

## DOCUMENT RESUME

ED 376 305

CE 067 571

TITLE Access: Special Instructional Support Services. A Faculty Handbook.

INSTITUTION Gateway Technical Inst., Kenosha, Wis.

SPONS AGENCY Wisconsin State Board of Vocational, Technical, and Adult Education, Madison.

PUB DATE Jan 93

NOTE 67p.

PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC03 Plus Postage.

DESCRIPTORS \*Accessibility (for Disabled); \*Adaptive Testing; Adult Education; Adult Students; \*Classroom Techniques; \*Disabilities; Educational Needs; Educational Strategies; Education Work Relationship; Referral; Services; \*Special Education; Special Needs Students; Student Needs; Teaching Methods; \*Technical Institutes; Tutors; Two Year Colleges

IDENTIFIERS \*Gateway Technical College WI

## ABSTRACT

This guide, which is intended for use by faculty teaching students with one of various disabilities, reviews available services to encourage successful education for adult students with disabilities at Gateway Technical College in Wisconsin. Discussed first are the guide's purpose and organization, the process of referring students to receive accommodations, general considerations in assisting students with disabilities, and the importance of understanding the educational implications of specific disabilities. Each of the next nine sections describes the characteristics, problems, and instructional/testing accommodations available for students with the following disabilities: specific learning disabilities, deafness/hearing impairments, visual impairments, seizure disorders, motor impairments, adjustment (psychological) disorders, attention deficit disorder, cognitive disabilities, and acquired brain injuries. Examined in the next three sections are the following: what types of testing accommodations may be given to students with disabilities, who determines what testing accommodations are to be used by specific students, and when the types of testing accommodations vary and what determines that variance. Concluding the guide are brief discussions of transition and confidentiality. Contains 37 references. (MN)

\*\*\*\*\*

\* Reproductions supplied by EDRS are the best that can be made \*

\* from the original document. \*

\*\*\*\*\*

ED 376 305

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  
document do not necessarily represent  
official OERI position or policy

"PERMISSION TO REPRODUCE THIS  
MATERIAL HAS BEEN GRANTED BY

*E. Chen*

TO THE EDUCATIONAL RESOURCES  
INFORMATION CENTER (ERIC) "

BEST COPY AVAILABLE

# **ACCESS: Special Instructional Support Services**

## **A FACULTY HANDBOOK**

**A cooperative effort of the:**

### **Special Instructional Support Services Staff:**

Mary Hawkins, Special Needs Instructor  
Linda Mahoney, Learning Disabilities Instructor  
Kathy Peterson, Special Needs Instructor  
Helen Suda, Special Needs Instructor

### **Student Services Staff:**

Jo Bailey, Learning Skills Specialist  
Laura Ferguson, Hearing Impaired Specialist  
Cindy Housner, Transition Specialist  
Mary Mair, Interpreter: Deaf/Hard of Hearing

**With acknowledgements to:**

Gateway's students with disabilities--our teachers

Gateway faculty and staff for their assistance:

Patricia Cease  
Jean Eisman  
Ken Karwowski  
Joseph McShane  
Pat Smoody

Milwaukee Area Technical College for permission to reprint  
in part Task Force on the Testing of Students with Special  
Needs, Final Report. September 1989.

**SPECIAL INSTRUCTIONAL SUPPORT SERVICES**

## DEFINITION

### Disability:

the term is divided into three parts. An individual must satisfy at least one of these parts in order to be considered disabled under the law. . .

1. has a **physical or mental impairment** that **substantially limits** one or more of that person's major life activities;

2. has a record of such an impairment; or

3. is regarded by the staff as having such an impairment.

### **Physical or mental impairment:**

1. any physiological disorder/condition, cosmetic disfigurement or anatomical loss affecting one or more of the body systems listed;

or

2. any mental or psychological disorder.

neurological  
musculoskeletal  
special sense organs  
respiratory/speech organs  
cardiovascular  
reproductive  
digestive  
genitourinary  
hemic and lymphatic  
skin  
endocrine

mental retardation  
organic brain syndrome  
emotional/mental illness  
learning disability

### Substantially limits means...

. . . a person is unable to perform a major life activity that the average person in the general population can perform; or

. . . an individual is significantly restricted as to the condition, manner or duration under which an individual can perform a major life activity as compared to the condition, manner or duration under which the average person in the general population can perform that same major life activity.

(Americans With Disabilities Act [ADA], Section 1630.2[h])

ACCESS

**ACCESS: Special Instructional Support Services**  
**A FACULTY HANDBOOK**

**TABLE OF CONTENTS**

INTRODUCTION.....	1
REFERRAL PROCESS FOR STUDENTS TO RECEIVE ACCOMMODATIONS.....	2
GENERAL CONSIDERATIONS.....	3
UNDERSTANDING AND ACCOMMODATING THE NEEDS OF THE STUDENT WITH A DISABILITY.....	4
SPECIFIC LEARNING DISABILITY.....	5
Educational Implications.....	5
Reading.....	5
Written Language.....	6
Math.....	6
Oral Language.....	6
Organization.....	7
Mechanical.....	7
Social.....	7
Accommodations.....	7
Instructional Techniques.....	7
Testing.....	8
DEAF/HARD OF HEARING.....	9
Educational Implications.....	9
Linguistic.....	9
Speech.....	9
Speechreading/Lipreading.....	10
Social/Cultural.....	11
Communication Strategies.....	12
Academic.....	13
Reading/Writing/Oral.....	13
Math.....	13
Instructional Strategies.....	14
Accommodations.....	14
Interpreters.....	14
Notetakers.....	14
Tutors.....	15
Testing.....	16

VISUAL IMPAIRMENT.....	17
Educational Implications.....	17
General.....	17
Social.....	17
Accommodations.....	18
Instructional Techniques.....	18
Environmental Techniques.....	18
Testing.....	18
SEIZURE DISORDER.....	19
Educational Implications.....	19
General.....	19
Social.....	20
Vocational.....	20
Accommodations.....	20
General Techniques.....	20
Seizure Aid.....	20
MOTOR IMPAIRMENT.....	22
Educational Implications.....	22
Accommodations.....	23
General Techniques.....	23
Special Accommodations.....	22
Wheelchair.....	22
Hand-Function Limitations.....	22
Chronic Back Problems.....	24
Testing.....	24
ADJUSTMENT (PSYCHOLOGICAL) DISORDERS.....	25
Educational Implications.....	27
General.....	27
Accommodations.....	27
General Techniques.....	27
ATTENTION DEFICIT DISORDER.....	29
Educational Implications.....	29
Testing.....	30
COGNITIVE DISABILITY.....	31
Accommodations.....	32
ACQUIRED BRAIN INJURY.....	33
Educational Implications.....	34
Cognitive.....	34
Communication.....	35
Psychosocial.....	35
Sensory/Perceptual and Psychomotor.....	36
Instructional Techniques/Accommodations.....	36

#### SPECIAL INSTRUCTIONAL SUPPORT SERVICES

WHAT TYPES OF TESTING ACCOMMODATIONS MAY BE GIVEN TO A STUDENT WITH A DISABILITY.....	38
A. General Testing Accommodations.....	38
B. Staff Used In Testing Accommodations.....	39
C. Equipment Used in Testing Accommodations.....	42
 WHO DETERMINES WHAT TESTING ACCOMMODATIONS ARE TO BE UTILIZED BY SPECIFIC STUDENTS WITH DISABILITIES.....	43
 WHEN DO THE TYPES OF TESTING ACCOMMODATIONS VARY AND WHAT DETERMINES THAT VARIANCE.....	45
 TRANSITION.....	48
 CONFIDENTIALITY.....	49
 BIBLIOGRAPHY.....	50

## INTRODUCTION

The goal of this booklet is to review services designed to encourage successful education for adult students with disabilities at Gateway Technical College. A strong emphasis is placed on making the college open and accessible in order to provide educational opportunity to all students as addressed in Gateway's mission statement. This booklet also acknowledges that barrier-free facilities constitute only a part of the true meaning of accessibility.

Included are suggestions for adjustments which can be made in the teaching environment or in teaching styles to accommodate specialized student needs without affecting academic integrity.

In addition, information on what constitutes reasonable accommodations for students with disabilities in a variety of course testing situations has been adapted from Milwaukee Area Technical College's publication, Task Force on the Testing of Students with Special Needs, Final Report.

It is hoped that the information in this booklet will help eliminate barriers to learning for students with disabilities, serve as a supplement to in-service efforts for faculty, and eliminate the situation referred to by the psychiatrist, Ronald Laing:

There is something I don't know  
that I am supposed to know.

I don't know WHAT it is I don't know,  
and yet am supposed to know,

And I feel I look stupid  
if I seem both not to know it  
and not know what it is I don't know.

Therefore, I pretend I know it.  
This is nerve-wracking since I don't  
know what I must pretend to know.

