, learning, and testing methods. The fact remains that the student's capacity to learn is intact. It is only the means by which the information is given and then processed that is different.

Notetaking: Students may use one or more of the following methods of obtaining class notes.

- Take own notes.

- **Tape record lecture:** Under the U.S. Department of Health, Education and Welfare regulations for Section 504 of the Rehabilitation Act of 1973, taping of class lectures must be permitted if that is the request of a student with a physical or learning disability. An instructor who is planning to publish his or her lectures may fear that the tapes will somehow interfere with these plans. It is appropriate for the instructor to ask the student to sign an agreement not to release the recording or otherwise obstruct the copyright. Students need to sit close to the speaker to insure clear tapes.
- **Notetaker:** Some students will ask another student to take notes for them. There is special carbonless notetaking paper (NCR) that will make an immediate copy. Some students will obtain photocopies of another student's notes.
- **Professors' notes:** Some instructors provide the student with a copy of their notes or outlines.

NOTE: LD students should be encouraged to copy notes or outline the taped lectures to develop these skills even if they are not actively taking notes in class.

Texts and Required Readings: It is often helpful for LD students to use both the visual and auditory channels when reading the text or other readings. Texts on tape can be ordered. These must be ordered well in advance to allow preparation. If students are given reading lists well in advance of the beginning of the semester, they will be able to order appropriate materials.

Readers/Writers: Paid or volunteer readers can assist the student with materials that are not on tape. Readers/writers may be needed to assist in library research or in completing assignments.

Test: It is the student's responsibility to discuss alternative test-taking methods with the instructor. The following methods have been utilized by instructors and LD students.

- Readers/writers can be provided for test taking. Advance notice needs to be given to allow for scheduling.
- Some students find that enlarging tests helps their processing ability.
- The LD student may merely need extended time. Your Special Needs Counselor can assist in taping and allow students to tape the answers.
- * Oral exams, hands-on demonstration, or open-book tests might be the answer. For the aphasic person for whom an oral report might be a total impossibility, perhaps an exhibit of some sort could be substituted.

Some General Suggestions for Instructors: the following list of suggestions may help an LD student succeed in your class. You are probably already using many of these techniques and if not, you may find that other students will benefit as much as the LD student.

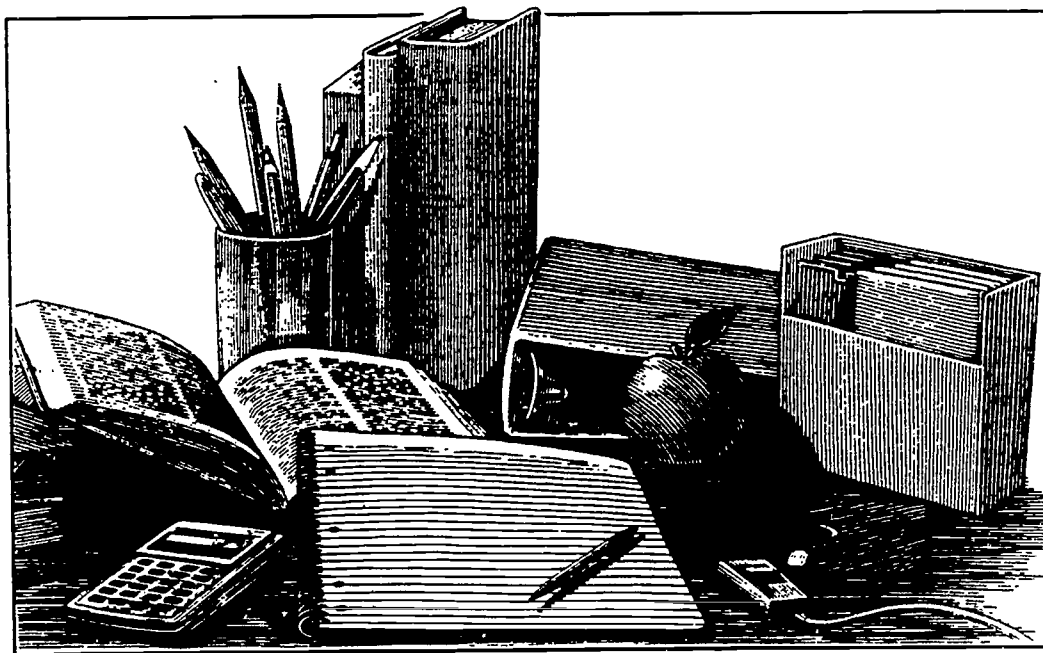
- Provide students with a detailed course syllabus and make it available before class starts, if possible.

- Announce reading assignments well in advance for students who are using taped materials.
- If necessary, allow LD students to demonstrate mastery of course materials using alternative methods (e.g. extended time limits for testing, oral exams, taped exams, individually proctored exams in a separate room).
- Start each lecture with an outline of material to be covered that period. At the end of class, briefly summarize key points.
- Present new or technical vocabulary on the blackboard or use a student handout. Use terms in context to convey greater meaning.
- Provide study questions for exams that demonstrate the format as well as the content of the test. Explain what constitutes a good answer.
- Reinforce lectures or discussions by putting major topics or outlines of the material on the board.
- Give assignments both in written form and orally to avoid confusion.
- Encourage the student to ask questions during or after class to insure that materials are understood.
- Frequently verbalize what is being written on the board.
- Offer as many sense modalities as possible: visual, auditory, tactile kinesthetic.

Resources:

Learning Disability Association

Local Council — 228-7265



Approaches in the Classroom

Alternatives for Learning Disabled Students

Classroom Organization	Classroom Management	Methods of Presentation	Methods of Practice	Methods of Testing
<p>Vary Grouping Arrangements</p> <ul style="list-style-type: none"> • large group instruction • small group instruction • individual instruction • peer tutoring • independent self-instructional activities • learning centers <p>Vary Methods of Instruction</p> <ul style="list-style-type: none"> • teacher directed • student directed 	<p>Vary Grading Systems</p> <ul style="list-style-type: none"> • homework • tests • class discussion • special projects <p>Vary Reinforcement System</p> <ul style="list-style-type: none"> • grades • progress charts • special activity • praise 	<p>Vary Content</p> <ul style="list-style-type: none"> • amount to be learned • a time to learn new information • conceptual level <p>Vary General Structure</p> <ul style="list-style-type: none"> • advanced organizers • previewing questions • cues, mnemonic devices • provide immediate feedback • involve students actively • repetition <p>Vary Type</p> <ul style="list-style-type: none"> • verbal — lecture, discussion • written — texts, worksheets • demonstration • audio-visuials • tape recorders • filmstrips • movies, opaque projectors • transparencies 	<p>Vary General Structure</p> <ul style="list-style-type: none"> • amount to be practiced • time for practice • group/individual • teacher-directed/independent • items ranging from easy to difficult <p>Vary Level of Response</p> <ul style="list-style-type: none"> • copying • recognition • recall with cues • recall without cues <p>Vary Type of Materials</p> <ul style="list-style-type: none"> • sample worksheet • texts • audio-visual equipment 	<p>Vary Type</p> <ul style="list-style-type: none"> • verbal • written • demonstration <p>Vary General Structure</p> <ul style="list-style-type: none"> • group/individual • amount to be tested • objective/essay • time for completion <p>Vary Level of Response</p> <ul style="list-style-type: none"> • recognition • recall with cues • recall without cues

Other Ideas

General

A. Behavioral characteristics:

1. Learning difficulty not attributable to impaired vision, hearing, intelligence, emotional or environmental well-being, plus underachievement in certain, but not all, academic subjects.
2. Weak study habits
 - a. inability to organize and budget time
 - b. slow to start tasks
 - c. difficulty completing tasks
 - d. poor notetaking and outlining skills
 - e. struggles using reference materials
3. Discrepancy in quality of oral and written work
4. Poor attention span
 - a. overactivity - constantly on the move
 - b. underactivity
 - c. distractibility
5. Language problems
 - a. substituting easier words for complex words
 - b. trouble verbalizing answers and speaking in whole sentences
 - c. refraining from discussions or questions
 - d. forgetting, confusing, or misarticulating words
 - e. difficulty describing objects and defining simple vocabulary
6. Poor short- and long-term memory for information presented in class
7. Floundering when trying to follow oral or written directions

8. Disorganized thoughts
9. Lack of gestures when talking
10. Confusing left and right sides
11. Motor coordination problems
 - a. unorganized
 - b. sloppy
 - c. clumsy—walking, running, holding pens and pencils
 - d. failure to swing arms when walking or running

B. Suggestions to compensate

1. Set learning priorities and teach accordingly (these students cannot master everything)
2. For all class sessions, review previous material, preview material to be presented, and help students summarize the material just presented
3. Eliminate such classroom distractions as excess noise, physical motion, flickering lights, shiny jewelry, and loud clock ticking
4. Whenever possible make alternative assignments
 - a. for incomplete or incorrect work, give an alternate assignment—not a redo of the original assignment
5. Notice and respond to nonverbal and verbal signs of anxiety or frustration
6. Have a student helper assist students with lectures and assignments. The helper could take lecture notes or correct the student's lecture notes

7. Make sure that the student understands what you have said, done, demonstrated; then move on to more complex material
8. Provide and teach memory tricks (mnemonics)
9. Teach the student to proof-read assignments and tests
 - a. the teacher or student helper could read the student's work back to him/her until the student is capable of proofreading him/herself
10. Teach and encourage the student to use all teaching modalities (visual, auditory, and motor - notetaking from lectures). To help students take lecture notes:
 - a. provide introductory activities for the lecture by reviewing previous day's lectures
 - b. supply student with sufficient time to review notes
 - c. discuss new and previously introduced vocabulary words and concepts]
 - d. teach a shorthand and/or abbreviation system
 - e. during the lecture the teacher should:
 - 1) talk distinctly and at a rate that the students can follow
 - 2) give an organized lecture
 - 3) stop periodically and encourage questions
 - 4) give unmistakable clues to identify and emphasize important information (for example, "This is important," "The main points are," "This could be a test question.")
- 5) repeat major information
- 6) refer students to important textbook pages; use such visual devices as blackboards, overhead projectors, and dittos to stress information
- f. after the lecture the teacher should:
 - 1) help the students summarize the lecture
 - 2) recognize students' notetaking skills and when needed provide additional instruction
 - 3) give students time to edit notes and ask questions
11. Encourage the student to reflect on a task before starting it
12. Capture student attention before beginning class
13. Emphasize meaningful associations, be organized, and relate to student experiences
14. Give individual conferences to guide students and monitor understanding of assignments and course content
15. Frequently review material and check comprehension
16. Take the time to give good directions
 - a. have students' attention before starting
 - b. tell students purpose of activity
 - c. give direct and uncomplicated directions

- 1) use correct grammar and vocabulary students understand
 - 2) be seen and heard clearly
 - 3) be concise and give sequential steps for students to follow
 - 4) be relaxed and positive
 - 5) minimize distractions
 - 6) make sure written directions are legible
- d. tell class what materials to use and where to find them
- e. vary ways to give directions
- 1) oral, direct from the teacher or recorded on tape (so student can replay directions)
 - 2) written on ditto paper, blackboard, or overhead projector
 - 3) demonstrate what is to be done
- f. clarify directions before starting the activity
- 1) work on example together
 - 2) display a completed project
 - 3) encourage questions
 - 4) have students start the activity, then walk around room checking on student progress
- g. encourage students to write down, copy, or tape record directions
- h. with long-term assignments, ask for periodic status reports
17. Encourage students to keep only materials necessary for class on their desks
 18. Set time limits for classroom activities
 - a. during examinations keep a clock visible and post time remaining
 19. Help the students be organized by:
 - a. posting a weekly schedule of class and study times
 - b. listing materials needed for the class
 - c. posting when assignments are due
 20. Teach student to use textbook sections: glossary, index, table of contents, introductions, summaries, and graphics
 21. Instead of solely large group activity, provide small group or independent projects
 22. Keep extra supplies of paper, pens, and books
 23. Have the students work in a study carrel
 24. Give several short classroom activities instead of one long activity
 25. Make furniture arrangements easy to maneuver around

Visual

A. Behavioral characteristics

1. Problems with visual tasks
 - a. loses place easily
 - b. becomes bored, restless, frustrated
 - c. seems uncertain in recalling visually presented information
 - d. shows signs of eye problems (rubbing, headaches)
2. Mechanical problems taking examinations
 - a. places answers in the wrong spots

