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DESCRIPTORS *Accessibility (for Disabled): Architecture: Audiovisual Aids: Braille: *College Students: Deaf Interpreting: Design Requirements: *Disabilities: Electromechanical Aids: Hearing Aids: Hearing Impairments: Higher Education: Large Type Materials: Learning Disabilities: Low Vision Aids: Physical Disabilities: Physical Mobility: Reading: *Sensory Aids: Special Health Problems: Speech Handicaps: Structural Elements (Construction): *Student Needs: Tactile Adaptation: Teaching Guides: Teaching Methods: Visual Impairments

ABSTRACT

A guide to the instruction of students with disabilities is presented to enhance learning in a college or university setting. Various adjustments that can be made in the environment or in teaching style are suggested. The following categories of disabled students are addressed: blind students, partially sighted students, deaf or hearing-impaired students, students who use wheelchairs, learning disabled students, speech impaired students, students who have had an ostomy, students with spina bifida, students with multiple sclerosis, and students with muscular dystrophy. Specific topics include: the use of readers, brailled books, audio tape recorded books, and recent aids by blind students; test administration to blind students: the use of large print books, a closed-circuit TV magnifier, and large print typewriter for partially sighted students; the use of sign language, fingerspelling, hearing aids; self-carbon notetaking pads, interpreters, and captioned films by the hearing impaired or deaf: barriers to the student in a wheelchair and the need for a curb cut or ramp; information processing difficulties of the learning disabled student; and types of speech impairments and aids for persons who cannot speak at all. Hints for teachers to facilitate the participation of deaf and hard-of-hearing students in (and out of) the classroom and generalizations about the classroom needs of students who use wheelchairs are presented. A glossary of equipment and other terms, a chart of the American Manual Alphabet and the Braille Alphabet, and a list of resources for postsecondary educators are among the appendices. (SW)

The College Student With a Disability:

A Faculty Handbook

Contents

Foreword

The employment picture for Americans with disabilities is brighter than ever before. New laws passed during the seventies have gone a long way to ensure equal opportunity for handicapped people in employment.

The jobs are there as never before. Opportunities in business, industry, and the professions are opening up to disabled people. But there's a catch. In order for handicapped poeople to take advantage of these advances, they must be qualified for the jobs that are being made available. And to be qualified means to have access to the educational opportunities offered by our Nation's colleges and universities.

We at the President's Committee on Employment of the Handicapped recognize the necessity of ensuring access to postsecondary education for individuals with disabilities. Laws can be passed that require equal opportunity in employment for handicapped people. But an education can ensure it.

Harold Russell, Chairman
President's Committee on
Employment of the Handicapped

My work with the American Association for the Advancement of Science and with the many higher education associations connected with Project HEATH has confirmed in my mind the importance of an effective student-faculty relationship. Physical barriers can be removed fairly easily and most colleges and universities are doing so. Attitudinal barriers, however, may be more difficult to remove. This Faculty Manual will serve as an excellent tool to help faculty understand how crucial their role is in making programs accessible to qualified disabled students.

Lynn Smith draws on his wealth of experience as a rehabilitation counselor as well as director of disabled student services in a public postsecondary institution. His book responds with clarity to the need long felt for an exemplary set of guidelines for making classroom activities accessible to students with disabilities.

I look forward to the widespread use of the Faculty Manual.
Martha Ross Redden

Dr. Redden is Director of Project for the Handicapped in Science, Office of Opportunities in Science, American Association for the Advancement of Science, and Coordinator of Project HEATH (Higher Education and the Handicapped) for the American Council on Education

Introduction

In September 1973, the 93rd Congress passed Public Law 93–112, the Rehabilitation Act of 1973. Section 504 of the Act stated: "No otherwise qualified handicapped individual in the United States . . . shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." In May 1977, the Department of Health, Education, and Welfare issued regulations implementing Section 504. This nondiscrimination statute and the regulations issued under it (especially Subpart E) guarantee a right of entrance for students with disabilities into our Nation's colleges and universities, as well as their participation in the program as a whole.

This handbook has been prepared as an introductory review of the disabilities that affect learning in a college or university setting. It suggests various adjustments that can be made in the environment or in teaching style. In some instances, instruction of students with disabilities should be individualized. Each student with a disability will have a different level of functioning—even within the same disability category. Also, compensation skills will vary widely from one student to another. Consequently, the information presented in this handbook should be seen as a general guide to the instruction of disabled students.