Therefore, I pretend I know everything.  
-R. D. Laing, Knots (1970)



## **Referral Process For Students To Receive Accommodations**

**Referral Procedure:** The classroom instructor or Student Services counselor may suggest to a student that he/she make an appointment with:

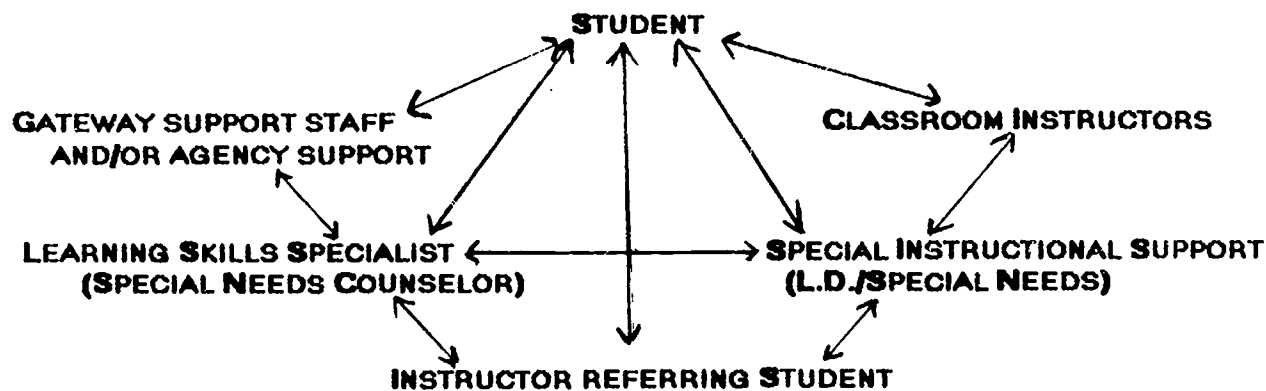
### **Learning Skills Specialist**

Elkhorn---6112  
Kenosha---6960  
Racine----7392

**Special Instructional Support  
Instructors: (LD or Sp. Needs)**  
Elkhorn---6168  
Kenosha---6951  
Racine----7337

1. **Learning Skills Specialist:**
  - \* confirms the disability,
  - \* identifies the student's special learning needs,
  - \* decides upon a realistic employment development plan with the student,
  - \* refers the student to appropriate support services,
  - \* refers the student to special instructional support instructors.
2. **Special Instructional Support Instructors:**
  - \* refer the student to the Learning Skills Specialist,
  - \* discuss with the student how the disability affects his/her learning,
  - \* suggest accommodations that will minimize or eliminate the impact of the disability on the student's learning and testing,
  - \* communicate the student's needs and suggested accommodations to the classroom instructor.

### **Referral and Special Instructional Support Services Loop:**



***Accommodations cannot and will not be made  
unless and until a student identifies him/herself as  
disabled.***

### GENERAL CONSIDERATIONS

Gateway students with disabilities are not unlike other students. They have the same needs: the need to be challenged, to be part of a group, to be accepted, and to succeed. These students wish to be treated as individuals and not to be singled out or stereotyped as disabled. However, they may need accommodations in order to access classroom instruction and testing.

The following general considerations are important in assisting students with disabilities to meet their educational goals:

- \* It is important to make a statement at the beginning of each semester inviting students to inform the instructor of their special needs.
- \* A disability is seldom "total," and usually affects a surprisingly narrow range of activity.
- \* Many persons find themselves feeling awkward, fearful, or self-conscious when interacting with persons with disabilities. Common sense, courtesy, caring, and experience will reduce these natural reactions.
- \* Students with disabilities are frequently well versed regarding their condition and can often suggest solutions for problems that may hinder progress.
- \* Actions that call attention to deficiencies manifested by students with disabilities should be avoided.
- \* Misconceptions and/or lack of knowledge concerning the disabled are common to many people. It is to be remembered that the term "disabled" is not necessarily synonymous with cognitive or mental impairment.
- \* Students with disabilities often resist the process of identification and/or accommodation to avoid being "labeled."

## UNDERSTANDING AND ACCOMMODATING THE NEEDS OF THE STUDENT WITH A DISABILITY

Instructors need to have a clear understanding of the educational implications of specific disabilities so that reasonable accommodations facilitating an effective learning environment can be provided. Accordingly, this booklet features nine sections devoted to the characteristics, problems, and accommodations for a variety of disabilities which may be encountered within the classroom setting.

The inclusion of the disability groups in no way indicates that all will be found in classes at all times. They are offered here as reference information useful when an instructor is informed that a student with a specific disability is in a class and he/she needs to make accommodations for the student.

### For Better or Worse



## **SPECIFIC LEARNING DISABILITY**

### **Characterized by:**

significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning or mathematical abilities.

### **Instructional Techniques:**

- \* Collaborate with the L D instructor to coordinate accommodations
- \* Encourage students, at the beginning of each semester, to discuss the modifications needed
- \* Provide a detailed course syllabus
- \* Announce reading assignments well in advance for students who are using taped materials as it takes several weeks to have a book tape-recorded
- \* Begin lecture and/or discussions with a written and oral overview of topics to be covered
- \* Use board, overhead projector, or handout to highlight key concepts, unusual terminology or unfamiliar words
- \* Make statements that emphasize important points, main ideas, and key concepts when lecturing
- \* Provide all assignments in oral and written format and be available for further clarification
- \* Provide a study guide for text and encourage study groups, peer tutoring, and use of the tutoring center
- \* Prepare study questions for review sessions to aid in mastering material for exams
- \* Accept oral presentations or tape recordings in place of written assignments
- \* Allow use of special accommodations recommended such as notetakers, tape or video recording of lectures/demonstrations, readers for tests, untimed tests, and oral rather than written tests
- \* Consider an alternative test environment which eliminates distractions.

## **SPECIFIC LEARNING DISABILITY**

Learning disabilities is a generic term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning or mathematical abilities. These disorders are intrinsic to the individual and presumed to be due to central nervous system dysfunction. Even though a learning disability may occur concomitantly with other disabling conditions (e.g., sensory impairment, mental retardation, social and emotional disturbance) or environmental influences (e.g., cultural differences, insufficient/inappropriate instruction, psychogenic factors), it is not the direct result of those conditions or influences (National Joint Committee for Learning Disabilities 1981). Students with learning disabilities have gifts and talents despite learning problems, and with support, motivation, and appropriate intervention, they can complete a college degree.

### **EDUCATIONAL IMPLICATIONS**

The student with a specific learning disability may exhibit problems in one or more of the following areas:

#### **READING**

- \* Slow reading rate and/or difficulty in modifying reading rate in accordance with difficulty of material
- \* Poor comprehension and retention of written material
- \* Difficulty in identifying important/relevant points or themes
- \* Inability to distinguish between sounds, creating poor mastery of phonics, confusion of similar words, and difficulty integrating new vocabulary.
- \* Poor tracking skills resulting in skipped words, phrases or lines and losing place on the page.

### WRITTEN LANGUAGE

- \* Difficulty with sentence structure resulting in incomplete sentences, poor use of grammar, and missing inflectional endings
- \* Frequent spelling errors, transpositions of letters, omissions or substitutions of sounds especially in unfamiliar vocabulary
- \* Inability to copy correctly from written information
- \* Poor penmanship, poorly formed letters, incorrect use of capitalization, trouble with spacing, and overly-large handwriting.

### ORAL LANGUAGE

- \* Inability to concentrate on and comprehend oral language
- \* Difficulty in orally expressing ideas and/or in proper sequencing of events
- \* Difficulty managing more than one task at a time or retaining a list of information
- \* Inability to distinguish between sounds or combinations of sounds.

### MATHEMATICS

- \* Incomplete mastery of basic facts resulting in poor math comprehension and computation
- \* Number reversals, confusion of operational signals, and difficulty recalling the sequence of operational processes
- \* Difficulty understanding and retaining abstract concepts
- \* Poor comprehension of word problems and limited understanding of ratio, proportions or relative size.
- \* Reasoning deficits and inability to eliminate irrelevant data in applied problems.

### ORGANIZATION

- \* Inability to manage time effectively
- \* Difficulty staying on or completing tasks
- \* Tendency to work slowly, rush through carelessly, or impulsively start before listening to or reading instructions
- \* Deficiency in listening to lectures and taking notes at the same time
- \* Inability to identify key points in a lecture or chapter
- \* Short attention span.

### MECHANICAL

- \* Poor coordination, slow motor movements, and noticeable problems in using equipment/tools
- \* Motor weakness in both upper and lower body with poor posture.

### SOCIAL

- \* Low self-esteem; avoids eye contact and speaks softly
- \* Inability to read and respond to verbal/non-verbal cues and voice inflections
- \* Tendency to stand too close when talking to others or communicates too loudly
- \* Inappropriate comments or use of neologism (making up words such as "flustrating")
- \* Impulsive actions.

### ACCOMMODATIONS

#### INSTRUCTIONAL TECHNIQUES

- \* Encourage students, at the beginning of each semester, to discuss modifications that will facilitate their learning
- \* Provide a detailed course syllabus

- \* Announce reading assignments well in advance for students who are using taped materials as it takes several weeks to have a book tape-recorded
- \* Begin lecture and/or discussions with a written and oral overview of topics to be covered
- \* Use board, overhead projector, or handout to highlight key concepts, unusual terminology or unfamiliar words
- \* Make statements that emphasize important points, main ideas, and key concepts when lecturing
- \* Provide all assignments in oral and written format and be available for further clarification
- \* Provide a study guide for text and encourage study groups, peer tutoring, and use of the tutoring center
- \* Prepare study questions for review sessions to aid in mastering material for exams
- \* Accept oral presentations or tape recordings in place of written assignments
- \* Allow use of special accommodations recommended such as notetakers, tape or video recording of lectures/demonstrations, readers for tests, untimed tests, and oral rather than written tests
- \* Consider an alternative test environment which eliminates distractions.

#### TESTING

The testing problems encountered by students with learning disabilities are numerous and vary greatly. Some students are able to read and write language oriented tests independently yet are unable to do math tests. Other students are unable to read or write with any proficiency yet can take oral tests with ease. Yet other students can read, write and do math tests reasonably well but experience great problems with distractibility and organization of thoughts and/or sequencing of tasks (MATC 7).

#### ACCESS



## DEAF/HARD OF HEARING

### Characterized by:

hearing difficulties in which perceivable sounds, including speech, have no or limited meaning for ordinary life purposes.