- b. cannot draw lines on a matching test
 - c. poorer performance when using a separate answer sheet
3. Preference for auditory activities
- a. when shown a sound film, pays more attention to source of the sound than to the movie screen
 - b. listens to lecture without making eye contact
4. Preference to avoid pictures and graphics
- a. difficulty interpreting
 - b. slow rate of perception
 - c. poor recall of information
 - d. inattentiveness
5. Problems with oral and silent reading
- a. word-by-word or syllable-by-syllable reading
 - b. excessive lip movement or vocalizing in silent reading
 - c. body motion while reading
 - d. numerous oral reading errors: mispronunciation (both gross and minor), omissions, substitutions (meaningful and nonsense), hesitations, short eye-voice span, regressions
 - e. poor comprehension
 - f. slow reading pace
 - g. substandard reading level
 - h. mistaking words that look similar
 - i. using finger to keep place
 - j. failure to recognize a word when it reappears
 - k. easy eye fatigue
1. participation better with materials presented in class (as opposed to read for class)
6. Oral spelling better than written spelling, or often words written phonetically
7. Visual-motor problems when printing, writing, copying, and drawing
8. Notices visual stimuli usually unnoticed by other students (marks on blackboard, etc.)
9. Seems more confused if visual material is crammed together (difficulty using a map, dictionary)
10. Responds better to visual directions
11. Difficulty focusing and following print when going from far-to-near or near-to-far vision (looking from the blackboard to the textbook)
- B. Suggestions to compensate**
- 1. Allow students to verbalize whenever possible
 - a. before writing, let student state topic of preference
 - b. when studying, read material, lecture notes, and directions aloud
 - c. with visual information, have the students summarize what is seen
 - 2. Suggest that the students tape record lectures and directions for assignments
 - 3. Provide more auditory presentations of information
 - 4. Write legibly, use large type, do not clutter blackboard
 - 5. In visual presentations, preview and review the material and help students summarize

6. Have a consistent format for papers and assignments
7. To compensate for verbal expressive dysfunction:
 - a. allow student to write answers before responding
 - b. ask questions he/she can answer
 - c. answer in written form evaluative and appreciative questions (Barret's Taxonomy)
8. To compensate for reading problems:
 - a. explain purpose of readings: critical analysis, overview, pleasure and appreciation, application, skim for main idea, scan for specific information
 - b. ask sound comprehension questions: start with the literal, move to inferential, then evaluative, and end with appreciative level questions
 - c. find materials paralleling the textbook but written at a lower reading level
 - d. tell the student to use a ruler or blank white index card to hold reading place
 - e. have student read silently, then orally
 - f. if student is expected to write in class, allot sufficient time
9. Visual-motor problems
 - a. encourage use of tape recorder for examination and lecture notes
 - b. lower standards of acceptable writing
 - c. encourage the student to use the typewriter when writing a paper or taking a test
 - d. tape lecture material and assignments for student use
 - e. for notes or test, encourage the student to use graph paper and write cursorily (one letter per block) and to use pens and pencils that produce dark black lines
10. Minimize visual stimuli: portable study carrels provide effective environment
11. Have the student keep a file of his/her most commonly misspelled words
12. Challenge far vision (blackboard) and near vision (ditto papers) simultaneously
13. Reinforce all visual directions with verbal clues

Auditory

A. Behavioral characteristics

1. Seems to hear but not to listen
 - a. makes inappropriate responses
 - b. hesitates before responding to oral questions
 - c. ignores, confuses, and/or forgets verbal directions
 - d. often seems to misunderstand
2. Has problems of articulation, enunciation, grammar, limited vocabulary, speech pace
3. Has trouble blending syllables or pronounces words as they physically appear
4. Has difficulty understanding and paying attention (day dreaming, hyperactive, blank expression on face) to oral activities and presentations
5. Seems perplexed when trying to understand people who speak

quickly or quietly, as well as those who move while talking

6. Has problems with academic subjects taught orally
7. Spells poorly
8. Easily distracted by noises inside and outside classroom (noises unnoticed by other students)
9. Frequently asks what just has been said (what?, huh?)
10. Substitutes gestures for words
11. Watches the speaker's lips
12. Often looks at others before following directions

B. Suggestions to compensate

1. Use short one-concept statements
2. Encourage the student to tape each lecture
3. Talk at a slower rate
4. Face the student whenever possible
5. Do not penalize for incorrect spelling but correct the spelling

6. Encourage the student to select a seat that is clear of written graffiti, near a blackboard or overhead screen, and far removed from auditory disturbances
7. Tape classroom lectures
8. Encourage the student to visualize material that has been orally presented (revisualize material before answering question)
9. Whenever possible, keep visual clues
 - a. brief written outline of the material to be covered during that class session
 - b. examples on the chalkboard or overhead projector
10. Encourage the student to rewrite his/her lecture notes and write out sample test question answers while studying
11. Make written copies of your lecture
12. Instruct the student to repeat questions before answering
13. Reinforce oral directions with written ones or with other visual clues

Adapted from *Learning Problems of the Secondary and Junior College Learning Disabled Student, Suggested Remedies*, Michael S. Kahn, Journal of Learning Disabilities, October 1980

TRAUMATIC BRAIN INJURY

Brain injury results in three major types of impairments:

1. Physical problems;
2. Cognitive (thinking and comprehending) impairments; and
3. Behavior disorders.

There is a great variability in the effects of head injury on different individuals but most injuries result in some degree of impairment in the following functions: memory, cognitive/perceptual communication, speed of thinking, communication, spatial reasoning, conceptualization, executive functions (goal setting, planning, etc.), psychosocial behaviors, and motor, sensory and physical abilities. In a learning situation, there will be many similarities to students with learning disabilities in that students with TBI may have problems with attention, memory, impulse control, organization, skill integration, generalization, abstract reasoning, and social judgment.

Some of the common psychological consequences of head injury include denial, apathy, emotional lability, impulsivity and disinhibition, frustration, intolerance, lack of insight, inflexibility, verbosity, confabulation, lack of initiative and follow-through, slow and inefficient thinking, poor judgment and poor reasoning, and social imperception.

While these psychological problems are a result of the brain injury and part of the person's disability, the college is under no legal obligation to tolerate any disruptive behavior which is a violation of the Student Conduct Code. Students with disabilities are expected to follow this code and cannot be permitted to disrupt a classroom situation or any campus situation to the detriment of other students.

Teaching a Student with Traumatic Brain Injury

Most of the teaching techniques that help the learning disabled will also benefit those with TBI, so please refer to this section (pages 4-14).

Other helpful points in dealing with someone who has had a brain injury are:

Avoid overstimulation. These students may fatigue quickly or become agitated and confused.

Be consistent. A consistent approach can help improve memory, reduce confusion, foster language skills, and promote emotional control.

Stay calm. Observing others calmness can help to reduce a student's confusion and agitation.

Give step-by-step directions. This approach lessens fatigue and confusion, improves memory, and gives the student a sense of success in completing a task.

Do not talk down to the person. Talk with students at a level appropriate to their age and level of understanding.

Avoid arguments and stressful situations. Remember that students are particularly sensitive to stress after a brain injury.

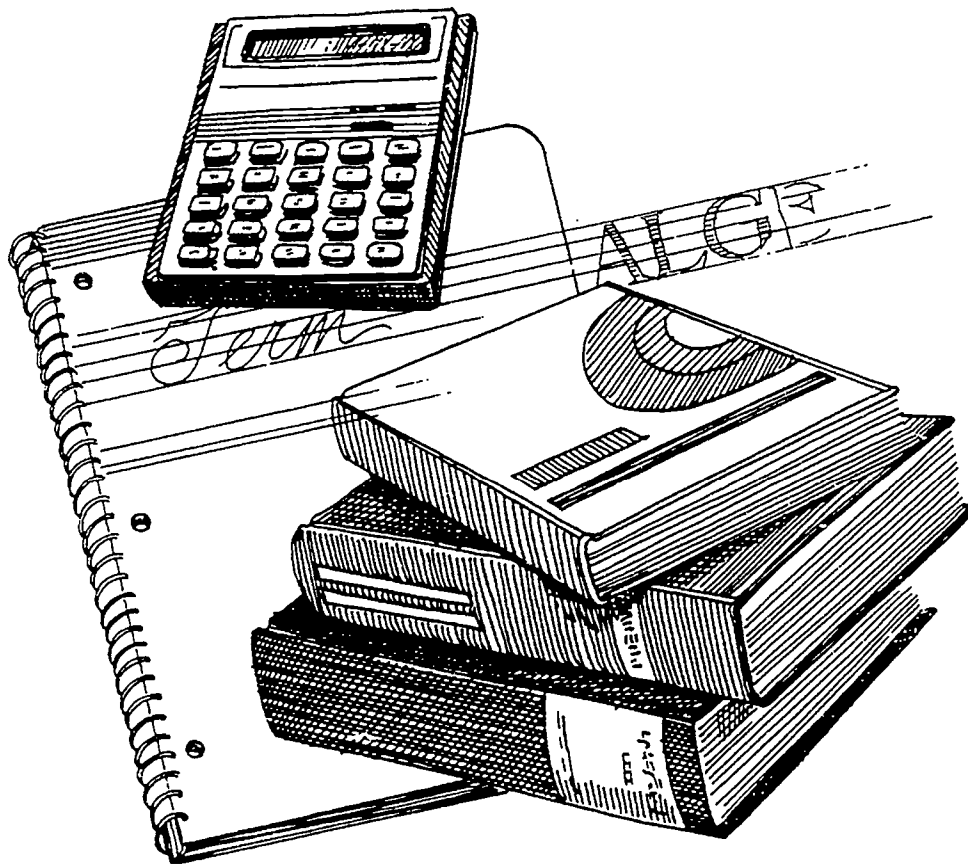
Allow response time. These students usually take longer to respond to a question or join in a conversation.

Remember to praise. When we tell students how proud we are of their progress, this promotes further improvement.

Try to incorporate frequent repetition of information to be learned and emphasize the use of memory cues such as calendars, daily logs, etc.

Resources:

Head Injury Association of Kansas and Greater
Kansas City — 648-4772



MOBILITY IMPAIRMENTS

The term mobility impairment refers to a broad range of disabilities which include orthopedic, neuromuscular, cardiovascular and pulmonary disorders. Students with these impairments often must rely upon assistive devices such as wheelchairs, crutches, canes, and artificial limbs to obtain mobility. The mobility impairment may either be congenital or a result of injury, muscular dystrophy, multiple sclerosis, cerebral palsy, amputation, heart disease and pulmonary disease. Some students may have hidden (nonvisible) disabilities which include pulmonary disease, respiratory disorders, epilepsy and other limiting conditions. Although the cause of the disability may vary, mobility-impaired students may face the following difficulties:

- Inability to gain access to inaccessible classroom.
- Decreased eye-hand coordination.
- Decreased notetaking and test-writing ability due to weakness or paralysis.
- Impaired verbal communication.
- Decreased physical stamina and endurance.

Interaction with a Student with Mobility Impairments

- Speak directly to the disabled student as you would any other student.
- If a student is in a wheelchair, conversations at different eye levels are difficult. If a conversation continues for more than a few minutes and if it is possible to do so, sit down, kneel, or squat and share eye level.
- A wheelchair is part of the person's body space. Do not automatically hang or lean on the chair; it is similar to hanging or leaning on the person. It is fine if you are friends but inappropriate otherwise.
- Words like "walking" or "running" are appropriate. Sensitivity to these words is not necessary. People who use wheelchairs use the same words.
- When it appears that a student needs assistance, ask if you can help. Most students will ask for assistance if they need it. Accept a "no thank you" graciously.
- Accept the fact that a disability exists. Not acknowledging this fact is not acknowledging the person.
- Students are not "confined" to wheelchairs. They often transfer to automobiles and to furniture. Some who use wheelchairs can walk with the aid of canes, braces, crutches or walkers. Using a wheelchair some of the time does not mean an individual is "faking" a disability. It may be a means to conserve energy or move about more quickly.
- If a student's speech is difficult to understand, do not hesitate to ask him/her to repeat.

- Because a student sitting in a wheelchair is about as tall as most children, and because a pat on the head is often used to express affection toward children, many people are inclined to reach out and pat the person in a wheelchair on the head. Such a gesture is very demeaning and patronizing.