The handbook is designed as a *reference work*, with a glossary and an appendix, that the professor can consult when working with a student with a particular disability. It is not meant to substitute for interaction between professor and student but rather to facilitate it. It is the opinion of the author that the student with a disability is the "expert" regarding his or her needs and can usually suggest a solution.

As we attempt to implement this civil rights statute for disabled individuals, we have come to realize how critical the understanding and support of the college professor is to this process. We hope that the information presented here will assist the college professor as we bring into reality the promise that this Nation has made to its disabled citizens in Section 504.

For more information the professor can contact his or her Disabled Student Services Office, Department of Special Education, or 504 Coordinator. Many campuses also have organizations of disabled students that can provide information or assistance.

Blind Students

The major challenge facing blind students in college centers around the overwhelming mass of printed material with which they are confronted—textbooks, class outlines, class schedules, bibliographies, campus newspapers, posters, tests, etc. The increasing use of films, videotapes, overhead projectors, and closed-circuit television adds to the volume of visual material to which they must have access in some other way.

By the time blind students reach college (unless newly blinded), they have probably developed various methods for dealing with the volume of visual materials. Most blind students use a combination of methods including **Readers, Brailled Books,** audio tape **Recorded Books** and lectures. If the student uses a reader, the student makes the necessary hiring and scheduling arrangements. It is the responsibility of the faculty member to accommodate the blind student and the reader.

Students may use **Raised Line Drawings** of diagrams, charts, and illustrations, **Relief Maps,** three-dimensional **Models** of physical organs, shapes, microscopic organisms, etc. Modern technology has made available other aids for blind people including **Talking Calculators** and **Speech-Time Compressors. Paperless Braille Machines, Braille Computer Terminals** and **Reading Machines** are more recent devices that are rarely available for convenient student use.

Most blind students who use braille prefer to take their own notes in class using a **Slate and Stylus** or a Perkins **Brailler.** Some students have a classmate make a copy of his or her notes using carbon paper or a copy machine. The blind student's reader later reads the notes onto tape for future use. Some blind students audio record lectures and later transcribe notes from them into braille.

When there is a blind student in the classroom, the professor should remember that "this and that" phrases are basically meaningless to that student: for example, "the sum of this plus that equals this" or "the lungs are located here and the diaphragm here." In the first example, the instructor may be writing on the chalk board and can just as easily say, "The sum of 4 plus 7 equals 11." The blind student in this case is getting the same information as a sighted student. In the second example, the instructor may be pointing to a model or to the body itself. In this instance, the professor can "personalize" the locations of the lungs and diaphragm by asking class members to locate them by touch on their own bodies. Examples of this type will not always be possible. However, if the faculty member is sensitized not to use strictly visual examples, the blind student and probably the rest of the class will benefit.

Another area in which the blind student will need an adaptation is in testing. Most students will prefer to take examinations with a familiar reader. This is often beneficial to the student because it does not add anxiety to what is already an anxiety-producing situation. Some professors prefer to administer tests themselves or to have a teaching assistant do it. Although this approach is certainly within the prerogative of the instructor, it can be an uncomfortable situation for the student. If an instructor is concerned about "test security" or prefers not to rely on the "honor system," a take-home test can be given to the blind student. However, it is better to avoid giving the student "different" tests because it creates segregation, makes it difficult to compare test results, and may create negative attitudes.

Another method that may be used is to administer the test orally or by audio tape to the blind student who in turn either records answers orally on another tape recorder or types the answers. It may be possible to have tests brailled or

taped by a disabled student services office. In any case, the teacher and student should agree early in the course on how the student's progress will be evaluated.

Some faculty members are concerned about having their lectures tape recored—whether the student is blind or sighted. When an instructor is planning to publish his or her lectures, the fear may be that the tapes will somehow interfere with these plans. If this is the case, the faculty member may ask the student to sign an agreement not to release the recording or otherwise hinder the instructor's ability to obtain a copyright (see the Appendix for a sample agreement).

Faculty members can be very helpful by choosing class texts early. It takes a long time to have a text audio recorded or brailled. If texts are selected early, make this information readily available through a departmental office or campus bookstore so that the blind student has time to make the necessary arrangements.