### Communication Techniques:

- \* Several things would be helpful for the student to see ahead of time:
  - \* a brief course outline
  - \* a list of new or specialized terminology before it is used in class
  - \* a copy of the instructor's lecture notes.
- \* Allow the student to choose the best seating.
- \* Speak clearly and naturally; do not block your mouth with your hands.
- \* Maintain eye contact: do not speak while facing the blackboard.
- \* Rephrase a thought rather than repeat it.
- \* Check for comprehension by asking for an explanation or illustrations
- \* Body language, including facial expressions and gestures can help effectively get your message across.
- \* When another student speaks and is not in the direct vision of the student who is hearing impaired, repeat the comment or question and point or motion to show who is speaking.
- \* Make important information (such as an assignment or schedule change) clear by writing it on the board.
- \* Speak directly to the student not to the interpreter.
- \* Students may participate in question-and-answer periods. The student may sign the question to the interpreter. The interpreter will voice the question to the instructor and to the class and then sign the response back to the student.

## DEAF/HARD OF HEARING

Hearing loss is a complex disability which challenges both definition and counting. For any individual with a hearing loss, communication is a challenge. Deaf/Deafness is a condition in which perceivable sounds (particularly speech) have no meaning for ordinary life purposes, even with the help of a hearing aid. Hard of Hearing individuals can utilize their residual hearing, with or without a hearing aid, so that speech is meaningful for them; they often can carry on normal oral communication with varying degrees of difficulty. Hearing Impaired is a generic term meant to include every person who has hearing difficulties, whether hard of hearing or deaf. Based on these definitions, it is conceivable that one student in every ten has some kind of hearing difficulty. Among the causes of deafness are heredity, accident, and illness.

### EDUCATIONAL IMPLICATIONS

#### LINGUISTIC

Deafness itself does not affect a person's intellectual capacity or ability to learn. Adults who have been deaf since infancy have unique communication needs. As children they may not have been exposed to the continuous, repeated flow of language being exchanged around them. If early, consistent, and conscious use of visual communication modes were not used, problems in the use of the English language are pervasive. This problem of English language acquisition affects content areas as well. While the academic lag may be small during the primary grades, it tends to be cumulative. A deaf adult may be a number of grade levels behind his/her hearing peers. However, the extent to which hearing loss affects academic achievement depends on many factors--the degree and type of loss, the age of onset, the presence of

additional disabilities, the quality of the earlier schooling, and the visual communication abilities of the family.

American Sign Language (ASL) is the native language of the deaf. It is the third most commonly used language in the U.S.A. and is a language whose medium is visual rather than aural. Like any other language, ASL has its own vocabulary, idioms, grammar, and syntax (time, topic, verb, adjective, adverb, direct object, subject) different from English. The elements of this language (the individual signs) consist of handshape, position, movement, and orientation of the hands to the body and to each other. ASL also uses space, direction and speed of movements, and facial expression to convey meaning.

### **SPEECH**

Many deaf students can, and do, speak. Most deaf people have normal organs of speech and many learn to use them in speech classes. Some deaf people have difficulty controlling the tone and volume of their speech. Therefore, it may be initially difficult to understand. Understanding improves as one becomes more familiar with the deaf person's speech.

### **SPEECHREADING (LIPREADING)**

Speechreading (lipreading) for the deaf is an extremely demanding art. It is the least consistently visible of the communication choices available to deaf people: only about 30% of English sounds are visible on the lips, and 50% are homophonous (look like something else). For example, "kite," "height," and "night" look almost exactly alike, as do "maybe," "baby," and "pay me." The complexity of topics, the varied lip movements, beards and mustaches of the speaker, and fatigue of the listener all influence the speechreader's ability to understand what is said. Because speechreading alone requires guesswork, very few deaf people

### **ACCESS**

rely on speechreading alone for exchanges of important information.

### **SOCIAL/CULTURAL**

The adult population that is deaf in the United States is composed both of individuals deaf since early childhood and individuals who lost their hearing later in life. People who were deafened as adults, or after the age of 18, are sometimes called post-vocationally deaf. Having already embarked on their careers, these people may have serious problems both personally and professionally adjusting to their hearing loss. People who were deafened prior to age 18 may have problems with English language skills. Also, because of fewer opportunities for interaction with hearing people in pre-work settings, they may not be prepared for interpersonal relationships they encounter in the job market. The student who is deaf may be less willing to ask/answer questions in class because he/she does not want to appear less intelligent than his/her hearing contemporaries.

Attitudes of people that students meet every day have a direct bearing on the student's sense of belonging and self-esteem. Sign language classes for hearing students contribute positively to campus assimilation of the deaf student. The more hearing students who know how to sign, the more opportunities there will be for communication, friendship and sharing.

Another facet to the education of deaf students is their strong connection to deaf culture and the deaf community. Deaf culture consists of its own history, language, values, patterns of daily living, politics, folklore, humor, and worldview. Deaf culture is passed on from peer to peer not parent to child as in hearing culture. This is due in part to children who are deaf going to residential schools. Deaf people have very strong ties to their community and

gain much of their identity and self-esteem from this source.

### COMMUNICATION STRATEGIES

- \* Several things would be helpful for the student to see ahead of time:
  - \* a brief course outline
  - \* a list of new or specialized terminology before it is used in class
  - \* a copy of the instructor's lecture notes.
- \* Allow the student to choose the best seating for direct eye contact, away from light sources, etc.
- \* Speak clearly and naturally.
- \* To facilitate speechreading, do not block your mouth with your hands
- \* Maintain eye contact: do not speak while facing the blackboard.
- \* Rephrase a thought rather than repeat the same words if the student does not understand.
- \* Check for comprehension by asking for an explanation or illustrations; watch for head nodding (in deaf culture, head nodding indicates listening **NOT** understanding).
- \* Body language, including facial expressions and gestures can help effectively get your message across.
- \* When another student speaks and is not in the direct vision of the student who is hearing impaired, repeat the comment or question and point or motion to show who is speaking. This makes it easier for the student to follow the discussion.
- \* Make important information (such as an assignment or schedule change) particularly clear by writing it on the board.
- \* Speak directly to the student not to the interpreter. For instance, ask, "Do you. . .?" instead of, "Tell him. . ." or "Does she. . ."

ACCESS

- \* Students may participate in question-and-answer periods. A typical process is when the student may raise his/her hand, be recognized, and sign the question to the interpreter. The interpreter will voice the question to the instructor and to the class and then sign the response back to the student.

## ACADEMIC

As mentioned previously, perhaps the biggest impact of deafness is language acquisition. The main form of communication within the deaf community is sign language. In view of this, many deaf persons have not mastered the grammatical subtleties of their "second language"--English.

This does not mean that instructors should overlook errors in written (or spoken) work. However, they should know that this difficulty with English is not related to intelligence but is similar to that experienced by students whose native language is other than English. These difficulties vary in degree based on the age of onset of deafness and previous educational experiences.

## READING/WRITING/ORAL

Typically, deaf students rank behind their English speaking/hearing peers in reading ability for several reasons. First, this is partly due to the deficits in their vocabulary. Secondly, the education they received in their elementary and secondary years was sporadic. Finally, because many of these students had no form of communication until they entered school, they lack the early knowledge gained from "listening" to conversations around them. This is evidenced by the fact that 90% of students who are deaf have hearing parents; only 10% of those parents sign.

## MATH

Math concepts are very abstract in nature and require greater explanation to acquire. Because of the sporadic na-

ture of deaf education in the past, it is possible that deaf students do not have the same basic math concepts as their hearing peers. This does not mean that they are unable to learn mathematical concepts from basic to extremely complex. It does, however, indicate that some preliminary work be done to ensure that the deaf student is starting out with the same base as his/her hearing peers.

#### **INSTRUCTIONAL STRATEGIES**

- \* Present ideas/concepts in several different ways.
- \* Clearly state expectations.
- \* Provide concrete examples to demonstrate abstract concepts.
- \* Have students demonstrate understanding of the key/basic concepts.
- \* Provide a master list of key vocabulary words.
- \* Allow the use of compensatory strategies, i.e., pocket dictionaries, thesauruses, etc.
- \* Provide verbal summaries of reading assignments by reinforcing key vocabulary words.
- \* Allow the use of number lines, counting devices, and calculators.
- \* Focus on comprehension of key words that assist reasoning skills (word problems).
- \* Assist in developing organizational strategies.

#### **ACCOMMODATIONS**

The following specific support services have proven useful to students who are hearing impaired. Support services needed are considered on an individual basis.

#### **INTERPRETERS**

"An interpreter is someone who can take a source language whether spoken or signed, and convert it into the target language so it will be readily understood by the deaf

#### **ACCESS**

and hearing individuals involved. An interpreter must take a verbal message and convert it to the appropriate sign system without losing any of the meaning or context of the message. "Although an interpreter works best for twenty to thirty minutes at a time, most situations last a minimum of two hours. For two hours the interpreter's brain is processing every word that is spoken or signed and converting it to the target language." (Cole 67) Interpreting takes years of practice and experience to master. Taking one sign class will not qualify anyone as an interpreter.

Interpreters adhere to a strict code of ethics from the Registry of Interpreters. There are two types of interpreters: manual and oral. Manual is the method of using a signed communication system to convey conversations. Oral is the repetition of the spoken communication in a manner that is easy for the hearing impaired student to understand.

An interpreter is in the classroom to facilitate communication not to monitor it. Interpreters cannot censor conversations that occur.

Having an interpreter in the classroom can be an initial distraction to the instructor and the other students. But this soon passes.

#### **NOTETAKERS**

Notetakers are students in the class that are willing to take notes for the student who is hearing impaired. Interpreting provides the student with immediate information; whereas notetaking provides a permanent record for later study. Notetakers are provided with special carbonless paper. It would be impossible for the student who is hearing impaired to watch an interpreter and the instructor while simultaneously taking notes.