Teaching a Student with Mobility Impairments

Access is one of the major concerns of the student who uses a wheelchair or has mobility impairments. The student must learn routes to and from classes and across campus that do not present barriers. A barrier may be a stair, a curb, a narrow walkway, a heavy door, an elevator door that has no delay mechanism or one that is too fast, a vehicle blocking a ramp, etc.

It is difficult to make generalizations about the classroom needs of students with mobility impairments because some students may be able to stand for short periods of time while others will not be able to stand at all. Some will have full use of their hands and arms while others will have minimal or no use of them. There are, however, some general considerations that will apply to most, if not all, students with mobility impairments.

Students are encouraged to talk with their instructors during the first week of classes to describe their functional difficulties and needs, and develop a course of action acceptable to both parties.

Inaccessible Classes: If a classroom or faculty office is inaccessible, it will be necessary to find an accessible location or alternate class section that is held in an accessible location. The campus department that handles room scheduling can assist the professor and student as necessary.

Lateness and Absence: If breaks between classes are short (10 minutes or less), the student who has a mobility impairment may frequently be a few minutes late. Usually, the student must wait for an elevator, take a circuitous (but accessible) route, wait for assistance in opening doors (unless electric doors are available) and maneuver along crowded paths and corridors. If a student with a mobility impairment is frequently late, it is, of course, appropriate to discuss the situation with the student and seek solutions. Most students will be aware of time restrictions and will schedule their classes accordingly. However, it is not always possible to leave enough time between classes. Early classes, attendant schedules, van service difficulties, parking, and weather may cause a student to be late or absent. In addition, physical problems may require prolonged absences for medical treatment. Students and instructors may want to plan for these occasions, so students do not miss important class material.

Some students prefer to stay in their wheelchairs instead of transferring to a student desk. Table-type desks which are high enough for wheelchairs can be moved into classrooms. Contact the Special Needs Counselor if this has not been done.

Class Changes, Field Trips: If a class involves field work or field trips, the student in a wheelchair will have to make arrangements because they often rely on attendants or adapted vans for transportation. Discuss this with the student in advance so arrangements can be made.

Internships, Student Teaching: These may require advance preparation to insure that the site is barrier-free and that accessible transportation is available.

Labs: Lab tables may need to be modified to accommodate wheelchairs. Students and instructors should cooperatively develop methods to enable a student who cannot do the "hands-on" work to learn the use of equipment theory and methodology involved. The student can give all instructions to an aide and learn everything except the physical manipulation of lab equipment.

Tests: If needed, students should discuss alternative test-taking methods with the instructor. Some alternative procedures that have been used in the past by disabled students are:

- Writers can be provided for test-taking if the student is unable to write. Advance notice needs to be given to the Special Needs Counselor in order to allow for scheduling.
- Instructors can give oral tests.
- Students could tape record answers to tests or type answers.
- Students may write slowly and need extended time for tests.
- Students requiring test-writing assistance or extended time should not be asked to take tests in hallways or other distracting areas.

Notetaking: Each student will have his/her own preferred method for notetaking. Some students take notes for themselves, some students tape lectures and go home and take notes from the tapes, some students will photocopy a classmate's notes and some students will rely on a notetaker. A special carbonless notetaking paper can be used.



VISUAL IMPAIRMENT

Between 70 and 80 percent of all "legally blind" persons in the United States have some usable vision. Some legally blind persons may be totally without sight, while others in this category may have significant eyesight. A legally blind person is one whose vision, while wearing corrective lenses, does not exceed 20/200 in the better eye, or one whose visual field is less than an angle of 20 degrees. In other words, this person, while wearing glasses, can see less at 20 feet than a person with normal vision can see at 200 feet. Vision that is limited to a narrow angle sometimes is called "tunnel vision."

There are two basic difficulties that the partially-sighted student is confronted with that the blind student is not. First, the partially-sighted student is sometimes viewed by instructors and classmates as "faking it." Because most partially-sighted students do not use white canes for travel and because most are able to get around much like everyone else, people have difficulty believing that the student needs to use adaptive methods when using printed materials.

One partially-sighted student commented that, having been observed playing frisbee by one of her instructors, she was sure that the instructor would no longer believe that she was partially sighted. As she explained, she had more peripheral than central vision and was able to see a red frisbee. If any other color frisbee was used, she could not see it well enough to play. Playing frisbee and reading a printed page present quite different visual requirements. This is often difficult for the fully-sighted person to understand.

Another difficulty that the partially-sighted student experiences has a more subtle effect and can be troublesome. This is the psychological response that large print evokes in the sighted reader. Such handwritten communications tend to give the reader the idea that "a child has written this." Needless to say, this may lead to the conclusion that a student with this kind of handwriting is immature or childish and that the written communication is less than sophisticated. Even when the student uses a large print typewriter, this can still be a problem. In addition, the assumption is sometimes made that the student is merely trying to make an assignment appear longer as in the case of a term paper of a required length. When the number of words instead of pages required is stated, this is not a problem.

The potential difficulties can be alleviated if the student and professor discuss the student's needs early in the term.

Teaching a Partially-Sighted Student

Notetaking: Each student will have his/her own preferred method for notetaking.

- Some students can take notes for themselves by printing large with a felt tip marker.
- Some students will rely on volunteer notetakers in the class. There is a special carbonless paper (NCR) that will make an immediate copy.

- Some students will tape the lectures and go home and take notes from the tapes. Under the U.S. Department of Health, Education and Welfare regulations for Section 504 of the Rehabilitation Act of 1973, taping of class lectures must be permitted if that is the request of a student with a physical or learning disability. An instructor who is planning to publish his or her lectures may fear that the tapes will somehow interfere with these plans. It is appropriate for the instructor to ask the student to sign an agreement not to release the recording or otherwise obstruct the copyright. Students need to sit close to the speaker to insure clear tapes.

Seating in class: Students should sit as close to the front of class as possible to make maximum use of visual and auditory cues. Lighting is very important. The student should discuss this with the instructor.

Chalkboard Work and Visual Aids: Some students with partial sight can see the board and other visual aids used by instructors. Other students may have difficulty. The following list might aid those having difficulty:

- When using the chalkboard, overhead projector or any other visual medium, use precise and full descriptions of all materials presented. A helpful addition would be to provide copies of the overhead material presented in class.
- By spelling out new or technical vocabulary you will be helping the partially-sighted student as well as your other students.
- Allow the student to sit in front of the classroom.

Tests: It is the student's responsibility to discuss alternative test-taking methods with the instructor. Testing needs will vary with the degree of visual impairment. The following might be done:

- Provide large print tests.
- Give the test orally to the student.
- Allow additional time.
- Tape the test questions and write or tape the answers.

Tests and Required Readings: Some partially-sighted students have no problem reading printed matter. Some have problems with poor-quality print or purple dittos. Handouts and short reading requirements can be taped or enlarged. Books on tape also can be ordered. These must be ordered well in advance to allow preparation. If students are given reading lists prior to the beginning of the semester, they will be able to order appropriate tapes. Some partially-sighted students may need readers/writers.

Readers/Writers: Paid or volunteer readers can assist partially-sighted students with materials. Readers/writers may be needed to assist students in completing assignments. A reader/writer may be needed to assist in library research.

Special Equipment: Some students have individually prescribed low vision aids such as monoculars or magnifying glasses.

Resources: Bureau for the Blind 889-2677
Kansas City Association for the Blind 421-5848

BLINDNESS

Only a small minority of persons are actually totally blind. The term "Blindness" should be reserved for complete loss of functional sight. The major challenge facing blind students in college is the mass of printed material they encounter — textbooks, class outlines, schedules, tests, films, videotapes, etc. By the time a blind student reaches college (unless newly blinded), they have probably developed various methods for dealing with the volume of visual materials. It is helpful for the instructor and student to meet before the semester starts to review the student's methods. Instructors are often quite surprised with the degree of independence many blind students exhibit.

Interaction with a Blind Student

- If a blind person seems to need assistance, identify yourself and offer your services.
- If you are walking with a blind person, let him/her take your arm just above the elbow and walk in a relaxed manner. The person can usually follow the motion of your body.
- When giving directions, use descriptive words such as straight, forward, left. Be specific in directions and avoid use of vague terms such as "over there."
- When you are with a blind person and leave the area, be sure to let the person know you are leaving.
- Guide dogs are working animals. It can be hazardous for the visually-impaired person if the dog is distracted. Do not pet or touch the dog without permission.
- Feel free to use words like "see" or "look" when speaking with a blind person.
- Do not assume the blind student will recognize you by your voice even though you have met before. Identify yourself by name.
- It is helpful to speak directly to the person and to maintain eye contact.

Teaching a Blind Student

Notetaking: Students use one or more of the following methods of taking notes.

Braille: It should be noted that only a small percentage (10%) know Braille. Blind students who use Braille prefer to take their own notes using a slate and stylus or a portable Braille. Please be understanding of the slight noise made by the equipment.

Tape Record Lectures: Under the U.S. Department of Health, Education and Welfare regulations for Section 504 of the Rehabilitation Act of 1973,

taping of class lectures must be permitted if that is the request of the student with a physical or learning disability. An instructor who is planning to publish his or her lectures may fear that the tapes will somehow interfere with these plans. It is appropriate for the instructor to ask the student to sign an agreement not to release the recording or otherwise obstruct the copyright. Students need to sit close to the speaker to insure clear tapes.

Notetaker: Some blind students will ask another student to take notes for them. There is special carbonless notetaking paper (NCR) that will make an immediate copy. Some students will obtain photocopies of another student's notes.

Visual Lecture Intake: Remember, words like "this and that": or phrases like "the sum of this plus that equals this" or "the lungs are located here and the diaphragm here" are basically meaningless to a blind student. The instructor can just as easily say, "The sum of 4 plus 7 equals 11." In the second example, the professor can "personalize" the locations of the lungs and diaphragm by asking class members to locate them by touch on their own bodies. Examples of this type will not always be possible. However, if the faculty member is sensitive not to use strictly visual examples, the blind student and probably the rest of the class will benefit.

- Blind students may miss all nonverbal cues unless they are explained.
- By spelling out new or technical vocabulary you will be helping the blind student as well as your other students.
- Give verbal notice of room change, special meetings or assignments. Visually-impaired students are likely to miss a notice written on a chalkboard or in a syllabus.
- Consider making copies of overhead material presented in class for the blind students. The student can go over the description with his/her reader prior to or immediately after the lecture.
- Another student in the classroom may be able to describe visual displays or the blind student's personal reader could do this between classes.
- Visual aids need not be deleted. Use the chalkboard, graphs and slides as you would normally. Try to provide more oral description. Verbalize as you go.

Texts and Required Readings: Books on tapes can be ordered. These must be ordered well in advance to allow preparation. If students are given reading lists prior to the beginning of the semester, they will be able to order appropriate tapes.

Readers/Writers: Paid or volunteer readers can assist a blind student with materials that are not on tape or in Braille. Readers/writers may be needed to assist students in completing assignments.

Tests: It is the student's responsibility to discuss alternative test-taking methods with the instructor. The following methods have been utilized by instructors and blind students.

- Readers/writers can be provided for test taking. Advance notice needs to be given to allow for scheduling.

- Instructors can give oral tests.
- Instructors can allow for take-home tests.
- Try to avoid giving the blind student "different" tests because it creates segregation and makes it difficult to compare test results.

Mobility Guides: Some students use the assistance of trained dog guides to increase their mobility. These dogs are trained to move at the direction of their owners and are well disciplined to function in groups of people; their presence in the classroom should cause no disruption. Other students may use white canes. Special consideration may be needed for the visually-impaired student if a class is moved to a new location, if an exam is scheduled for a different classroom, or if the furnishings in the room are moved for a special program or project.

Resources:

Bureau for the Blind	889-2677
Kansas City Association for the Blind	421-5848



HEARING IMPAIRMENTS

The students with a hearing impairment may be hard to recognize in the classroom. Some students use hearing aids and have learned to lip-read or sign. The term "hearing impaired" refers to any person with any type or degree of hearing loss. "Deaf" refers to a hearing-impaired person with nonfunctional hearing. In most cases their English skills will be deficient. "Hard of hearing" is used to define a hearing-impaired person in whom the sense of hearing, although defective, is functional and whose English language skills will be developed through an auditory base.