Some blind students use **Dog Guides.** There is no need to worry that the dog guide will disturb the class. Dog guides are very highly trained and disciplined. Most of the time the dog will lie quietly under or beside the table or desk. The greatest disruption a professor can expect may be an occasional yawn or stretch. (Sometimes a rescue siren can cause a low moan.) It is good to remember that, as tempting as it may be to pet a dog guide, the dog, while in harness, is responsible for guiding its owner who cannot see. It should not be distracted from that duty.

Courses which are extremely "visual" by their very nature *may* be waived for the blind student; however, it should not be assumed automatically that this will be necessary. Conversations between the blind student and professor can lead to new and even exciting instructional techniques that may benefit the entire class. For example, it is often thought that a blind student cannot take a course in art appreciation and that if this is a requirement for graduation, it should be waived.

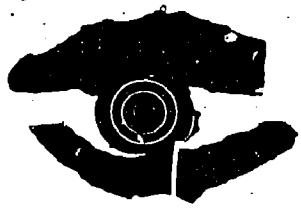
However, the blind student should have the opportunity to become familiar with the world's great art (just as any other "educated" person). A classmate or reader who is particularly talented at verbally describing visual images can assist the blind student as a visual "interpreter" or "translator." There is no reason for the blind student not to know what the "Mona Lisa" (or other great work or art) looks like. It can be described, and there are poems written about the "Mona Lisa" that may be used as teaching aids to give more insight and understanding to the work. Miniature models of great works of sculpture can be made available for display and touching in the classroom. Many modern museums have tactile galleries.

One student was able to learn proper technique in an archery class when a rope was stretched perpendicular to the target. A "beeper" added to the target assisted with positioning. The point being made here is that certain disabilities (in this case blindness) do not automatically preclude participation in certain activities or classes. Students, professors, and advisors must be careful not to lower expectations solely on the basis of disability.

If classes involve field trips to out-of-class locations, discuss traveling needs with the blind student. In most instances all that will be required is for a member of the class to act as a **Sighted Guide.** In localities where public transportation is adequate, many blind persons travel quite independently.

*Words that occur in **Bold Print** indicate that more information on that subject is provided in the Glossary.

Partially Sighted Students



Between 70 and 80 percent of all legally blind persons in the United States have measurable vision. The partially sighted student meets the challenge of disability in much the same way as the blind student. This includes the use of readers, audio taped texts, raised line drawings, etc. In addition, the partially sighted student may be able to use **Large Print Books,** a **Closed-Circuit TV Magnifier,** or other magnifying device. The student may also use a **Large Print Typewriter** for papers. Some partially sighted students will be able to take notes in class by printing very large with a felt tip pen or marker. Others will tape-record lectures for later use.

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

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

Another difficulty that the partially sighted student experiences has a more subtle effect and can be troublesome. This is the psychological response that large print evokes in the sighted reader. Such handwritten communications tend to give the reader the idea that "a child has written this." Needless to say, this may lead to the conclusion that a student with this kind of handwritting is immature or childish and that the written communication is less than sophisticated. Even when the student uses a large print typewriter, this can still be a problem.

In addition, the assumption is sometimes made that the student is merely trying to make an assignment appear longer as in the case of a term paper of a required length. When the number of words instead of pages required is stated, this is not a problem.

These potential difficulties can be alleviated if the student and professor discuss the student's needs early in the term. Sitting in the front of the room, having large print on the chalk board, or the use of enlarged print on an overhead projector *may* assist a partially sighted student. However, the capacity to read printed materials depends so greatly on conditions such as the degree of contrast, brightness, and color that it is preferable that the student and instructor discuss what methods, techniques, or devices may be used to maximum advantage. If the professor discovers that a partially sighted student has not had an evaluation at a **Low Vision Clinic,** it may be appropriate to refer the student for this service. If there are no services for disabled students on campus, the local chapter of the National Association of the Visually Handicapped or Council of Citizens with Low Vision may be able to provide referral information to the student.

Deaf or Hearing-Impaired Students

Obviously, the major challenge facing the deaf student is communication. Speech reading (lip reading) is a partial solution. At best, a deaf person can read only 30 to 40 percent of the sounds of spoken English by watching the speaker's lips.

Another form of communication used by many, but not all, deaf or hearing impaired persons is American sign language or "manual" communication. In **Sign Language,** thoughts are expressed through a combination of hand and arm movements, positions, and gestures. The intensity and repetition of the movements and the facial expressions accompanying the movements are also important elements of manual communication. **Fingerspelling** is usually used in sign language. Fingerspelling consists of various finger and hand positions for each of the letters of the alphabet. This alphabet is called the American Manual Alphabet (see the Appendix for the hand shapes).