## TUTORS

Generally, interpreters work with students who are hearing impaired in the tutoring capacity. This is due to ease of communication. However, this does not mean that these students do not make use of the Tutoring Centers on the Gateway campuses. These facilities can be used with the aid of an interpreter to ensure understanding for both the student and the tutor.

## TESTING

Accommodations utilized by students who are hearing impaired for test taking include:

- \* sign language interpreters
- \* oral interpreters
- \* FM sound systems
- \* additional explanation of instructions
- \* extended time
- \* specialized testing location

Most deaf students are able to take examinations and be evaluated in the same way as other students. If a test is written, it has been found that some of these students do better if an interpreter reads and interprets the questions because of the subtleties of English. The reason that specialized location helps the student is that deaf students are more sensitive to visual stimulation. Therefore, instructors pacing and students moving in the classroom are distractions that can lead to confusion.

## **VISUAL IMPAIRMENT**

### **Characterized by:**

the loss of visual function of such magnitude that special aids and use of other senses are necessary to achieve performance ordinarily directed by visual clues.

### **INSTRUCTIONAL TECHNIQUES**

- \* Tape record a detailed course outline and syllabus.
- \* Provide large print visuals when appropriate.
- \* Provide textbooks in advance so that taped copies can be made.
- \* Provide supplements to films such as sound tapes and oral summaries for preview and review.
- \* Permit visually impaired students to tape lectures for review and reinforcement. Place recorder in close proximity to the speaker to eliminate background noise and assure quality.
- \* Accept a tape recording of written assignments.
- \* Allow tests to be taken orally.

### **ENVIRONMENTAL TECHNIQUES**

- \* Allow partially sighted students to sit near the front of the room or other optimum locations.
- \* Be sensitive to possible environmental hazards to visually impaired students.
- \* Be aware of emergency building evacuation procedures and provide assistance to students when appropriate.

## VISUAL IMPAIRMENT

Visual impairment is the loss of visual function of such magnitude that special aids and use of other senses are necessary to achieve performance ordinarily directed by visual clues. Students who are "visually impaired" may be either partially or totally blind. Because a student is visually impaired, it should not be assumed that he or she cannot participate in educational activities. Orientation, mobility, and rehabilitation specialists usually employed by state Vocational Rehabilitation offices can often determine special aids and/or accommodations that facilitate the student's integration into the classroom setting.

### EDUCATIONAL IMPLICATIONS

The student who is visually impaired may exhibit problems in one or more of the following areas:

#### GENERAL

- \* Inability to utilize visuals such as films, graphs, demonstrations, and written materials.
- \* Difficulty in taking traditional paper and pencil tests.
- \* Need for a longer period of time to complete assignments.
- \* Difficulty in focusing on small-group discussion when there is more than one group functioning.
- \* Need for a variety of low-vision aids to integrate the classroom.

#### SOCIAL

- \* Low self-esteem.
- \* Feelings of social inadequacy and isolation.
- \* Reduced personal independence.
- \* Limited job opportunities and career choices.

## ACCOMMODATIONS

### INSTRUCTIONAL TECHNIQUES

- \* Tape record a detailed course outline and syllabus.
- \* Provide large print visuals when appropriate.
- \* Provide textbooks in advance so that taped copies can be made.
- \* Provide supplements to films such as sound tapes and oral summaries for preview and review.
- \* Permit visually impaired students to tape lectures for review and reinforcement. Place recorder in close proximity to the speaker to eliminate background noise and assure quality.
- \* Accept a tape recording of written assignments.
- \* Allow tests to be taken orally.

### ENVIRONMENTAL TECHNIQUES

- \* Allow partially sighted students to sit near the front of the room or other optimum locations.
- \* Be sensitive to possible environmental hazards to visually impaired students.
- \* Be aware of emergency building evacuation procedures and provide assistance to students when appropriate.

### TESTING

In general, the testing problems encountered by students who are visually impaired impact in two major areas: accessing visual test information and instructions, and problems with "recording" their answers to test items. Tests involving drawings and small diagrams and those requiring students to make estimates based on visual information are particularly troublesome and frustrating for blind students (MATC 6).

### ACCESS

## SEIZURE DISORDER

### Characterized by:

episodes of abnormal motor, sensory, autonomic, or psychic activity or a combination of some of these:

- \* only a brief suspension of activity, petit mal
- \* automatic motor activity or complex alterations behavior, psychomotor;
- \* a full-blown generalized motor seizure, grand mal.

### GENERAL TECHNIQUES

- \* Be aware of the type of seizure disorder the student has
- \* Ask the student what he/she wants to be done when a seizure occurs and formulate a plan of action with the student and the campus nurse that will meet the student's needs
- \* Recognize effects of medication prescribed to control seizures on performance and allow extra time for exams and completion of class activities
- \* Help the student assess how competitive he or she might be in his/her chosen career field.

### SEIZURE AID

- \* Remain calm and reassure other students.
- \* Inform the campus nurse
- \* Remove furniture which may injure the student.
- \* Let the seizure run its course.
- \* Never try to place any object in the student's mouth. When seizure activity stops, turn the head or body to the side to prevent the tongue from slipping to the back of the throat, interfering with breathing.
- \* Assure a student who has experienced a seizure that all is well and that you understand.
- \* Attempt to give the student privacy during the seizure and as he or she is recovering from a seizure.
- \* Realize that the student who has experienced a grand mal seizure may be disoriented and extremely tired. It may be best for the student to go home.

## SEIZURE DISORDER

A meaningful, simple definition for a seizure disorder is difficult to state because of its wide variability of causes and occurrences. A seizure may be defined as an episode of abnormal motor, sensory, autonomic, or psychic activity (or a combination of some of these) as a consequence of sudden excessive electrical discharge from cerebral neurons. Such seizures may consist of:

- \* only a brief suspension of activity, petit mal,
- \* automatic motor activity or complex alterations of behavior, psychomotor;
- \* a full-blown generalized motor seizure, grand mal.

Other than the occasional seizure, persons with this disorder generally look and function like everyone else in society but may experience some memory dysfunction. The educational potential for persons who have seizure disorders is considered to be good and is not diminished if seizures are well controlled unless serious memory deficits exist.

### EDUCATIONAL IMPLICATIONS

The student with a seizure disorder may exhibit problems in one or more of the following areas:

#### GENERAL

- \* Brief lapses of consciousness or "staring spells" causing disruption in the learning process
- \* Side effects from anti-convulsant medication resulting in slowed reactions, clumsiness and poor eye-hand coordination, eye focusing difficulty, and flatness of affect
- \* Increased absences if grand mal seizures are not medically well controlled
- \* Memory deficits due to complex partial seizures or temporal lobe epilepsy
- \* Clouded thinking caused by chronic seizure disorders and effects of medication

SPECIAL INSTRUCTIONAL SUPPORT SERVICES

### **SOCIAL**

- \* Social isolation due to the general public's fear and misunderstanding of seizures
- \* Avoidance of social situations because of fear of embarrassment should a seizure occur.

### **VOCATIONAL**

- \* Negative employer attitudes and rejection in job seeking due to misunderstanding of the disorder and fear that company liability and insurance rates will increase.

### **ACCOMMODATIONS**

#### **GENERAL TECHNIQUES**

- \* Be aware of the type of seizure disorder the student has
- \* Ask the student what he/she wants to be done when a Grand Mal seizure occurs and formulate a plan of action with the student and the campus nurse that will meet the student's needs
- \* Allow for absences related to recovery from Grand Mal seizures
- \* Recognize effects of medication on performance and allow extra time for exams and completion of class activities
- \* Help the student assess how competitive he or she might be in his/her chosen career field.

#### **SEIZURE AID**

- \* Remain calm and reassure other students.
- \* Inform the campus nurse of the student having a seizure and the student's location.
- \* Remove objects which may injure the student.
- \* Do not attempt to stop the seizure nor interfere with the student's movements. Let the seizure run its course.
- \* Never try to place any object in the student's mouth. When seizure activity stops, turn the head or body to the side to prevent the tongue from slipping to the back of the throat, interfering with breathing.

### **ACCESS**

- \* Do not attempt to revive a student who may turn pale, have irregular breathing, or stop breathing. Seizure activity will diminish and the student will breathe regularly on his/her own.
- \* Assure a student who has experienced a seizure that all is well and that you understand.
- \* Attempt to give the student privacy during the seizure and as he or she is recovering from a seizure.
- \* Realize that the student who has experienced a grand mal seizure may be disoriented and extremely tired. It may be best for the student to go home.
- \* Do not give food or drink to the student until the seizure activity has passed.



## **MOTOR IMPAIRMENT**

### **Characterized by:**

partial or total loss of the function of a body part.

### **GENERAL TECHNIQUES**

- \* Do not assume that students with motor impairments cannot participate in an activity. Always consult with the student regarding limitations.
- \* Give assistance only if the student asks for it. Do not assume that assistance is required.
- \* Incorporate a means by which the student can participate in group activities. This may include adapting equipment, pairing the student with another student, or pairing the student with an assistant.
- \* Check emergency exits and routes and provide assistance as necessary for evacuation of the building. Evacuation procedures are available for each campus from the office of the Director of Facilities.

## **MOTOR IMPAIRMENT**

Motor impairment is the partial or total loss of the function of a body part as a result of a spinal cord injury, amputation, or musculoskeletal disorder. Such impairment may result in muscle weakness, diminished stamina, lack of muscle control, involuntary movements, total paralysis, and reduced levels or function in tasks that require general body mobility. These motor impairments range from the obvious visibility of the spinal cord injury and amputation to the more nebulous such as the chronic back disorder. Because of these variants, the educational expectations for these students will differ greatly in relation to the type of disability. Educational planning for the student includes investigation of interests, aptitudes, and physical limitations to determine the appropriate educational goal consistent with the disability.