Some Facts About Hearing-Impaired Persons

- An estimated 15 million Americans have some degree of hearing loss. Two million five hundred thousand are congenitally deaf or lost their hearing before the age of five.
- Not all hearing-impaired people are good lip readers. Lip reading skill has no correlation to a person's intelligence.
- Only 26-30% of spoken English can be lip-read.
- Not all deaf people know how to sign. Not all deaf students use interpreters. Some prefer to communicate through lip reading and some prefer sign language.
- Very few people are totally deaf.
- A hearing aid does not correct a hearing loss like glasses correct vision problems. Most deaf persons have sensory neural hearing losses and the clarity of speech is affected. The hearing aid does not make speech more clear; it merely amplifies the sound.
- Many deaf people are easily understood. Others cannot monitor the volume and tone of their speech and may be initially hard to understand.
- Deaf students, just like hearing students, vary to some degree in their communication skills.
- A deaf student's English skills are not related to intelligence but are similar to those experienced by foreign-speaking students.
- The terms "deaf and dumb" and "deaf mute" are no longer acceptable, carry a negative connotation, and should not be used.

Interaction with a Student with a Hearing Impairment

Each student functions differently and is the best source of information about communication tips. The following suggestions will hopefully help with your initial encounter with a deaf person.

- Get the hearing-impaired person's attention before speaking.

- Look at the person when you speak.
- By smoking, chewing gum or otherwise blocking the area around your mouth, you are prohibiting lip reading.
- Speak naturally and clearly. Slowing down slightly may help. Do not exaggerate lip movement and do not shout.
- Try to avoid standing in front of windows or other light sources. The glare from behind you makes it difficult to read lips and other facial expressions.
- Do not hesitate to ask the hearing-impaired student to repeat if you do not understand. If that does not work, then use a pen and paper. Communication is the goal; the method is unimportant.
- If a student is using an interpreter, speak directly to the student, not the interpreter.
- Short sentences are easier to understand than longer sentences with several clauses.
- If the student does not understand, try repeating; if the student still does not understand, rephrase a thought or use a different word order rather than again repeating the same words. Do not be alarmed if the student does not understand and you cannot understand him/her. You will become accustomed to each other in time.
- It is impossible to lip-read a word that the student has never seen before. If time permits, it helps to write the word and then let him see how it looks on the lips.
- Facial expressions, gestures, and other body language help convey the message.

Teaching a Hearing-Impaired Student

Front Row Seat: All hearing-impaired students should sit near the instructor or speaker. The hearing aid is virtually ineffective if the instructor or speaker is more than three to eight feet from the hearing aid receiver. It is very hard to read lips at a distance.

Vocabulary: Some hearing-impaired students will have difficulty with vocabulary. This difficulty may arise in reading tests, in reading class materials, in reading lecture notes, or in taking tests. This is no reflection on their intelligence. They have not learned the meaning of words because they have not heard them. The hearing-impaired students are capable of learning vocabulary. They may, however, take more time to digest the material, or require more explanation. Sometimes it is very helpful to give the student a brief outline of your lecture or any written material to compensate for what she/he has not heard. This is most helpful if given in advance of the lecture. The student can become familiar with the language and vocabulary you are going to be using.

Notetakers: It is crucial that hearing-impaired students have good notetakers. It is impossible to lipread and take notes, or watch an interpreter

and take notes at the same time. Carbonless notetaking paper can be used. The volunteer notetaker only needs to take notes and give the deaf student a copy. The student might ask the instructor to help locate a good notetaker.

Tests: It is the student's responsibility to discuss alternative test-taking methods with the instructor. The following methods have been utilized by deaf students.

- Interpreters may be asked to interpret a test. Because of the complex language involved, an interpreter can often rephrase a question so that a student is able to understand the intent of the question. The interpreter will not reveal the answer when rephrasing questions.
- Due to the difficulty with test vocabulary, students may require extra time in test taking.

If a student is utilizing an interpreter, you should know that:

- Interpreters are paid professionals who have gone through specialized training.
- An interpreter may be distracting at first. However, your students soon become accustomed to the interpreter's presence.
- Interpreters follow a code of ethics and view all information from an interpreting situation as confidential.
- Interpreters will sign the comments and questions of class members as well as everything you say. Interpreters will interpret in a manner that closely conveys the content intended by the speaker.
- Interpreters are not there to answer the deaf student's questions. If the student has a question, he/she should direct it to you. The interpreter can voice the student's question if you do not understand.
- If you have a question, direct it to the deaf student, not the interpreter. The interpreter is a few words behind the speaker and needs time to finish, so that the deaf student can respond.
- Interpreters will not give their opinion of a student's progress as this violates the student's rights.
- Interpreters should not be used as proctors for tests.
- Because the hearing-impaired student and the interpreter experience mental, physical and visual fatigue after a lengthy lecture (more than an hour and 15 minutes), they need a break. This enhances the student's chance of comprehending your lectures.
- If the class contains technical vocabulary, the interpreter and deaf student must learn new signs or even create signs for vocabulary that has no signs. Therefore it is most helpful to give the student and interpreter outlines of the lecture or written material in advance of the class.
- If movies are show, a dim light is needed so that the deaf student can see the interpreter.
- The deaf student is watching you and the interpreter and gets visual cues from both. The student and interpreter should be positioned so the student

can see you and the interpreter simultaneously.

- When doing math problems the interpreter has a difficult time interpreting phrases such as "multiply this and that." The interpreter has to turn around to see what "this and that" are on the board. This problem is solved by saying "multiply 42 by 46."
- In math classes or classes where the instructor frequently uses the blackboard, the interpreter may request to shadow the instructor. This means the interpreter will stand closer to that section of the board that is being written on by the instructor. This allows the deaf student to see both the signs and the writing.

If a student is not using an interpreter, you should know that:

Classroom discussions are very hard for a hearing-impaired student to follow. He/she must first locate the speaker who most probably has finished most of the comment by the time the hearing-impaired student finds them. Repetitions or summaries of the most relevant comments are helpful.

Student questions will most probably be missed by the hearing impaired. You can help by repeating the question.

Movies without captions are hard for the hearing-impaired student to follow. If captioned films are not available, a written summary or outline of the most important points is helpful to the hearing-impaired student.

Verbal class assignments and due dates, examination dates, changes in the normal class schedule, special dates and/or instructions, etc., may be missed by the student. Written instructions make sure that there is no mix-up.

Answers to homework problems read aloud are very difficult for the hearing-impaired students. While they are trying to check an answer, they may miss the next answer. If possible, use the overhead projector or give the student written answers.

Oral Tests are nearly impossible for the hearing-impaired student. Again, written questions will solve this problem.

Frequently, the hearing-impaired student who is lip-reading has to mentally "fill in the gaps" during communication. An extremely valuable technique is to write on the blackboard a key work of the topic being discussed. This is especially important when the discussion topic changes frequently.

The student cannot understand if your back is turned while doing board work. By using an overhead projector you can do the work and face the class.

It is especially important that you try not to stand in front of a light source, such as a window. The bright background shadows your face and makes speech reading difficult.

In group situations or discussions, it helps to have students sit in a horseshoe or circle. Also, students should raise their hands when they want to speak, so the deaf student can locate the speaker. Even with the above-mentioned suggestions, group discussions are very difficult for a student who is relying on speech reading.

Expect and encourage the deaf student to participate in class by answering questions, giving reports and volunteering for other verbal activities.

The use of visual aids is most helpful, as vision is the student's primary means of receiving information.

Resources:

Gallaudent Regional Center	469-2872 (V/TDD)
Kansas Relay Center	800-766-3772
Missouri residents	221-9000



DUAL PARTY RELAY SYSTEMS

Dual party relay systems allow people who are deaf, hard of hearing, or speech impaired to communicate with virtually anyone through the telephone system. Using a Text Telephone/TT (also referred to as Telecommunication Device for Deaf/TDD or Teletype/TTY), the D/HH/VI person types the message. A relay agent with a computer reads the message and voices the message to the receiver who is using a regular voice telephone. The receiver then responds in voice which is heard by the relay agent and typed back to the D/HH/VI person.

To initiate a call, dial the appropriate number:

Kansas Relay Center	1-800-766-3777	(TT or Voice)
Relay Missouri	1-800-735-2466	(Voice)
	1-800-735-2966	(TT)

Give the agent the number you wish to call, the name of the person you wish to contact, and (if long distance) how you wish to pay for the call.

If you receive a relay call, the agency will announce the call and offer to explain the service.

When using the relay, remember:

- Relay calls are confidential. No records of any conversations are maintained and agents will not share information regarding the contents unless they are required to do so by state or federal law.
- Do NOT address the agent. Address the person you are communicating with. Do not say "Tell her I said . . ." Just speak as if you have talking directly with the person.
- When you have finished a thought, say "GA" to the agent. This message will be typed to the TT user who will respond. When you are ready to finish the conversation, say "GA to SK" and when you are ready to hang up, say "SKSK." BUT, remember normal telephone etiquette.
- The agent will type every word you say.
- Speak at a moderate pace and keep your sentences as concise as possible. Do not ramble and repeat phrases over and over again.
- You may ask for an agent whose gender is the same as yours or as the person with whom you will be talking. Sometimes this makes the conversation seem more natural.
- Both the Kansas Relay Center and Relay Missouri have a "Voice Through" option that allows a D/HH person to use his/her own voice.

While this system may seem a little awkward at first, please DO NOT put off placing or returning a call just because you must use the relay service. It is very important for D/HH/VI people to maintain communication with the world and to be as independent as possible. When you get your first relay call, tell a friend about it so news of the service will reach as many people as possible!!

HOW TO WORK WITH AN INTERPRETER

Interpreters can be described as a communication link. A telephone, for example, is a communication link; it does not add information or alter the content of the message. The interpreter makes communication possible between persons separated by different language modes. Listed below are some tips on how to work with an interpreter.

- First remember the interpreter's role is to facilitate communication. It is inappropriate for you to address him/her directly.
- Maintain eye contact with the deaf person, not with the interpreter.
- Allow the interpreter to position themselves near you. This will allow the deaf person to watch the interpreter and your expressions as he/she needs to.
- Address the deaf person directly, avoid phrases such as, "ask her this. . ." or "tell him to. . ."
- The interpreter is bound by a Code of Ethics which requires him/her to interpret everything communicated, whether it be signed or spoken. This includes any phone calls or comments you make in the deaf persons presence. It is inappropriate for you to request the interpreter to keep anything from the deaf person.
- Lighting is very important. The room should be well lit; however, no source of light should be situated behind anyone. This may require closing the drapes, changing the seating arrangement or possibly changing rooms altogether.
- In situations of a serious nature the use of a deaf person's close friend or family member as an interpreter is inappropriate.

The function of the interpreter is to:

- Allow more direct communication.
- Improve communication accuracy and avoid misunderstandings.
- Decrease frustrations.
- Raise the "comfort level" of students and teachers.
- Facilitate more complete communication, so that both individuals feel free to ask questions and offer fuller explanations.
- Save time.
- Make clear any non-verbal communication.

COMMUNICATING WITH HARD OF HEARING PEOPLE

Listed below are some tips on communicating more effectively with hard of hearing people.

A person may receive only parts of a verbal message. For many hard of hearing people, low frequency speech sounds may be clearly heard, while other higher frequency sounds may be much less distinct. In this situation, speech is heard but often misunderstood. "Watch" may be mistaken for "wash," "thin" for "shin," and "pen" for "spent."

Many hard of hearing persons can benefit from a hearing aid. A clearer comprehension of speech may be gained with an appropriate hearing aid. However, use of a hearing aid does not restore normal hearing.

Hearing aids have limitations. Even with the benefit of a hearing aid, hard of hearing people are limited in their ability to hear sounds from a distance and are subject to more distractions from background noise.

Come closer. Shortening the distance between speaker and listener will increase the loudness of sound. This approach to improving communication is much more effective than "raising" your voice. You should never shout at a hard of hearing person. Some hearing aid users are especially sensitive to loudness.

Eliminate background noises. Turn off the radio or television, running water, or air conditioner. These sounds, taken for granted and ignored by many, are amplified by a hearing aid and interfere with communication with the hard of hearing person.

Talk face to face. Speak at eye level. Do not chew gum, smoke, talk behind a paper, or cover your mouth while you are speaking. Also, make sure there is adequate light so that the movements of your lips and facial expressions are clearly visible as many people lip read as well as use a hearing aid.