Deaf students will also communicate in writing when speech reading, sign language, or fingerspelling cannot be used effectively. Faculty members should not hesitate to write notes when necessary to communicate with a deaf student.

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 cannot automatically control the tone and volume of their speech so the speech may be initially difficult to understand. Understanding improves as one becomes more familiar with the deaf person's speech.

Telecommunication Devices For The Deaf (TDD'S) are available that allow the deaf person to use the telephone. These devices provide visual communication, rather than amplifying or modifying auditory transmission. It is important that the college or university have *at least* one such device available for staff and student use. **Amplifying Telephone Receivers** are also available for the hard of hearing student.

Deaf students, just like hearing students, vary to some degree in their communication skills. Factors such as personality, intelligence, degree of deafness, **Residual Hearing,** age of onset, and family environment all affect the kind of communication the student uses. As a result of these and other variables, a deaf student may use a number of the communication modes discussed above.

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 professors 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.

In the classroom, most deaf students will use an **Interpreter.** The presence of an interpreter in the classroom enables the deaf student to understand what is being said. There are two types of interpreters—oral and manual. The oral interpreter "mouths" what is being said while the manual interpreter uses sign language. The two methods are often used in combination. There is a time lag, which will vary in length depending on the situation, between the spoken word and the interpretation or translation. Thus a deaf or hard-of-hearing student's contribution to the lecture or discussion may be slightly delayed.

Interpretation will be easiest in lecture classes and more difficult in seminar or discussion classes. Because class formats are so varied, it is recommended that the professor, interpreter, and student arrange a conference early in the course to discuss any special arrangements that may be needed.

The interpreter and deaf student will usually choose to sit in the front of the classroom. The interpreter is aware that sign language may be a distraction to the class and the professor. The interpreter has also learned that the initial curiosity of the class wanes and the professor adapts easily to the interpreter's presence. Interpreters who are certified by the **Registry of Interpreters for the Deaf** subscribe to a strict code of ethics (see the Appendix) that requires confidentiality of private communications and honesty in interpretation or translation.

Deaf students usually have someone take notes for them because it is difficult to follow an interpreter or speech read the instructor and take notes at the same time. It is best if a classmate can be found who takes good notes. This student is then "contracted" with to make a carbon or other copy of the notes and give them to the deaf student. **Self-Carbon Notetaking Pads** have been developed for this purpose.

Most deaf students will be able to take examinations and be evaluated in the same way as other students. If the test is written, it has been found that some deaf students do better if an interpreter reads and translates the questions to the student in sign language (because of English subtleties). However, many other deaf students prefer to read tests themselves. If the method of evaluation is oral, the interpreter can serve as the reverse interpreter for the deaf student.

Assumptions should not automatically be made about the deaf student's ability to participate in certain types of classes. For example, deaf students may be able to learn a great deal about music styles, techniques and rhythms by observing a visual display of the music on an oscilloscope or similar apparatus or by feeling the vibrations of music. Some deaf students will have enough residual hearing so that amplification through earphones or **Hearing Aids** will allow participation. It is always best to discuss with the student the requirements of a class and to determine if there are ways that the materials can be modified so that the student can participate in what may become an exciting learning experience for all concerned.

The student who is hearing impaired may require nothing more than some form of amplification to participate in class—a hearing aid, public address system, or a professor/student **Transmitter/Receiver** unit (also known as an auditory training unit or fm unit).

In conclusion, the following hints compiled from the author's personal experience and from publications of the National Technical Institute for the Deaf, the Registry of Interpreters for the Deaf

and Gallaudet College, will facilitate the participation of deaf and hard of hearing students in (and out of) the classroom:

—Look at the person when you speak.

—Don't smoke, chew gum, or otherwise block the area around your mouth with your hands or other objects.

—Speak naturally and clearly. Don't exaggerate lip movements or volume.

—Try to avoid standing in front of windows or other sources of light. The glare from behind you makes it difficult to read lips aand other facial expressions.

—Using facial expressions, gestures, and other "body language" is helpful in conveying your message.

—If you are talking through the assistance of an interpreter, direct your conversation to the deaf individual. This is more courteous and allows the deaf person the option of viewing both you and the interpreter to more fully follow the flow of conversation.