### **EDUCATIONAL IMPLICATIONS**

The student with a motor impairment may exhibit a problem in one or more of the following areas:

#### **GENERAL**

- \* Difficulty moving from one location to another
- \* Impaired writing and/or speaking due to the physical disability
- \* Inability to sit, stand, or walk for prolonged periods of time
- \* Difficulty participating in classes involving physical activity
- \* Needing special assistance in laboratory classes
- \* Difficulty in taking traditional paper/pencil tests
- \* Requiring additional time to move from class to class.

#### **ACCESS**

## ACCOMMODATIONS

### GENERAL TECHNIQUES

- \* Do not assume that students with motor impairments cannot participate in an activity. Always consult with the student regarding limitations.
- \* Give assistance only if the student asks for it. Do not assume that assistance is required.
- \* Incorporate a means by which the student can participate in group activities. This may include adapting equipment, pairing the student with another student, or pairing the student with an assistant.
- \* Check emergency exits and routes and provide assistance as necessary for evacuation of the building. Evacuation procedures are available for each campus from the office of the Director of Facilities.

## SPECIAL ACCOMMODATIONS

### WHEELCHAIR

- \* Check for accessibility in and out of the classroom.
- \* Arrange for classroom furniture such as wheelchair-height work stations and writing desks, aisle widths, etc., to accommodate the student's needs.
- \* Do not hang onto or lean on a wheelchair. It is often considered as part of the person's "body-space."
- \* Push the wheelchair only if asked or if you have offered and your offer has been accepted.

### HAND-FUNCTION LIMITATIONS

- \* Allow a notetaker.
- \* Accept tape recordings for written assignments/exams.
- \* Give exams orally when necessary or allow extra time for students who are able to write but who have diminished speed.

- \* Utilize competencies learned rather than speed as a grading criteria.
- \* Allow a tape recorder for lectures and discussions.

#### **CHRONIC BACK PROBLEMS**

- \* Allow students to alternate physical activities such as sitting, standing, and walking.
- \* Be aware of emotional discomfort that often accompanies chronic pain.

#### **TESTING**

The testing problems encountered by students with a physical disability are numerous and vary greatly from student to student depending on the type and severity of the disability. Some students may only need to have physical access to the testing site to compete on an equal basis with their nondisabled peers. Other individuals may use a variety of adaptive equipment, while yet others may need substantial modifications/accommodations to take tests (MATC 7).

## ADJUSTMENT (PSYCHOLOGICAL) DISORDERS

### Characterized by:

chronic and extreme behaviors that become disabling.

### 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 test taking.
- \* 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.

It is not the instructor's function to remediate these problems, but rather, to act as an observer for symptoms which vary from the norm and may indicate the need for referral of the student to the Learning Skills Specialist or the Special Needs Instructors if the behavior is interfering with the student's ability to function in the classroom.

## ADJUSTMENT (PSYCHOLOGICAL) DISORDERS

Because of the frequency of adjustment (psychological) problems in the general population, it can be assumed instructors will encounter students with these disabilities in the classroom.

Adjustment disturbances are grouped into a number of categories including:

**Psychoses** usually involve the loss of a person's ability to distinguish what is actually taking place in the external environment from internal fantasies and impulses. Manifestations of psychoses are marked by disorganization of the personality and distortion of reality, absence of emotional responsiveness and expression, loss of impulse control, extreme and often total withdrawal from other people, and preoccupation with one's own thoughts and fantasies.

**Neuroses** are less incapacitating than psychoses and the personality remains intact. The neurotic, while in touch with reality and the environment, has difficulty dealing with emotions; may have specific neurotic symptoms such as phobias and compulsions; often has poor impulse control; is preoccupied with anxiety; and is, therefore, not functioning at an optimum level.

**Mood Disorders** are the most common of the neuroses with adults experiencing clinical depression. The symptoms include sleep disturbance, change in appetite, loss of interest, feelings of guilt, poor energy and motivation, slowed activity, and possible suicidal thoughts.

**Organic Brain Syndromes** result from demonstrable physiological or structural changes in the brain. They are caused by a wide variety of conditions, including stroke, arteriosclerosis, head injury, alcohol/drug abuse, metabolic changes, and brain tumors. Organic brain syndromes are

manifested by impairment of orientation to time, place, and person; lethargy and moodiness; and impairment of memory, judgment, and all intellectual functions including comprehension, general knowledge, and ability to calculate and learn.

**Substance Abuse Disorders** include a number of agents that affect the central nervous system such as alcohol, marijuana, cocaine, amphetamines, barbiturates, hallucinogenics, and opiates. Typically these agents are abused because of emotional distress in another aspect of the person's life and physical addiction.

**Adjustment (Personality) Disorders** are chronic, pervasive, and resistant to change. They include antisocial, histrionic, passive-dependent, borderline, passive-aggressive, avoidant schizoid, and paranoid personalities. The three most common types which manifest disturbances of behavior are:

- \* **Passive-dependent:** passivity and dependency on others for direction and decision making in daily living.
- \* **Passive-aggressive:** aggressiveness expressed passively by such means as obstructionism, stubbornness, and intentional inefficiency.
- \* **Anti-social:** seeks immediate gratification and is devoid of a sense of responsibility; fails to modify behavior in spite of punishment and humiliation; and frequently possesses a great deal of personal charm and persuasive ability. The essential defect in this disorder is the failure to develop an adequate conscience.

Many individuals may exhibit some of these behaviors throughout their lifetime but are not classified as having a condition until the behaviors become extreme and disabling. With some knowledge of the major mental disorders and the behaviors accompanying them, instructors may be better able to understand the student with an adjustment disability.

ACCESS

However, it is not the instructor's function to remediate these problems but, rather, to act as an observer for symptoms which vary from the norm and may indicate the need for referral of the student to the Learning Skills Specialist or the Special Needs Instructors if the behavior is interfering with the student's ability to function in the classroom.

### EDUCATIONAL IMPLICATIONS

Instructors who have students with an adjustment 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 adjustment 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 test taking.
- \* 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.

## **ATTENTION DEFICIT DISORDER**

### **Characterized by:**

serious and persistent difficulties in: attention span, impulse control and, sometimes, hyperactivity

### **Instructional Techniques:**

- \* Benefit from sitting in front of the classroom where distractions are limited
- \* Benefit from peer tutoring and cooperative\collaborative learning experiences
- \* Changes in schedule, disruptions, physical relocation hard to handle
- \* Need a stimuli-reduced study area.
- \* Need clear and concise directions and consistent daily directions.
- \* May need to be questioned about their understanding of directions before they begin a task.
- \* Need to feel comfortable with seeking assistance (usually will not ask for help).
- \* May find a daily reminder notebook helpful for recording assignments, due dates, and benchmark dates designed to meet due dates.
- \* May benefit from the use of a word processor for completing written assignments and for responding to essay exams.

## ATTENTION DEFICIT DISORDER

Attention deficit disorder (ADD) is a syndrome characterized by serious and persistent difficulties in the following three specific areas:

- \* attention span
- \* impulse control
- \* hyperactivity (sometimes)

Individuals with ADD often have difficulty staying on task, focusing attention, and completing work. In addition, they often display symptoms of age-inappropriate hyperactive behavior, are easily distracted, racing from one idea or interest to another, or produce sloppy and carelessly done work. They give the impression that they are not listening or have not heard what they have been told.

ADD is a chronic disorder that can begin in infancy and extend through adulthood, having negative effects on a person's life at home, work, school, and within the community. It is conservatively estimated that 3 to 5 per cent of the population is affected by ADD.

There are two types of attention deficit disorder:

- \* attention deficit hyperactivity disorder (ADHD)
- \* undifferentiated attention deficit disorder

### EDUCATIONAL IMPLICATIONS

Students with ADD typically exhibit the following needs and characteristics:

- \* Benefit from sitting in front of the classroom where distractions are limited
- \* Benefit from peer tutoring and cooperative/collaborative learning experiences
- \* Find changes in schedule, disruptions, physical relocation hard to handle
- \* Need a stimuli-reduced study area.

SPECIAL INSTRUCTIONAL SUPPORT SERVICES

- \* Need clear and concise directions and consistent daily directions.
- \* May need to be questioned about their understanding of directions before they begin a task.
- \* Need to feel comfortable with seeking assistance (usually will not ask for help).
- \* May find a daily reminder notebook helpful for recording assignments, due dates, and benchmark dates designed to meet due dates.
- \* May benefit from the use of a word processor for completing written assignments and for responding to essay exams.

#### TESTING

Students with attention deficit disorder need to be tested for knowledge, not for their attention span. They may need extra time to complete tests. In addition, testing may need to be divided into separate segments since the student is easily frustrated and since stress, pressure, and fatigue can break down his/her self-control.

## COGNITIVE DISABILITY

### Characterized by:

significant subaverage intellectual ability and deficits in adaptive behavior, manifested during the developmental period (before the person reaches 18 years of age).

### Instructional Techniques:

- \* A step-by-step approach to instruction can help eliminate frustration in the student.
- \* Consider the reading level of the student before assigning a textbook, workbook, or handout.
- \* Use the demonstration approach for maximum comprehension.
- \* Develop a task analysis for each objective to allow learners to progress at their own pace.
- \* Establish instructional objectives that parallel the abilities of the student.
- \* Provide for repetition and review for adequate comprehension of new material.
- \* Allow extended time for students to complete assignments and tasks.
- \* Provide positive reinforcement when students successfully complete a task.