Try rewording a message. At times the hard of hearing person may be partially dependent on lip reading because some sounds may not be easily heard even with a hearing aid. Since some words are easier to read than others, rephrasing a message may make it easier for the person to understand.

Show special awareness. Call the hard of hearing person by name to initiate communication. Give a frame of reference for the discussion by mentioning the topic at the onset of the discussion. Be patient, particularly when the hard of hearing person is tired or ill and may be less able to concentrate or hear.

Extend extra consideration in a group situation. Only one person should talk at a time as it is important for the hard of hearing person to face the speaker at all times. Also, the hard of hearing person may find it helpful to be alerted to changes in speakers.

BACK IMPAIRMENTS

Low back pain has been described as a twentieth century epidemic. Low back pain affects approximately 80% of all persons sometime during their lifetime.

According to *American Family Physician*, on any given day 6.5 million Americans are under some sort of treatment for low back pain. After headaches, low back pain is the second most common ailment in the United States and is topped only by colds and flu in time lost from work. When all the costs connected with back injuries are added up, the bill to business, industry, and government has been estimated to be approximately \$16 billion a year.

It is believed that many cases of low back pain are due to stresses on the muscles and ligaments that support the spine. Sedentary jobs/life-styles make a person more vulnerable to this type of damage. Not enough exercise, poor posture, poor sleeping habits, and extensive sitting weaken muscles. Weak muscles are unable to properly support the spine. Obesity is another factor, as it increases both the weight on the spine and the pressure on the discs.

When a person's body is in poor shape, it does not take much to strain a muscle or sprain a ligament. A sudden twist or fall sometimes can bring on a muscle spasm. A spasm immobilizes the muscle over the injured area to protect the muscle from further damage.

Acute low back pain often goes away by itself. Chronic back pain may never go away but usually can be managed through various types of treatment ranging from medication to manipulation to surgery. A student who has low back pain may need to move around in his/her seat to relieve the pain — or she/he may need to stand in the back of the classroom during part of the class. (This is determined by how the student gets relief from the pain and should be discussed with the teacher ahead of class).



SPEECH IMPAIRMENTS

Speech impairments range from problems with articulation or voice strength to inability to speak. They include stuttering (repetition, blocks, or prolongations occasionally accompanied by distorted movement and facial expressions), chronic hoarseness (dysphonia), difficulty in evoking an appropriate word or term (nominal aphasia), and esophageal speech (resulting from a laryngectomy).

Teaching a Student with Speech Impairments

As with other disabilities, the extent to which you and your class may be affected by the presence of a speech-impaired student will vary according to the individual. The following are some general guidelines to use for situations involving speech-impaired students.

- Impaired speech may be slower than unimpaired speech. Speech-impaired students need to have an equal chance to voice their reactions or questions even if it means allotting extra time. Sometimes the student may need extra encouragement to participate in class.
- It is also important to overcome the urge to interrupt or try to complete the student's train of thought. An instructor trying to anticipate the question being asked may embarrass the student if the completion of the sentence was not the question or point being made.
- In situations where the words or phrases the person is using are not understood, panic only gets in the way of concentrating on what the person is trying to relay. Do not be hesitant to ask for repetition of words or phrases; students with speech impairments would much rather repeat a message in order to communicate than have someone pretend to understand what they are saying. Summarizing the message is often a helpful way of checking with the student as to whether you got the message.
- With increased exposure to persons with speech impairments, ability to understand their speech will improve.
- Do communicate an attitude of acceptance and encouragement to reduce the discomfort and increase the confidence of the student; do not communicate an attitude of sympathy or embarrassment.
- Oral presentations may be of concern to the student and the instructor. Some students may prefer to have another person voice their presentations; others prefer to do it for themselves. Instructors should feel free to openly discuss these concerns with the student.

EPILEPSY

Epilepsy is a common neurological condition. It is sometimes called a seizure disorder. It takes the form of brief, temporary changes in the normal functioning of the brain's electrical system.

These brief malfunctions mean that more than the usual amount of electrical energy passes between cells. This sudden overload may stay in just one small area of the brain, or it may swamp the whole system.

Of course, you can not see what is happening inside a person's brain. However, you can see the unusual bodily movements, the effects on consciousness, and the changed behavior that the malfunctioning cells are producing. These changes are called epileptic seizures.

Epileptic seizures may be convulsive or non-convulsive in nature, depending on where in the brain the malfunction takes place and on how much of the total brain area is involved.

Convulsive seizures are the ones which most people generally think of when they hear the word "epilepsy." In this type of seizure the person undergoes convulsions which usually last from two to five minutes, with complete loss of consciousness and muscle spasms.

Non-convulsive seizures may take the form of a blank stare lasting only a few seconds, an involuntary movement of arm or leg, or a period of automatic movement in which awareness of one's surroundings is blurred or completely absent.

What to Do During an Epileptic Seizure

The first rule is to remain calm. There is nothing you can do to stop the seizure once it has begun. Do not try to restrain the individual.

If it is a convulsive seizure, lower the person to the ground or floor if possible and clear the area of furniture to avoid injury. Try not to interfere with movements in any way. Do not force anything between the teeth. Loosen ties and shirt collars, and place something soft under the head. When the person regains consciousness, reassure him/her and ask what additional assistance is needed.

If a seizure lasts longer than 10 minutes, or if multiple seizures occur without the person regaining consciousness, treat it as a medical emergency by calling 911.

For a non-convulsive seizure, no medical action is typically needed. Stay with the person and gently guide them away from obvious hazards. Speak calmly and reassuringly to them. Stay with the person until they are completely aware of their environment around them. Do not grab the person or try to restrain them in any way. Offer to provide additional assistance that the person may need.

Non-convulsive seizures are often mistaken for: daydreaming, lack of attention, ignoring instructions, poor coordination, intoxication, or clumsiness.

Resources: Epilepsy Foundation, 276-8940

CEREBRAL PALSY

Cerebral Palsy is not a disease, but a condition, involving nerve and motor dysfunction, which is caused by damage to the brain. Although usually as a result of prematurity or oxygen deficiency during birth, Cerebral Palsy can also be caused by injury, drugs, or child abuse. Cerebral Palsy is neither progressive nor communicable.

The term "cerebral" refers to the region of the brain that has been damaged and "palsy" refers to the shaking or uncontrolled movement.

Cerebral Palsy is characterized by an inability to fully control motor function. Depending on which part of the brain has been damaged and the degree of involvement of the central nervous system, one or more of the following may occur: spasms; involuntary movement; disturbance in gait or mobility; seizures; abnormal sensation and perception; impairment of sight, hearing, or speech; and mental retardation.

There are three main types of Cerebral Palsy: Spastic—stiff and difficult movement, Athetoid—involuntary and uncontrolled movement, and Ataxia—disturbed sense of balance and depth perception.

Spastic Cerebral Palsy

Spastic muscles are tense and contracted, resistant to movement. When reflexes are tested they may be very brisk, resulting in repeated contractions. Spasticity is the most common abnormality in Cerebral Palsy.

Athetoid Cerebral Palsy

This form of Cerebral Palsy is characterized by involuntary writhing movements of the parts of the body affected. The hands may turn and twist and often there is facial grimacing, tonguing, and drooling. Another form of involuntary movement involves abrupt flailing or jerky motions of the body. Many cases of Athetoid Cerebral Palsy involve damage to motor centers only. To the uninformed, however, the unnatural movements and facial expressions of such persons are often assumed to be signs of mental or emotional disturbance.

Ataxia Cerebral Palsy

In some cases of Cerebral Palsy the principal movement disturbance is lack of balance and coordination. Persons may sway when standing, have trouble maintaining balance, and may walk with feet spread wide apart to avoid falling.

Mixed Cases

When several motor centers are affected, the symptoms of Cerebral Palsy are mixed.

Other Symptoms

In addition to the major limb disturbances, Cerebral Palsy patients some-

times have hand tremors, making fine movements difficult. They may have problems in speaking, chewing, swallowing, maintaining visual focus, or following a moving target. There may also be drooling, a cooler surface temperature over affected parts of the body, or the loss of bowel or bladder control.

Every individual with Cerebral Palsy presents a unique capacity and potential for coping. A lot may depend on the programs available and the personal support system the person has.

Accommodations in the classroom will vary for each student, depending on the type of Cerebral Palsy and the areas affected. Accommodations may include, but are not limited to: notetakers, permission to tape record lectures, alternative testing measures, and extended time on tests.

Resources:

United Cerebral Palsy Association of Greater Kansas City 531-4189

CARPAL TUNNEL SYNDROME

Carpal Tunnel Syndrome is a nerve disorder in the hand that causes pain and loss of feeling, especially in the thumb and first three fingers.

Symptoms include:

Tingling or numbness in part of the hand
Sharp pains that shoot from the wrist up the arm
Burning sensations in the fingers
Thumb weakness
Frequent dropping of objects
Inability to make a fist

Possible teaching recommendations include:

- May not be able to write at all or for only a very limited time (may need a test scribe and/or notetaker)
- May not be able to carry their books from class to class
- May have splint on affected arm(s)
- May have to have surgery to free the pinched nerve

Source: *Complete Guide to Symptoms, Illness, & Surgery*, H. Winter Griffith, M.D.

MULTIPLE SCLEROSIS

Multiple Sclerosis is the most common nervous system disease among young adults in the United States, affecting as many as 500,000 persons. Multiple Sclerosis is usually diagnosed between the ages of 17-45, with a peak occurrence around 30. Multiple Sclerosis is more common in females than males.

Each person with Multiple Sclerosis will have a unique set of symptoms, depending on where the Multiple Sclerosis affects the central nervous system. Since Multiple Sclerosis affects the central nervous system, both the sensory and motor (muscle) functions of the body may be impaired. The symptoms may vary unpredictably and last for differing amounts of time. Initially symptoms usually will come and go (termed a "relapsing" course).

The variability and unpredictability of Multiple Sclerosis stems from the very nature of the disorder. The brain and the spinal cord, where Multiple Sclerosis occurs, send out and receive signals from all parts of the body. Therefore, symptoms of Multiple Sclerosis can be experienced anywhere in the body depending upon the specific site or sites in the brain or spinal cord which are affected.

The symptoms of Multiple Sclerosis occur and disappear in varying and unpredictable episodes. One of the most common initial manifestations of Multiple Sclerosis is optic neuritis, a fleeting disorder of the optic nerve which causes double vision and blurred vision. Other symptoms include: weakness, spasticity, ataxia, tremors, and an inability to normally control bladder function.

One of the characteristics of persons with Multiple Sclerosis in general is that they are intolerant of heat and generally feel weaker in hot weather or in warm environments. Fatigue is another common symptom. Persons with Multiple Sclerosis may have good strength to begin a task but fatigue rapidly.

The classical pattern of Multiple Sclerosis is one of overall exacerbations and remissions. Symptoms become worse, then better, then worse again in a continuing cycle. Multiple Sclerosis is an unstable and unpredictable disease as each person is affected so differently.

Accommodations in the classroom will vary for each student depending on the symptoms the student experiences. Some students may need accommodations only during the period of exacerbations but not during periods of remission. Others may need accommodations during both periods. Accommodations may include but are not limited to: notetaker, permission to tape record lectures, alternative testing measurers, and extended time for tests.

Resources:

Multiple Sclerosis Society 432-3926

RHEUMATOID ARTHRITIS

Rheumatoid Arthritis is a total body (systemic) disease characterized chiefly by inflammation of the synovial joints. In particular, the shoulder, elbow, wrist, hip, knee, ankle, and the small joints of the hands and feet are affected by rheumatoid arthritis. Since these joints are designed both to allow motion and to bear weight, motion restrictions and weightbearing problems can be early consequences of the disability.

Muscle weakness and reduction in muscle size appears in many people soon after the onset of arthritis. Loss of joint movement, and pain with movement are also impairments. Sometimes inflammation can be treated and after several weeks it will clear up with no residual impairments. However, there are times when the inflammation cannot be treated and there will be a permanent loss of joint motion. The permanent loss of joint motion leads to permanent deformities that change the mechanics of the joint so that it cannot function well.

The interference in motion induced by pain, the loss of proper mechanical joint motion due to deformities, and the loss of strength all may markedly limit the person's activities. The particular activity impaired depends upon which joints are involved.