## COGNITIVE DISABILITY

### (Mental Retardation/Developmental Disabilities)

A cognitive disability refers to significantly subaverage intellectual ability, and deficits in adaptive behavior, manifested during the developmental period (before the person reaches 18 years of age).

Learners who are cognitively disabled have below-average general intellectual functioning abilities, resulting in below-average scores on achievement and individual standardized intelligence tests. However, performance on intelligence tests, or I.Q. scores, cannot alone accurately predict the social and vocational potential of a person. Other factors such as performance skills, verbal ability, problem-solving skills, perceptual ability and mechanical aptitude also affect the intelligence level.

Four levels of cognitive disability are recognized:

**Mildly Disabled** is the largest group. Most of these individuals can become independent adults if they receive adequate vocational training. Often their disability is evident only in the school situation.

**Moderately disabled** often fit the stereotype of "retarded". Most of these individuals can become semi-independent.

**Severely disabled** do not possess the adaptive behavior skills that enable them to be independent but, with the assistance of community based organizations will live as semi-independent adults.

**Profoundly disabled** people have very few adaptive behavior skills; almost all have serious physical and medical problems, and/or aberrant behavior, and lack mobility skills. Some of these persons are integrated into the community with the intervention of community based organizations.

The mildly disabled have the greatest range of opportunities for educational placement, career options, and teaching strategies and, therefore, may attend selected classes at the college.

## ACCOMMODATIONS

Some general suggestions for teachers when working with cognitively disabled students:

- \* A step-by-step approach to instruction can help eliminate frustration in the student.
- \* Consider the reading level of the student before assigning a textbook, workbook, or handout.
- \* Use the demonstration approach for maximum comprehension.
- \* Develop a task analysis for each objective to allow learners to progress at their own pace.
- \* Establish instructional objectives that parallel the abilities of the student.
- \* Provide for repetition and review for adequate comprehension of new material.
- \* Allow extended time for students to complete assignments and tasks.
- \* Provide positive reinforcement when students successfully complete a task.

## **ACQUIRED BRAIN INJURY**

### **Characterized by:**

great variability in impairments due to traumatic head injury or brain injury resulting in a loss or partial loss of one or more of the following: cognitive, communication, psychomotor psychosocial and sensory-perceptual abilities.

### **Instructional Techniques:**

- \* Provide class outline with vocabulary lists and study guide questions.
- \* Provide explicit directions for tests and assignments; write them on the board or have them available in print form.
- \* Vary instructional strategies to include all senses: charts, diagrams, overheads, chalkboard, small group discussions, cooperative learning.
- \* Flexibility in methods of completing assignments: taping of assignments, oral responses in addition to written work.
- \* Use tape recorders to tape lectures, textbooks.
- \* Preferential seating to meet individual needs.
- \* Extended time to complete assignments, tests, reports. Assignments broken down into smaller components.
- \* Provide testing accommodations out of the classroom to eliminate many external distractions and increase concentration, to decrease anxiety level, and to permit student to verbalize aloud if necessary.
- \* Encourage student to access tutorial facilities, study partners; assist student to locate notetaker in the class. Assist student to better assimilate into the classroom environment.
- \* Work closely with the student in determining strategies beneficial to his/her learning style.



## ACQUIRED BRAIN INJURY

Brain injury is a very complex phenomenon which currently represents the fastest growing group of students with disabilities seeking services on Gateway campuses. Each year over one million persons in America sustain head injuries. The largest incidence of head injuries occurs between 15 and 24 years of age; nearly twice as many will be males as females.

Injuries range from mild to moderate to severe. All degrees of injury require rehabilitation and educational services to some extent--the more severe requiring extensive, long-term services. Many of these individuals may seek the educational services at the college to retrain and/or to redevelop basic skills needed to help lead productive lives in the community.

There is one common denominator among all head trauma survivors--each is unique, displaying great variability in the residual impairments in even the so-called minor instances which can produce long-lasting social and educational problems. Even those with high potential can demonstrate problems not readily apparent until they enter a post-secondary setting. Particularly, thinking skills and behavior may have been altered. Most students with acquired brain injury will exhibit at least some of these problem traits or behaviors.

Although various terms are frequently used to identify this population (traumatic head injury, brain injury, head trauma, closed head injury), the following definition for acquired brain injury was developed by the California Consortium for the Brain Injured and well describes this condition.

"Acquired Brain Injury (ABI) is an acquired impairment of medically verifiable brain functioning resulting in a loss or partial loss of one or more

of the following: cognitive, communication, psychomotor, psychosocial and sensory-perceptual abilities. The preceding deficiencies are defined as:

**Cognitive:** loss or partial loss of memory function, attention, concentration, judgement and problem solving, mental flexibility, organizational thinking skills, and spatial orientation, and information retention;

**Communication:** impairment of speech, language, and pragmatics (the appropriate use of semantic and non-semantic rules governing communication);

**Psychosocial:** untoward social behavior or impaired psychodynamics that limit or impede interpersonal relationships, coping strategies, and goal-directed behavior;

**Sensory perceptual:** deficiencies in primary perceptual systems such as visual, auditory, and tactile;

**Psychomotor:** limitation in locomotion or motor functions and/or physiological dysfunction of a body part or system."

Brain injury can result from two types of trauma: external events (closed head trauma or foreign object entering the brain) or internal events (tumors, brain infections, cerebral vascular accidents, toxic substances, hypoxia).

#### **EDUCATIONAL IMPLICATIONS**

The student with acquired brain injury may exhibit problems in one or more of the following areas:

##### **COGNITIVE**

- \* Shortened attention span; easily distracted by external stimuli; concentration may be hampered by medications, fatigue, nutrition patterns;
- \* Decreased ability to store information for immediate recall;
- \* New learning negatively affected by attentional, orientation, and memory problems; applying previously learned information may be difficult;
- \* May exhibit memory gaps, confusion, confabulation;

##### **ACCESS**

49A

- \* Decreased ability to reason, to problem-solve, to use judgment;
- \* Reduced ability to categorize, sequence, prioritize, and generalize information. Student will be a concrete learner as opposed to an abstract learner;
- \* Impaired ability to set goals, plan, and work toward desired outcomes;
- \* Rote, overlearned skills likely to have remained intact. However, there often is a loss of academic skills, particularly higher order skills necessary to reading comprehension or solving math problems.

#### COMMUNICATION

- \* Brain takes longer to process information resulting in slower, delayed reaction and response time and integration of information;
- \* Decreased ability to verbalize--word finding, naming;
- \* Impaired language functions including writing, reading, speaking, listening, and semantics. Difficulty comprehending materials, particularly under pressure;
- \* Diminished control/awareness of volume and intonations, expressive language;
- \* Written language skills often more affected than verbal language skills. Impaired ability to integrate written responses with thoughts;
- \* Impaired organizational skills affect the accuracy and relevancy of all forms of communication.

#### PSYCHOSOCIAL BEHAVIOR

- \* Self-image may be negative; feelings of inadequacy and frustration often exhibited; low self-esteem is usual;
- \* Previously socially adept students may have lost some degree of social sensitivity and judgment; student may misperceive/misinterpret behavior and intentions of others; the student may retain the pre-trauma concept of self, having difficulty realizing and accepting that abilities have changed and need adjustment;

- \* May exhibit depression/withdrawal, anxiety, denial, aggression/anger, blaming, and frustration;
- \* May become irritable and restless or may become lethargic and lack motivation; impulsivity, disinhibition, dependency, or immature behavior are also frequent concerns;
- \* Inappropriate behaviors and social skills are closely associated with cognitive deficits and impact strongly on classroom performance and assimilation by the student; these skills are extremely important to the success of this student in the academic and vocational setting.

#### **SENSORY/PERCEPTUAL AND PSYCHOMOTOR**

- \* Frequently, the vision field becomes restricted, affecting reading ability and participation in written/print-related assignments. Writing on the chalkboard is often difficult to see; notetaking can be negatively affected.
- \* Vision, hearing, and tactile abilities are most often affected, partially or totally, and may vary in degree on a daily basis.
- \* Dysfunctions of respiratory, bladder, or bowel systems may be present and require flexible care schedules.
- \* Fatigue/stamina is a factor in class participation affecting both assignment completions and ability to stay in the room for the entire length of class.
- \* Seizures (both petit mal or grand mal) may be experienced. However, seizure control medication is often prescribed.
- \* Decreased mobility and decreased use of a limb may require physical accommodations in classroom; may also require alternative methods of testing and completing assignments.

#### **INSTRUCTIONAL TECHNIQUES/ACCOMMODATIONS**

- \* Provide class outline with vocabulary lists and study guide questions.

ACCESS

- \* Provide explicit directions for tests and assignments; write them on the board or have them available in print form.
- \* Vary instructional strategies to include all senses: charts, diagrams, overheads, chalkboard, small group discussions, cooperative learning.
- \* Flexibility in methods of completing assignments: taping of assignments, oral responses in addition to written work.
- \* Use tape recorders to tape lectures, textbooks.
- \* Preferential seating to meet individual needs.
- \* Extended time to complete assignments, tests, reports. Assignments broken down into smaller components.
- \* Provide testing accommodations out of the classroom to eliminate many external distractions and increase concentration, to decrease anxiety level, and to permit student to verbalize aloud if necessary.
- \* Encourage student to access tutorial facilities, study partners; assist student to locate notetaker in the class. Assist student to better assimilate into the classroom environment.
- \* Work closely with the student in determining strategies beneficial to his/her learning style.

Note: Due to the uniqueness of each student with brain trauma, accommodations should be planned with the assistance of support staff before classes begin. Initially, this student will benefit from close monitoring or participation in classroom activities; study strategies and personal interaction behaviors can be positively reinforced. Classroom instructors should not hesitate to inform the student of assistance and resources available to him/her.

## TESTING ACCOMMODATIONS

At Gateway, the goal in providing testing accommodations to students with disabilities is to minimize or eliminate the impact of the disability. The special instructional support staff act as an extension of the classroom instructor. They view tests as "sacred" in need of retaining the integrity and validity expected by classroom instructors who have created the tests and who have determined what information the tests are to cover. The type of instrument--multiple choice, short answer, essay, and so on--may be something that is subject to accommodation depending upon disability, but the material covered on the test and the depth of coverage is the instructor's determination.

It is the responsibility of the special instructional support staff to provide the appropriate environment and/or accommodation that enables the student with a disability to demonstrate mastery of the information being tested.

***Whether or not an accommodation is to be made is not negotiable. How an accommodation is to be made is negotiable.***

## WHAT TYPES OF TESTING ACCOMMODATIONS MAY BE GIVEN TO A STUDENT WITH A DISABILITY?

The need to address the topic of testing accommodations for students with disabilities has grown out of the questions and concerns of Gateway staff in support and instructional areas. The consideration of the subject cannot expect to present answers to every situation. It is hoped that the following will alleviate some concerns.

### A. GENERAL TESTING ACCOMMODATIONS

Testing Environment - The most crucial variable in the testing of students with disabilities is the testing environment. Students with disabilities must be tested in locations which are physically and psychologically suitable for such testing.

Physical accessibility would include (but is not limited to):

- \* wheelchair accessibility
- \* appropriate adaptive equipment and/or personnel
- \* a suitable amount of work space designed to accommodate the extra equipment and/or personnel needed to complete the test
- \* appropriate lighting
- \* appropriate sound control
- \* a site which eliminates extraneous visual or auditory distractions which interfere with testing (i.e. people coming in and out of the room).

Psychological accessibility involves the use of a testing location where students with disabilities can freely and comfortably utilize the specific types of testing accommodations provided to them without embarrassment, fear of reprisal or intimidation (the intimidation which may result

from other students completing the exam and leaving the room ahead of this student).

**Extended Time** The use of interpreters, readers, scribes and various types of adaptive equipment extends the time needed to complete tests. In general the amount of time needed by special needs students to complete tests is doubled the standard amount of time. However, depending on the nature, severity or combination of disabilities, it is in some situations appropriate to waive any time limit (MATC, 8).

**Language Modifications** Several types of disabilities, notably hearing loss and learning disabilities, can have significant impacts on ones ability to acquire and process language--in this case the English language. As a result, some students with disabilities require language modifications. These modifications vary according to the type of disability and the degree of disability and are not provided in situations testing ones English or Reading skills. Examples of language modifications which might be made in other types of testing situations may be:

1. The phrase "All of the following are true except" might be rephrased to read: "Which one is false. . ."
2. Long, complex sentence structures may be rephrased into shorter, simple, declarative-type structures.
3. Double negatives would be changed to positives (MATC 9).

#### **B. STAFF USED IN TESTING ACCOMMODATIONS**

**Sign Language Interpreters** These professionals interpret all information spoken in the testing situation to the deaf/hard of hearing student, and voice the message of the student to the classroom instructor. As the instructor explains the test directions, or answers questions from specific students about test items, the American Sign Language (ASL)

ACCESS



interpreter conveys the same information to the student with a hearing impairment.

*Sign language interpreters facilitate communication between the instructor and the student and do not provide answers to students in testing situations.* Interpreters adhere to a strict Code of Ethics established by the national Registry of Interpreters for the Deaf and do not function as "teachers' aides."

In the sign language interpretation process, the interpreter may need to utilize various forms of Signed English or American Sign Language to accommodate the needs of specific students. Such accommodation is made in a manner which does not give students answers, nor answer test items for students. Sign language interpreters are utilized by students who rely on sign language as their primary form of communication (MATC 9).

Oral Interpreters - Provide the same functions as sign language interpreters in testing situations, but instead of using various forms of sign language, utilize non-audible spoken English for the student to speechread (lipread). Oral interpreters demonstrate the ability to maximize the "speechread-ability" of messages, while maintaining content integrity. Oral interpreters adhere to a strict Code of Ethics established by the national Registry of Interpreters for the Deaf and do not function as "teachers' aides." Oral interpreters are utilized by hearing impaired students who do not know sign language and rely on speech and speechreading for their communication (MATC 10).

Specialized Readers - These professionals orient students as to the format of a test and read tests for students who are unable to read them independently. Readers are guided in which section to read (or re-read) by the student and serve to make printed, visual information accessible to students.

*At no time do readers provide students with answers to test items, nor direct them to answers via selective re-reading.*

Readers are utilized by students who are visually impaired and unable to read print and by students with learning disabilities whose disability impairs their ability to read. These specialized readers are the Special Needs or Learning Disabled Instructors who work with the individual student on a regular basis.

Specialized Scribes - At the instruction of the student with a disability, scribes will physically write or type the words/answers of the student in response to specific test items. The recording of student responses may involve filling in circles on a Scantron test sheet, circling appropriate items on a multiple choice test, writing "T" or "F" on a True/False test, or scribing paragraphs of narrative on essay tests.

It should be noted that, with the exception of specific types of English tests, the spelling of everyday words, capitalizations, and basic punctuation are those of the scribe and not the student. Students are not expected to dictate the spelling of every word, the capitalization of every sentence and the like UNLESS that is the point of the test. Were students to do that, all tests of any kind would take unreasonable amounts of time, and would cause students to lose focus on the content of their answers.

*At no time do scribes provide answers to students.*

Scribes are utilized by students with visual impairments and learning disabilities who are unable to read/write independently and by students with mobility impairments who lack the motor skills needed to write test answers for themselves. Specialized scribes are the Special Needs and Learning Disabilities Instructors who work with the individual student on a regular basis (MATC 10).

### C. EQUIPMENT USED IN TESTING ACCOMMODATIONS

Note: This listing includes those items most commonly utilized by students with disabilities, and is not intended as an all-inclusive listing.

Computers - Some students may be able to independently utilize computers to record their own answers to test items. Such students would utilize the word processing capabilities familiar to them to type narrative answers to test questions. This accommodation would be most useful for subjective types of tests. Use of computers is potentially appropriate for students with any type of disability, but is most frequently utilized by visually impaired and learning disabled students (MATC 11).

Tape Recorders - Students who are unable to write their own answers to test questions may be able to tape record their answers. This accommodation would be utilized by students with visual impairments, learning disabilities or mobility impairments and based on individual need.

Calculator - Students who are unable to do math via traditional paper/pencil methods may need to use a calculator. Many students who are visually impaired or learning disabled have been taught throughout their school years to utilize a calculator to compensate for the effects of their particular disability. Some students with visual impairments may use braille cubes and/or an abacus for math tests (MATC 12).

## **WHO DETERMINES WHAT TESTING ACCOMMODATIONS ARE TO BE UTILIZED BY SPECIFIC STUDENTS WITH DISABILITIES?**

It is the practice at Gateway Technical College that the special instructional support staff are responsible for making determinations regarding the provision of all "reasonable accommodations" for students with disabilities. This is done with information provided by the student and with the cooperation of the classroom instructor.

The Hearing Impaired Specialist, a District-wide position, determines what accommodations will be utilized by students who are deaf or hard of hearing.

The Learning Disabilities Instructor, a District-wide position, determines the accommodations that will be utilized by students with learning disabilities.

Special Needs Instructors, one on each campus, determine the accommodations that will be utilized by all students with other types of disabilities not served by the Hearing Impaired Specialist or the Learning Disabilities Instructor.

The Learning Skills Specialist makes recommendations of accommodations to meet the needs of a student upon referral to the Specialist and Instructors listed above.

In addition, the Gateway District Board has specifically authorized and empowered the Learning Skills Specialist, Hearing Impaired Specialist, Learning Disabilities and Special Needs Instructors to "certify" students with disabilities, thus qualifying these students to receive appropriate "reasonable accommodations".

None of these professionals make arbitrary decisions regarding types of accommodations to be provided to students with disabilities. Their decisions result from a structured determination process. Students are generally referred for special support services by counselors in the Wisconsin Division of Vocational Rehabilitation (DVR), who in turn

**SPECIAL INSTRUCTIONAL SUPPORT SERVICES**

submit to Gateway's Learning Skills Specialist documentation of the student's disability, intellectual abilities, vocational evaluation results, and other materials the DVR counselors feel would be relevant for appropriate planning for the student at Gateway. In addition, and where appropriate and available, students also submit copies of their final high school Multidisciplinary Team (M-Team) evaluation and/or Individualized Education Plans (IEPs) which document the types or accommodations and/or modifications made for the student in his/her secondary school.

In summary, Gateway special support staff first collect as much documentation and information as possible regarding a specific student. The staff meets with the student to determine what type of accommodations he/she has received in the past, what accommodations were most or least helpful, and what types of accommodations the student believes would be needed at Gateway. In most cases, students have an accurate picture of what accommodations they personally need to be successful. Thus, in most cases, there is a consensus between the special support staff and the student as to what accommodations are needed in the classroom portion of their education. Cases involving disagreements have been few and have been handled via appropriate staff and DVR counselors (MATC 14).

The final step in determining the testing accommodation to be given to the student is communicating the student's need to the classroom instructor. The instructor's cooperation is basic for the provision of the accommodation. Discussion of how the recommended accommodation will be provided follows.

***However, whether or not an accommodation is to be made is not negotiable. How an accommodation is to be made is negotiable.***

## **WHEN DO THE TYPES OF TESTING ACCOMMODATIONS VARY AND WHAT DETERMINES THAT VARIANCE?**

Many factors determine what types of accommodations are needed in specific classroom testing situations. Under current practice, accommodations are made based upon the type and severity of the disability (or disabilities), and the type of test being given.