What is very important to remember is that each person with rheumatoid arthritis is affected differently; and each person's own condition varies from one day to the next.

Students with rheumatoid arthritis may need notetakers, permission to tape record lectures, and alternative testing measures—not the standard written format. If a student can write, they may need extended time on tests.

Resources:

Arthritis Foundation 361-7002

TOURETTE'S SYNDROME

Some Tourette's Syndrome characteristics:

- neurologic disorder
- usually begins between ages 2 and 16
- involuntarily blinking of eyes
- head jerking
- flailing of arms
- throat clearing
- peculiar noises (grunting, barking, snorting)
- vocalization of obscene words
- various "tics"
- ritualistic behaviors
- the tics may come and go
- the symptoms of Tourette's Syndrome may change over time

Tourette's Syndrome is a neurological disorder characterized by tics-involuntary, rapid, sudden movements that occur repeatedly in the same way. Tics are experienced as irresistible and, as the urge to sneeze, must eventually be performed. Typically, tics increase as a result of tension or stress and decrease with relaxation or concentration on an absorbing task.

Many students with Tourette's Syndrome may also have some kind of learning problem. If the student does have a learning disability too, please refer to the section on Learning Disabilities (pages 4-16).

Helpful Teaching Techniques

The student may need to use a tape recorder, typewriter, or computer for reading and writing problems.

Untimed exams may be necessary (in a private room if vocal tics are a problem). Allowing the student to test in a private room will allow them to focus all their energy on the test instead of on suppression tactics. Permission for the student to leave the classroom when tics become overwhelming may help.

It may help to have the Special Needs Counselor visit the class to discuss Tourette's Syndrome and answer questions to help other students in the class understand and cope.

The less stress the student with Tourette's Syndrome feels, the less frequent the symptoms will be in general.

If a behavior is just poor behavior and not a result of the Tourette's Syndrome it should not be tolerated.

The student should be encouraged to control what he/she can whenever possible, and to try to substitute what is socially acceptable for what is not.

The student's movements and noises can be annoying or even somewhat disruptive to the class. Remember, they are occurring involuntarily so do not

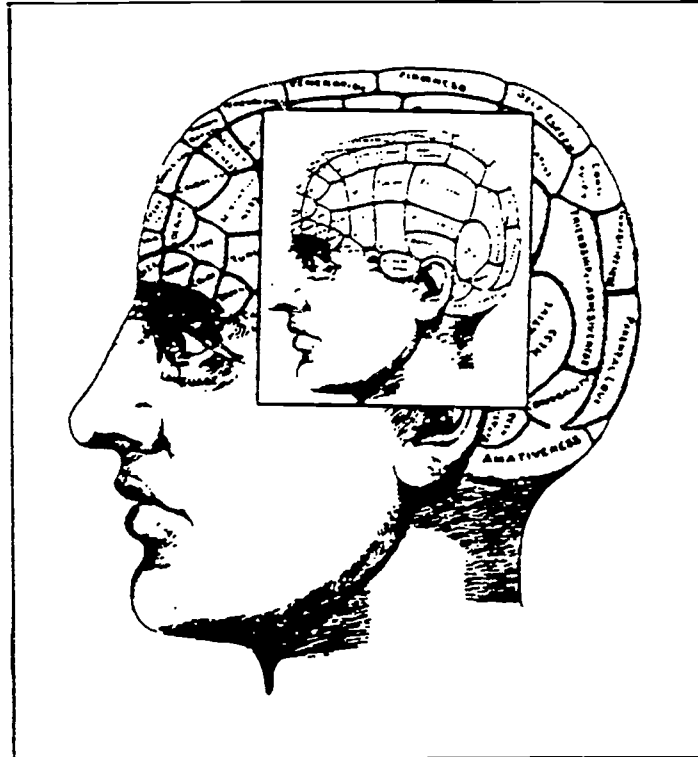
react with anger or annoyance.

If it is a large class you may want to allow the student to go to a private place to let out the tics.

If a student's tics are particularly disruptive, consider avoiding requiring him/her to speak in front of the class for awhile. Perhaps the student could tape record oral presentations to avoid the stress of being in front of the class.

Resources:

Tourette's Syndrome Association, Inc.
42-40 Bell Boulevard
Bayside, New York 11361
(718) 224-2999



MENTAL ILLNESS

According to 1991 figures from Western Missouri Mental Health Center, there are approximately 91,000 mentally ill persons in the Kansas City metropolitan area. However, only 13,000 are in treatment. Statewide, 85% of mentally ill persons are not in treatment. The largest age group of mentally ill is 18-30. Therefore, in a class of 20 students, at least three students are likely to exhibit symptoms of mental illness.

In the past few years the community colleges have been seeing more students who have a history of chronic mental illness. While many of these students are stable and show no symptoms, other students may show more obvious signs of mental illness. Some may experience medication side effects or develop problems at college because they have ceased taking their medication. Other students may be experiencing mental illness for the first time and may not have gone for any treatment.

While we do not expect faculty and staff to be able to diagnose mental illnesses the following list might be helpful in identifying if a student is having mental or emotional problems, so that they can be referred for professional help.

Identifying the Student with Mental/Emotional Problems

Demands Attention—This student requires undue amounts of attention; becomes upset when attention demands are not immediately met.

Impatient—This student tends to start a task without waiting for instructions, has difficulty waiting for others or taking turns (pushes others in line, takes material out of turn, etc.)

Disorganized Approach—This student has a confused, disorganized approach to tasks (loses materials, does not follow a logical sequence, has an unusually messy desk).

Distractibility—The student has difficulty focusing attention, easily distracted.

Frustration—Complains that activities don't make any sense or that everything is too difficult to accomplish.

Anxiety

Excessive Worries—Repeatedly expresses exaggerated concern over a real or unfounded fear ("Where is my teacher; Why is he/she not here?")

Agitation and Irritability—Appears irritable; easily upset; (frigidity, pacing, restless, can't get started or maintain concentration).

Muscular Tension—General increase in body tension with reduced flexibility of movement (rigid, overcontrolled movement of arms and head, excessively firm grasp on materials).

50

Nervous Movements—Presence of repetitive physical movements (finger or foot tapping, eye twitching, nervous muscular movements, fighting, rocking, biting fingernails.)

Inattention—Poor concentration, easily distracted, needs reminding to stay on task.

Depression - Withdrawal—Monotone voice—speaks in flat monotone voice with limited emotion expression.

Pessimism or Hopelessness—Verbalized negative feelings and self-criticism “Things will always be bad.” “I can’t do it.” “I’m dumb,” “Nobody likes me.”)

Facial Expression—Looks sad; doesn’t smile; has a blank expression or cries excessively with little provocation.

Energy Level

- Low energy level
- Resists activity
- Sits inactively unless prompted
- Prefers to be alone
- Detached
- Doesn’t smile when greeted

Socialization

Lack of Sensitivity—Disregard for the needs and feelings of others (hurts other people’s feelings, makes fun of others)

Social Awareness—Does not understand his/her impact on others (walks between people, has poor manners, dominates conversation, grabs materials out of turn, etc.)

Attention Seeking—Disruptive behavior such as interrupting, noise making, burping or inappropriate coughing

Offensive Behaviors—Inappropriate touching and clinging on others, use of foul language, picking nose, etc.

Response to Affect—Does not recognize or respond to facial or vocal cues such as frowning, scowling, smiling, surprise, voice tone, humor, etc.)

Self-Concept

Self-Criticism—Expresses negative feelings and expectations (“I can’t do it”, “I’m no good”, etc.) expects failure, avoids attempting new tasks

Body Awareness—Disregards personal appearance (sloppy dress, body odor, poor grooming, slouched posture)

Submissiveness—Easily swayed, nonassertive, timid, speaks in a soft voice, constantly asks for permission.

Self-Image—Unrealistically high or low estimations of skills (has difficulty viewing him/herself realistically) or has strong identification with others rather than self (imitates others excessively)

Insecurity— Shows a lack of self-confidence by being overly dependent on others or by showing off as a “know-it-all”

Aggression

Verbal Abuse—Expresses feelings of anger toward others; makes hostile comments (“I hate you”, “Kiss off”, “You’re a witch”, makes a hit list to “get” later)

Physical Abuse—Displays anger to things (kicks chair/desk, slams doors, throws materials, pounds wall) or toward others (pokes, kicks, pushes, threatens)

Noncompliance—Refuses to follow rules; resists compliance with authority, turns away or states “I won’t”

Personal Abuse—Directs anger toward self (“I’m stupid”, “It’s my fault”, “I hate myself”)

Agitation—Increased tension of body, angry, glaring looks, aggravating movements

Reality distortion

Thought Fragmentation—Impulsive changes in thought, content shifts

Preservation—Continued repetition of movements or verbalizations, actions are prolonged or intense

Functional Deterioration—Obvious decline or falling off in academic performance, appearance and/or personal interactions

Reality Contact—Appears distant or aloof from others and uninvolved with surroundings, may lose train of thought in conversations, may talk to self, may report hearing imaginary voices or seeing scary things (hallucination)

Suspiciousness—Mistrust, and is quick to blame others; expects trickery (“why are you making me do this?”)

In the Classroom

It is not the instructor’s function to remediate these problems but rather to act as an observer for symptoms that vary from the norm and may indicate the need for referral for counseling and/or psychological intervention including drug therapy.

Educational Implications: Instructors who have students with an emotional disorder would benefit from an understanding of the following:

General

- A knowledge that high, but realistic, expectations should be maintained to encourage full realization of social and vocational potential.
- An awareness that a student with an emotional disorder may frequently be treated with therapeutic medications that affect performance and speed.

- An understanding that student behaviors which vary from the norm may be an indication that the student is experiencing a recurrence of symptoms and is in need of intervention.
- A realization that students can assume full responsibility for their thoughts, feelings, and actions but are helped when an instructor displays empathy.

Accommodations

General Techniques:

- Encourage students at the beginning of each term to discuss with you any modifications that will facilitate their learning, any medications they are taking and side effects they may have, and any symptoms of stress to be noticed.
- Allow additional time for exams when levels of medication interfere with speed.
- Be aware of changes in behavior that could be symptomatic of recurrence of problems and refer the student for follow-up.
- Encourage students to use relaxation and other stress reducing techniques especially during exams.

While students who have diagnosed emotional problems are considered to be disabled, and protected under federal law as such, this does not mean that disruptive behavior is to be tolerated. Even if a student has emotional problem his/her behavior must still conform to the MCC Code of Student Conduct. We have the right to demand appropriate conduct and respectful treatment from all students. It is our job to set limits and to be firm and to educate students as to how they must act in an academic setting. If students can not attend college without causing disruption they need to leave the premises.

Resources:

Info line (Information and Referral)	421-4980
Mental Helpline (Information, Referral, and Crisis)	561-HELP (561-4357)

Comprehensive Mental Health

South—Research	966-0900
Independence	254-3652
Midtown	471-3000
North—Tri County	346-7800

SUICIDE

Statistics show that suicide happens in all kinds of environments, and to people of all ages, social classes and economic situations. Many times, faculty or staff may have cause to be concerned that a student is contemplating suicide.

The following are warning signs of potential suicide:

- previous suicide attempts or gestures;
- purchase of pills, weapons, ropes; has a definite plan that sounds workable;
- talking or writing about the desire to end one's life; statement of wish to die;
- a recent loss of a loved one, particularly someone in the family;
- loss of a pet;
- giving away personal possessions; making peace with friends, making "final arrangements";
- clear diminution in fear of death;
- sense of failure;
- abrupt (and subtle) changes in behavior, such as cutting off friendships;
- violent or abusive behavior;
- change in eating and sleeping patterns, e.g., insomnia, increased sleeping, loss of appetite, or overeating;
- declining school performance, coupled with expressions of helplessness and apathy;
- pervasive sadness, especially among young children who cannot articulate what is disturbing them;
- family disruptions, such as divorce or other changes within the home;
- a sudden lifting of sadness, depression or withdrawal, which may indicate that the decision to commit suicide has been made;
- substance abuse—alcohol and drug abuse seem to be significantly linked to suicide attempts among young people; or
- themes of death—a desire to end one's life may show up in the person's artwork, poetry, essays, etc.

This list is not exhaustive, although it does contain most of the major warning signs. The presence of these signs does not invariably mean that the person is contemplating suicide, but the signs can sensitize the people around the person to explore more carefully his or her state of mind.

What to Do

What should you do if you suspect a student is contemplating suicide? Always take the threat seriously and try not to be judgmental, offended or critical. The following list was compiled by Kim Smith, Ph.D., of the Menninger Foundation, to guide teachers and other professionals.

What are the appropriate steps to reach someone who is suicidal? The following are offers as guides to professionals, parents, and peers:

- STEP 1:** Listen. A person in mental crisis needs someone who will listen to what she/he is saying. Every effort should be made to understand the problems behind the statements.
- STEP 2:** Evaluate the seriousness of the person's thoughts and feelings. If the person has made clear suicide plans, the problem is more acute than when his/her thinking was less definite.
- STEP 3:** Evaluate the intensity or severity of the emotional disturbance. It is possible that the person may be extremely upset but not suicidal. Often, if a person has been depressed, and then becomes agitated and moves about restlessly, it can be cause for alarm.
- STEP 4:** Take seriously every complaint and feeling the person expresses. Do not dismiss or undervalue what the person is saying. In some instances, the person may minimize his/her difficulty, but beneath an apparent calm may be profoundly distressed feelings.
- STEP 5:** Do not be afraid to ask directly if the person has entertained thoughts of suicide. Suicide may be suggested but not openly mentioned during the crisis period. Experience shows that harm is rarely done by inquiring directly about suicide at an appropriate time. As a matter of fact, the person frequently is glad to have the opportunity to open up and discuss it.
- STEP 6:** Do not be misled by the person's comments that she/he is past the emotional crisis. Often the person will feel initial relief after talking about suicide, but the same thinking may recur later. Follow-up is crucial.
- STEP 7:** Be affirmative, but supportive. Strong, stable guideposts are essential in the life of a distressed person. Provide emotional strength by giving the impression that you know what you are doing, and that everything possible will be done to assist the person.
- STEP 8:** Evaluate available resources. The person may have inner resources, including various mechanisms for rationalization and intellectualization, which can be strengthened and supported, and other resources such as ministers, relatives, and friends who can be contacted. If these are absent, the problem may be more serious.
- STEP 9:** Act specifically. Do something tangible; that gives the person something definite to hang onto, such as arranging to see him/her later or subsequently contacting another helping person. Nothing is more frustrating to a person than to feel as though she/he has gained nothing from the discussion.
- STEP 10:** Obtain appropriate assistance and consultation. Do not try to handle the problem alone. Seek the advice of physicians, school counselors, mental health professionals, or other knowledgeable persons.

In summary, take any threats of suicide seriously. Do show that you care and listen and ask the student direct questions such as "Are you considering suicide?",

"Do you have a plan?", "Will you talk with someone who can help?" Be sure to immediately refer the student for professional help at the college counseling center or a local community agency. If you feel the threat or risk is immediate, do not leave the student alone and call for help.

Resources

Campus Counseling Center

Suicide Prevention Services

Western Missouri Mental Health Center

Suicide Prevention Line

471-3939

Human Rescue 234-5971

Mental Help Line 561-HELP (561-4357)



AIDS (ACQUIRED IMMUNE DEFICIENCY SYNDROME)

AIDS is actually a syndrome—a collection of symptoms. Many of the illnesses associated with the AIDS Syndrome are not caused by the virus—they are brought on by infections or diseases caused by organisms that take advantage of the body's weakened immune system. Students who are HIV positive are considered disabled and have legal protection under federal law.

In most cases, institutions will be legally obligated to support the rights of the student with acquired immune deficiency syndrome. According to Metropolitan Community Colleges District Policy 3.05015 BP on Communicable Diseases "It shall be the policy of the board to permit students and employees with communicable diseases to continue to engage in as many of their normal pursuits as their condition allows, as long as medical evidence indicates that there is no threat to themselves or others."

As educators we must recognize that:

- Most persons infected with AIDS do not know they are infected.
- Many persons infected with AIDS remain apparently well but are still infectious to others.
- The Human Immunodeficiency virus (HIV) is very fragile and does not survive outside the human body for more than a few seconds. Therefore, it is not easily transmitted from one person to another.
- The virus is most commonly spread through 1) sexual intercourse with someone who has the virus or 2) intravenous injection with contaminated needles.
- Reducing exposure to body fluids known to transmit HIV is the best form of prevention. Bodily fluids known to transmit HIV are: blood, semen, cervical secretions, and possibly breast milk.
- People with HIV infection pose no risk of transmitting the virus to others through ordinary, casual interpersonal contact.
- Preliminary results from the American College Health Association survey of blood samples taken from students on twenty campuses suggest that three students of every 1,000 are infected with the AIDS virus. (*The Chronicle*, June 15, 1989).
- The immunodeficient individual may need to be absent from classes for their own protection when cases of acute or short-term communicable diseases, such as measles or chicken pox, are occurring in the college population.

Precautions

- Handwashing is the primary method to stop the spread of all illnesses.
- If you are taking care of a student with a cut or bloody nose, wear latex gloves whether or not the person is known to be HIV positive.

- Always handle any blood or blood contaminated body fluids with latex gloves.

Laboratory Classes:

Laboratory courses requiring exposure to blood, such as biology courses in which blood is obtained by a finger prick for typing and examination, should use disposable equipment, and no lancets or other blood-letting devices should be reused or shared. No students except those in health care professions in schools should be required to obtain or process the blood of others.

Resources:

National AIDS Hotline
1-800-342-7514

Good Samaritan Project
1-816-561-8784

For more information or to find a testing site call:
Bureau of Aids Prevention
1-800-533-AIDS (2437)

To arrange for a speaker on AIDS contact:
MO AIDS Speakers Bureau
811 East Cherry, Suite 311
P.O. Box 1371
Columbia, MO 65202
(314) 442-7101

SUBSTANCE ABUSE

Substance Abuse is a disease and a major health problem. It is the third largest killer in the United States, after heart disease and cancer. Substance abuse not only affects the abuser but others in the home, the office, the classroom, and on the highway. Substance abusers in recovery are covered under the Americans with Disabilities Act. Current abusers are not. Below is some information on the two types of substance abuse—alcoholism and drug abuse.

Alcoholism

Alcoholism is one of the most prevalent disabilities in the United States. Alcoholism occurs in all ethnic, socioeconomic, and age groups. It is also seen in all occupations but occurs in men three times more often than women. However, during recent years there is a higher incidence of alcoholism among women and youth.

Alcoholism can be a person's only disability or it can occur with one or more other physical or emotional/mental disabilities. It is a slowly progressive disease. However, the majority of alcoholics can show improvement or completely recover with abstinence and appropriate treatment over a sufficient period of time.

Treatment for alcoholism is an extended, ongoing process. The alcoholic must gain stability in all areas of functioning. Thus a continuum of services is essential at the various stages of recovery. It is also essential that each person receive an individual combination of services appropriate for him/her.

Drug Abuse

A drug is a substance that may modify one or more functions of a person. A dependence-producing drug is one that can produce a state of psychological and/or physical dependence.

As with alcoholism, drug abuse is a disease. By defining it as a disease, it classifies the abuser as a patient thus giving him/her access to treatment through health and social service agencies.

Recovering drug abusers require an extensive support system with lots of follow-up provided. Recovering abusers need extra support during stressful periods that previously would have caused the person to turn to drugs.

For most recovering substance abusers there is the opportunity to overcome the disability and move on with one's life. Their level of motivation, the available opportunities, and the nature and extent of support he/she receives will determine the outcome.

Resources:

Substance Abuse Center of Eastern Kansas, Inc.	362-0045
Alcoholics Anonymous Information Services	471-7229
National Council on Alcoholism and Drug Abuse	361-5900
Speas Resource Center on Alcoholism and Substance Abuse	444-0642

EFFECTS OF MEDICATION

(May vary)

- drowsiness
- restlessness
- nervousness
- nausea
- unsteady gait
- fatigue
- blurred vision
- headache
- emotional liability
- involuntary muscle movements (tremors)
- dry mouth
- photosensitivity
- insomnia
- weakness
- slurred speech



SCIENCE LABORATORY ACCESS

Information for this section came from *Teaching Chemistry to Physically Handicapped Students*, by The American Chemical Society Committee on the Handicapped, Kenneth M. Rose, Editor.

Classroom accommodations for students with disabilities tend to be highly individualized. The students themselves are usually the best source of information on their needs because they have learned what works best for them. It is the student's responsibility to contact the teacher to discuss how to meet their special needs in the most practical way. Waiving lab requirements or other assignments is never an acceptable solution.

In the Laboratory

Laboratory experience is essential for students of an experimental science like chemistry, and the student with a disability is no exception. Some disabling conditions clearly will restrict the student's laboratory activities more than others, and the level of involvement desirable and necessary must be determined on an individual basis.

General Considerations

It is customary in some lab courses to pair students as partners. In this case, it is important to help the student with a disability locate a congenial lab partner or group and to check occasionally to be sure everything is well.

If a student needs extra time to complete a lab assignment, the teacher should try to be flexible. Extra time might be available in a Saturday section, or a student might enter an additional lab section during the week or start early or stay late in the regular section. Scheduling extra time may be more difficult in small schools or departments with relatively few lab sections. In any event, it is best that student and teacher agree on the amount of extra time that is reasonable so that time does not become an issue when the student's work is evaluated.

Some physical modifications in the lab might be necessary. They are discussed briefly below in terms of specific categories of disabilities. Again, whatever modifications are desired may require ingenuity on the part of the small school or department with limited financial resources.

Impaired Mobility

The student with impaired mobility needs to have easy access to equipment, materials, safety devices and other services, and exits. The student also needs enough aisle space to permit lateral movement and maneuverability. Positioning a wheel chair parallel to the lab bench is generally restrictive, although some students might prefer it.

The basic requirements for a laboratory work station for a student in a wheel chair have been described, briefly:

- Work surface 30 inches from floor
- 29-inch clearance beneath the top to a depth of at least 20 inches and a minimum width of 36 inches to allow leg space for the seated individual
- Utility and equipment controls in easy reach
- Clear aisle width sufficient to maneuver a wheelchair—recommended aisle width is 42 to 48 inches.

Should the aisles be too narrow, a lab station can be set up at the end of the bench or a portable station can be designed or purchased and positioned as desired. Another alternative, if the student can transfer from the wheelchair, is to design a more maneuverable chair for use in the lab only. Two such designs that have worked well are:

- An ordinary armless chair secured to a platform that moves on casters. To move, the rider pushes against the floor with rubber-tipped canes.
- An adjustable height wheelchair made from an old office chair, a set of wheelchair wheels, and a hydraulic truck jack with a 6-inch lift.

Compared to a wheelchair, these homemade designs permit good mobility around the lab, increased mobility at the bench, and increased accessibility to the bench top. Supplies and equipment can be moved around the lab on the chair-and-platform device, which provides a flat, steady surface. The adjustable-height wheelchair may include a tray that can be snapped onto the chair's arms to carry equipment such as flasks and crucibles, leaving both hands free to operate the chair. Mobility and accessibility at the bench can also be enhanced by constructing a platform to raise the student to a height more compatible with the height of the bench top and by modifications to the bench itself, such as pull-out shelves.

One graduate student in chemistry who uses a wheelchair performs most experiments on a standard vacuum rack. This 22-inch-high, 12-inch-deep workspace provides the vertical access required by a seated individual for doing titrations, distillations, and column chromatography.

The laboratory as a whole can be made more accessible to students with impaired mobility by making various modifications.

- Adjustable-height storage units and special-equipment work space.
- Pull-out or drop-leaf shelves or counter tops for auxiliary use—for example, shelves at lap-board height for holding instruments to be used by student in wheelchairs.
- Single-action lever controls or blade-type handles rather than knobs for students with impaired manual dexterity.
- Flexible connections to electrical, water, and gas lines for students with limited reach (i.e., in a wheelchair).
- Alternate means of storage, such as a portable lazy Susan or a storage cabinet on casters.

Students whose disabilities affect the use of both upper and lower limbs will need a full-time assistant to perform experiments under the student's direction; the student should be able to observe the data acquisition as well as direct the

experiment. This approach for the quadriplegic student is much the same as that described for the blind student in the following section.

The foregoing provisions for making a laboratory more accessible to students with impaired mobility have been used successfully by various scientists with disabilities. Again, however, students' needs tend to be highly individualized, so accommodations are best considered on a student-by-student basis.