Nine general types of classroom tests are used at Gateway:

- \* True/False
- \* Short Answer
- \* Multiple Choice
- \* Fill-in-the-Blank
- \* Open Book and/or Open Notes
- \* Essay
- \* Oral
- \* Technical Performance
- \* Tests That Are Combinations of the Above

The special support staff (Hearing Impaired Specialist, Learning Disabilities Instructor, and Special Needs Instructors) determines the general types and range of testing accommodations needed by students according to their specific disabilities. Generally speaking, students with disabilities may utilize the full range of accommodations appropriate for their particular disability during the course of classroom testing. However, it should be noted that some types of accommodations adapt more effectively to some kinds of tests than others. For example:

- \* A student with a visual impairment may utilize a reader but not a scribe on a true/false test. Such a student may be able to see and write well enough to write his/her own "T"s or "F"s on his/her own paper.

- \* A student with a learning disability may feel unduly pressured in asking an instructor to re-read and repeat test instructions/questions in front of the class, thus needing to take his/her tests in a specialized testing location.
- \* A student with a physical disability may elect to tape his/her answers to an essay test but utilize a scribe for an objective type of test.
- \* A student who is deaf or hard of hearing may need both test instructions and test questions interpreted into sign language. (Note: test questions would not be interpreted if the purpose of the test was to evaluate the student's reading ability.)

In addition, some types of tests are particularly difficult for particular disability groups or particular types of disabling conditions. For example:

- \* For students with language or language processing difficulties, tests with long, complicated sentence structures or tests requiring long, written, narrative answers are the most difficult.
- \* Tests requiring estimations based on visual information and/or tests utilizing graphics and diagrams are most troublesome for students have visual impairments and students with impaired visual perception.
- \* Open book/open notes tests are particularly difficult for students who are blind and unable to read braille.
- \* Tests requiring the physical manipulation of objects are the most challenging for some individuals with physical disabilities.

In summary, general testing accommodations, personnel accommodations, or use of specialized, adaptive equipment may be utilized at any time by a student with a disability. Specific accommodations for specific students are determined by the special instructional support staff (Hearing Impaired Specialist, Learning Disabilities Instructor, and Special Needs Instructors), who in turn consult with the classroom instructors. After the accommodations have been defined,

ACCESS

they may be utilized in any or all testing situations depending on the nature of the particular test. If the severity of the disability changes, or if prescribed accommodations are not working, the nature of the student's needs for accommodations will be re-evaluated (MATC 18).



## TRANSITION SERVICES

Gateway offers Transition Services for persons with disabilities interested in coming to the college. The highly individualized needs of these students demand services provided by professional staff in cooperation with agency sponsors and the Gateway special services support staff.

Student recruitment involves staff at all levels working with local vocational rehabilitation agencies, community based organizations and public schools. This provides Gateway with an avenue to recruit students with disabilities needing special support services provided at the college.

The Transition program has developed a process to transition secondary students with disabilities into postsecondary educational institutions or other job skills-related training. Services provided by the Transition program include:

- \* Provision of case management is provided for secondary students with disabilities while they are transitioning into Gateway's established support services network.
- \* Coordination of in-service workshops for secondary and Gateway special needs staff.
- \* Coordination of services for identified special needs students and support staff, including vocational and academic instructors, tutorial instructors, student services counselors, special project unselors, and career planning and placemer. counselors.
- \* Interaction with the appropriate support staff regarding specific student support needs in their vocational program.
- \* Communication with the respective community based organizations regarding the progress of their referrals.

## CONFIDENTIALITY

The basic principle underlying the confidentiality of information is that students have a right to privacy. Problems often occur when college personnel and other professionals need information in order to make decisions about the educational programs of a student with disabilities. All the people involved are interested in the future well-being of the student, but each sees the situation from the perspective of his/her own needs. Professionals need information and often need to share it; students want the information treated with respect and want their privacy protected.

What is crucial is full and open communication with the student and informed consent to collect and/or disseminate certain information about the student.

The 1974 Family Educational Rights and Privacy Act (Public Law 93-380), often called the Buckley Amendment, requires that any educational institution that accepts federal funds obtain written consent from the student before information is released either verbally or in writing.

A written release of confidential information usually lists the student's name and social security number, the agency or person requesting the information, the person giving the information, the reason the information is being shared, the date upon which communication about this student will be terminated, and the dated signature of the student. Release of Confidential Information forms are available in Student Services.

Gateway Technical College defines the staffs' responsibility to guard student confidentiality in the District's Policy Manual under Code of Ethics for Employees (C-200) and Student Records (H-170).

## BIBLIOGRAPHY

- Attention Deficit Disorder (FS14). National Information Center for Children and Youth with Disabilities (NICHCY), 1992.
- Auxiliary Aids and Services for Post-Secondary Students With Handicaps: Higher Education's Obligations Under Section 504. Washington, D.C.: U.S. Department of Education Office for Civil Rights, May 1991.
- Bencomo, Armando A., and Mary Schafer. "Remediation and Accommodation for Clients with Specific Learning Disabilities." Journal of Rehabilitation 50 April-May-June, 1984.
- Brunner, L.S. The Lippencott Manual of Nursing Practice. Philadelphia: J.B. Lippencott Co., 1986.
- Cartwright, G. Phillip, Carol A. Cartwright, and Marjorie E. Ward. Educating Special Learners. Belmont, California: Wadsworth Publishing Co., 1989.
- Cerebral Palsy (FS2). National Information Center for Children and Youth with Disabilities (NICHCY), Washington, D.C., 1992.
- Cole, Debbie. Sign Language and the Health Care Professional. Malabar, Florida: Robert E. Krieger Publishing Company, 1990, 67-68.
- College Students With Learning Disabilities. McBurney Resource Center, University of Wisconsin, 1983.
- Council for Exceptional Children. Teaching Children With Attention Deficit Disorder. ERIC Digest 462. November 1988.
- Deafness (FS3). National Information Center for Children and Youth with Disabilities (NICHCY), Washington, D.C., 1992.
- Deafness: A Fact Sheet. National Information Center on Deafness, Gallaudet University, 1989.
- Diagnostic and Statistical Manual of Mental Disorders (3rd ed., rev.), Washington, D.C.: American Psychiatric Association, 1987.
- Emotional Disturbance (FS5). National Information Center for Children and Youth with Disabilities (NICHCY), Washington, D.C., 1992.

ACCESS

Epilepsy (FS6). National Information Center for Children and Youth with Disabilities (NICHCY), Washington, D.C., 1992.

Gateway District Board. 1991 - 92 Policy Manual. Gateway Technical College, July 1991.

General Information about Disabilities (GR3). National Information Center for Children and Youth with Disabilities (NICHCY), 1992.

Hague, Patricia. Responding to Disability: Question of Attitude. Minnesota State Council for the Handicapped, June 1982.

Handicapped Persons' Rights Under Federal Law. Washington D.C.: U.S. Department of Education Office for Civil Rights, Jan. 1987.

Heath Resource Center. "Hearing Impaired Students in Postsecondary Education". Washington, DC: American Council on Education, 1988.

\_\_\_\_\_. "The Head Injury Survivor on Campus: Issues and Resources". Washington, DC: American Council on Education, 1988.

Knowles, Malcom. The Modern Practice of Adult Education. Chicago: Follet Publishing Co., 1980.

Kohn, Norman, and Ted Kurtz. Counterpoint. "Traumatic Brain Injury: Organizing Programs". Fall 1989.

Kokaska, Charles J. and Donn E. Brolin. Career Education For Handicapped Individuals. Columbus: Charles E. Merrill Publishing Co., 1989.

Laing, R. D. Knots. London: Tavistock, 1970.

Learning Disabilities (FS7). National Information Center for Children and Youth with Disabilities (NICHCY), Washington, D.C., 1992.

Lerner, Janet W. and Sue R. Lerner. "Attention Deficit Disorder: Issues and Questions." Focus on Exceptional Children. November 1991, Vol 24, No 3.

MATC - Milwaukee. Task Force on the Testing of Students with Special Needs. September 1989.

Meers, Gary D. (edited by). Handbook of Special Vocational Needs Education. Rockville, Maryland: Aspen Publication, 1980.

Mental Retardation (FS8). National Information Center for Children and Youth with Disabilities (NICHCY), Washington, D.C., 1992.

Monjar, Steven. What Do You Say After You See They're Disabled? Chicago: The Rehabilitation Institute of Chicago, 1990.

Physical Disabilities & Special Health Problems (FS9). National Information Center for Children and Youth with Disabilities (NICHCY), 1992.

Rothstein, Arden, Lawrence Benjamine, Melvin Crosby, Katie Eisenstadt. Learning Disorders: An Integration of Neuropsychological and Psychoanalytic Considerations. International Universities Press, Inc., 1989.

Sarkees, Michelle Donnelly and John L. Scott. Vocational Special Needs. American Technical Publishers, Inc., 1985.

Scanlan, Craig L. Deterrents to Participation: An Adult Education Dilemma. Columbus, Ohio: The ERIC Clearinghouse on Adult, Career, and Vocational Education, Information Series No. 308, 1989.

Tiede, Dorothy M. Breaking the Barriers. Whitewater, Wisconsin: University of Wisconsin, 1984.

Visual Impairments (FS13). National Information Center for Children and Youth with Disabilities, (NICHCY), 1992.

Will, Madeline. Educating Students With Learning Problems: A Shared Responsibility. Washington D.C.: Office of Special Education and Rehabilitation Services, U.S. Department of Education, Nov. 1986.