Impaired Vision

Many students with severe visual handicaps have mastered laboratory work. Blind students who have been accommodated in the laboratory testify that the work is not only educational, but enjoyable; for them, the hands-on experience was vital. Some students with impaired vision have completed laboratory sessions virtually unnoticed, possibly using only a magnifying glass or relying informally on a partner or nearby classmate to read numbers or confirm observations. Other students with impaired vision require more help. The degree of disability determines the policy to be adopted.

The blind student often will require a full-time laboratory assistant. The assistant should not be taking the course, but it is useful to have one who has done so and knows the equipment and terminology. The blind student does the thinking and directs the assistant to give visual feedback on command. It is helpful for the student to be given the opportunity before the lab session to feel an appropriate configuration of the experimental apparatus. This allows the student to visualize how the equipment should be assembled. It is important that the student be encouraged to exercise as much independence as possible. In some cases, however, it may be necessary for the assistant to manipulate the equipment. Selecting the laboratory assistant is the joint responsibility of the blind student and the instructor (the latter can be held legally responsible for mishaps in the laboratory, however, and so should have veto power over the selection). The instructor can help by suggesting names. The instructor also should see that the assistant functions properly. When questions arise, for example, the student should take them up directly with the instructor, not through the assistant, and vice versa.

Blind students negotiate best in familiar surroundings. Even though they may never need to visit remote parts of the laboratory they should be allowed to familiarize themselves with the entire setting. A short time with the lab instructor locating sinks, reagent shelves, hoods, safety showers, and the like, will orient the student and help to determine the best place to work. The student will find the exits, learn the bench configurations, memorize the positions of the utilities, and so forth. The laboratory becomes familiar and comfortable. This orientation session can also be used to explain the safety rules and outline fire-drill and other procedures. It is also the time to explain what locations in the laboratory pose the greatest potential hazards.

Blind students who have guide dogs may decide not to take them into the laboratory. A small office nearby or an out-of-the way spot at the far end of the balance room might be an ideal place to leave a dog. Guide dogs are obedient and accustomed to waiting.

Students with partially impaired vision may require no special laboratory assistance at all. Yet, one lab station may be better than another because the

lighting is better, for example. Some students with partial sight may need larger letters on reagent bottles, a magnifying glass to read burettes, or a larger notebook than prescribed for the course. Such requirements are easily met; usually the student takes care of them.

The development of special equipment to familiarize laboratory work for students with impaired vision is a relatively new area of research, but progress is being made rapidly. Examples of equipment now available include:

- Voltmeters with audible readout
- Liquid-level indicator
- Electronic calculator with braille printout
- X/Y plotters with braille out put
- Talking thermometers
- Talking calculators
- Light probe (used as part of readout devices - it emits a tone which increases in pitch proportionally to changes in light intensity)
- Braille labeler
- Braille and talking computer terminals

Impaired Hearing

Unlike visual and orthopedic disabilities, impaired hearing is not a visible disability unless one sees the student wearing a hearing aid or using sign language. However, since hearing is required for control of voice quality, deaf people may speak with inappropriate pitch, volume, or articulation. Also, deaf people may sometimes have to be told that they are making noise which is disturbing people who can hear. But in general, impaired hearing has little effect on the ability to work in a laboratory. Excepting the installation of visual warnings in addition to normal audible warnings, and emphasis on good communications, students who are deaf or hearing-impaired have few special needs in a laboratory.

Deaf students also face a social barrier in that deafness impedes communication with other students. The teacher can be helpful by assisting in finding a sensitive lab partner when a partner is needed.

Safety in the Laboratory

There is no reason to assume that students with disabilities will be less careful or will pose a greater hazard than other students in the laboratory. This argument was borne out by a study of 1,400 employees with disabilities at Du Pont. The author commented, "Du Pont's experience has proven that disabled workers are safe workers."

There is certainly a need to enforce good laboratory practices and sensible safety measures for students. The suggestions that follow apply to all students; those that are oriented particularly toward students with disabilities are indicated by bold face. This is not an attempt to provide a comprehensive discussion on lab safety;

1. Always discuss procedures and any special safety considerations with the students before allowing an experiment to begin.
2. Arrange and discuss evacuation plans for fire and other emergencies. Review such plans periodically. In case of emergency evacuation the student with a disability may need the assistance of one or more able-bodied persons. A "buddy" system can provide assurance of the needed aid. The student's lab partner might be a logical choice.
3. Give all students safety quizzes or safety-rule sheets to read, sign, date, and return to the instructor. Go over these procedures and rules with the students. Use open-ended questions to obtain clarification.
4. Post copies of the safety rules at several locations in the lab and give a copy to each student.
5. **Give the student with impaired vision an opportunity to become familiar with the laboratory before the first session. The student can then participate in the safety-orientation program with little trouble and will already know the locations of exits, showers, and extinguisher.**
6. **Discuss and resolve individual limitations with the student with impaired vision who has no full-time lab assistant. Can the student read labels? Are the labels big enough? Consult with the student as to whether there are any operations too risky for the student to handle alone.**
7. Do not use the shower area for temporary storage.
8. Keep all aisles free of obstructions.
9. **Ensure that reagent containers are labeled clearly and returned to their shelves after each use. These shelves should be readily accessible to the student with a disability.**
10. **Assign the student with impaired mobility to a lab station on an outside aisle and close to an accessible exit, if possible. Students with impaired hearing should have lab stations that afford an unobstructed view of the instructor.**
11. Insist on the use of eye-protection devices such as goggles or safety glasses with clear side shields at all times in the lab.
12. No students should pour from large containers of concentrated acids or bases. Reagent containers too large to be easily grasped by one hand have no place in any instructional laboratory.
13. **Students, including those with impaired vision or poor manual coordination, are strongly urged to wear rubber gloves when working with harsh chemicals or those readily absorbed by the skin. Disposable, lightweight gloves are available which will permit the student to manipulate equipment.**
14. **All students should wear plastic or rubber aprons when working with chemicals in order to protect their clothing. Students in**

- wheelchairs or those who have no sensory perception in the lower half of the body should be advised of the importance of protecting their laps with a heavy rubber apron while working with chemicals.
15. Employ the buddy system in the lab for assistance in emergencies.
 16. Prohibit both able-bodied and students with disabilities from working in the lab alone.
 17. **Accessible and usable eye washes should be located near the disabled student's work station.**
 18. Equip laboratories with emergency lighting (using batteries or another power supply) in case of power failure. Emergency lighting is particularly needed for deaf students as they rely on visual clues more than do students who can hear.
 19. **When a deaf student is working in a lab, it is helpful to have available equipment with lights or other visual means of indicating on/off status, although most equipment can be monitored easily by touch. Alarm systems also should be visual, with flashing lights. Expensive changes to equipment are seldom needed for deaf students, however. For example, they can feel when a timer sounds if they hold it in their hands.**
 20. Ensure that combustible gas supplies from the gas jets on the benches contain odorants. Students with impaired hearing may not hear the sound of an open gas jet, although they will be more inclined to check visually than will students who can hear.
 21. **Lightweight fire extinguishers should be provided for mobility-impaired students, but all students should be instructed in the use and limitations of fire extinguishers and in fire drill procedures. Lightweight dry chemical fire extinguishers are often the only kind a mobility-impaired student can handle.**

Science Laboratory Safety - Communicable Diseases

Laboratory courses requiring exposure to blood, such as biology courses in which blood is obtained by finger prick for typing and examination, should use disposable equipment, and no lancets or other blood-letting devices should be re-used or shared.

No students except those in health care professions in schools should be required to obtain or process the blood of others.

Resources:

Health Resource Center
One Du Pont Circle N.W.
Washington, DC 20036
(202) 833-4707

American Association for the Advancement
of Science
1776 Massachusetts Avenue N.W.
Washington, DC 20036

American Chemical Society
1155 16th Street N.W.
Washington, DC 20036
(202)872-8733

EVACUATION PROCEDURES

Consideration in the Evacuation of Persons with Disabilities.

It is recommended that the college or university consult with the local fire officials on the whole matter of emergency evacuation procedures. A representative from the fire department could address a general faculty meeting or a report of such a meeting could be distributed to faculty. If such information is not available, it would be well to request the college or university administration to set up guidelines prior to any emergency situation. In the case of fire drills, careful thought should be given to provisions for persons with disabilities.

Visually Impaired Persons

Most visually impaired persons will be familiar with the immediate area they are in. In the event of an emergency, tell the person the nature of the emergency and offer to guide him/her to the nearest emergency exit. Have the person take your elbow and escort him/her (this is the preferred method when acting as a "sighted guide"). As you walk, tell the person where you are and advise of any obstacles. When you have reached safety, orient the person to where he/she is and ask if any further assistance is needed.

Hearing Impaired Persons

Although some modern buildings are equipped with flashing light alarms, most buildings are equipped with sound alarms. Therefore, persons with impaired hearing may not perceive emergency alarms and an alternative warning technique is required. Two methods of warning are:

1. Writing a note telling what the emergency is and the nearest evacuation route. For example: "Fire—out rear door to the right and down. Now!"
2. Turning the light switch on and off to gain attention, then indicating through gestures or in writing what is happening and what to do.

Persons Using Crutches, Canes, or Walkers

Such persons should be treated as if they were injured persons for evacuation purposes. Carrying options include using a two-person lock arm position or having the person sit in a sturdy chair, preferably one with arms.

Non-Ambulatory Persons

Most non-ambulatory persons will be able to exit safely without assistance if on the ground floor. Some people have minimal ability to move and lifting them may be dangerous to their well being. Non-ambulatory persons' needs and preferences will vary. Always consult the person as to his/her preference with regard to:

- Ways of being removed from the wheelchair.

- The number of people necessary for assistance.
- Whether a set cushion or pad should be brought along with him/her if he/she is removed from the chair.
- Whether to extend or bend extremities when lifting because of pain, catheter, leg bags, spasticity, braces, etc. Being carried forward or backward on a flight of stairs.
- After-care if removed from the wheelchair; i.e., whether a stretcher, chair with cushion pad, car seat, or perhaps paramedic assistance is necessary.

Additional Things to Consider:

Wheelchairs have many movable or weak parts which were not constructed to withstand the stress of lifting (e.g., the seat bar, foot plates, wheels, movable arm rests).

Some people in wheelchairs may have electrical artificial respirators attached. They should be given priority assistance if there is smoke or there are fumes, as their ability to breathe is seriously jeopardized.

Some people have no upper trunk or neck strength.

If the wheelchair is left behind, remove it from the stairwell and place it so it does not block others.

Remove the batteries from a power wheelchair before attempting to transport it. Make sure the foot rests are locked and the motor is off.

If a seat belt is available, secure the person in the chair.

If carrying a person more than three flights, a relay team arrangement may be needed.

In the event of emergency, people in wheelchairs and other disabled persons should observe the following procedures for evacuation:

1. All persons shall move toward the nearest marked exit. As a first choice, the wheel chair occupant or other disabled person may attempt to use the elevator (except in case of fire or earthquake).
2. As a second choice, when a wheelchair occupant reaches an obstruction, such as a stairway, she/he should request assistance from others in the area.

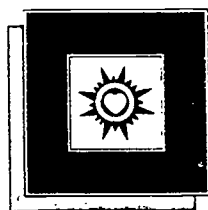
Note: It is suggested that the wheelchair occupant or other person with a disability, when possible, prepare for emergencies ahead of time by learning the locations of exit corridors and smoke tower stairwells and by showing a classmate or instructor how to assist him/her in case of emergency.

3. If choices #1 or #2 are not successful, the wheelchair occupant or other person with a disability should stay in the exit corridor or on the landing in the smoke tower stairwell. She/he should continue to call for help until rescued. Persons who cannot speak loudly should carry a whistle or have some other means of attracting the attention of others.

Note: All exit corridors and smoke tower stairwells are marked with exit signs and are protected with self-closing fire rated doors. These are the safest areas during an emergency.

Rescue personnel (Fire and Police) will first check all exit corridors and exit stairwells for any trapped persons.

Source: Everest and Jennings, "Safety and Handling," Los Angeles, CA, 1976, pp. 18, 19.



THE METROPOLITAN
COMMUNITY COLLEGES



DEPARTMENT OF
EDUCATION

This handbook was produced with funding by the U.S. Department of Education, Office of Special Education and Rehabilitative Services and The Metropolitan Community Colleges Student Services & Employee Development Departments.