—When other people speak who may be out of the deaf or hard of hearing person's range of vision, repeat the question or comment and indicate who is speaking (by motioning) so the individual can follow the discussion.

—The use of visual media may be helpful to deaf students since slides and videotaped material supplement and reinforce what is being said. Alteration in lighting may interfere with the deaf student's capacity to read manual or oral communication. These materials may be difficult to interpret because of sound quality and speed of delivery. Therefore interpreter "lag" may be greater. If a written script is available, provide the interpreter and student with a copy in advance.

—Captioned visual aids such as **Captioned Films for the Deaf** are extremely helpful. If appropriate, foreign language films with English subtitles are also useful.

—When new materials will be covered which involve technical terminology not in common usage, if possible, supply a list of these words or terms in advance to the deaf student and the interpreter. Unfamiliar words are difficult to speech read or interpret.

— Avoid speaking with your back to the deaf person such as when writing on the chalk board. Overhead and opaque projectors are often a good substitute and allow you to face the class while writing.

—When particularly important information is being covered, be sure to convey it very clearly. Notices of class cancellations, assignments, etc., can be put in writing or on a chalk board to ensure understanding.

—Establish a system for getting messages to the deaf student when necessary. Class cancellations can be particularly costly if an interpreter is not informed, in advance, of such changes.

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Students Who Use Wheelchairs

Access is one of the major concerns of the student who uses a wheelchair. The student must learn routes to and from classes and across campus that do not present **Barriers.** A barrier may be a stair, a curb; a narrow walkway, a heavy door, an elevator door that has no delay mechanism or one that is too fast, a vehicle blocking a **Curb Cut** or **Ramp**, a sign in the middle of what would otherwise be a wide enough walkway, etc., etc., etc.

Theater type classrooms may present difficulties unless there is a large enough flat floor space in the front or rear of the room for a wheelchair to park (there must also be an entrance to and from that level). Classrooms with tables (provided there is an under-table clearance of at least 27½") are more accessible to students in wheelchairs than rooms with standard classroom desks. It is better if the tables and chairs are movable rather than stationary.

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

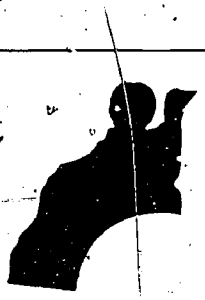
1. If a classroom or faculty office is inaccessible, it will be necessary to find an accessible location or alternate class section that is held in an accessible location. The campus department that handles room scheduling can assist the professor and student as necessary.

2. If breaks between classes are short (10 minutes or less), the student who uses a wheelchair may frequently be a few minutes late. Usually, the student must wait for an elevator, take a circuitous (but accessible) route, wait for assistance in opening doors (unless electric doors are available) and maneuver along crowded paths and corridors. If a student who uses a wheelchair is frequently late, it is, of course, appropriate to discuss the situation with the student and seek solutions. Most students will be aware of time restrictions and will schedule their classes accordingly. However, it is not always possible to leave enough time between classes. Early classes and attendants' schedules can pose particular difficulties.

3. If a class involves field work or field trips, ask the student to participate in the selection of sites and modes of transportation. If the college or university provides transportation for field trips, it is required to provide accessible transportation for students who use wheelchairs.

4. Classes in physical education and recreation can almost always be modified so that the student in a wheelchair can participate. Classmates are usually more than willing to assist, if necessary. Most students who use wheelchairs do not get enough physical exercise in daily activity, so it is particularly important that they be encouraged, as well as provided the opportunity, to participate. Information on adaptive physical education programming is available from the American Alliance for Health, Physical Education and Recreation for the Handicapped, Information and Research Utilization Center.

5. Classes taught in laboratory settings (science, wood and metal workshops, home



economics, language labs, kitchenettes, art studios, etc.) will usually require some modification of the work station. Considerations include under-counter knee clearance, working countertop height, horizontal working reach and aisle widths. Working directly with the student may be the best way to provide modifications to the work station. However, if a station is modified in accordance with established accessibility **Standards,** the station will be usable by most students in wheelchairs.

6. For those students who may not be able to participate in a laboratory class without the assistance of an aide, the student should be allowed to benefit from the actual lab work to the fullest extent. The student can give all instructions to an aide—from what chemical to add to what type of test tube to use to where to dispose of used chemicals. The student will learn everything except the physical manipulation of the chemicals.

7. Students are not "confined" to wheelchairs. They often transfer to automobiles and to furniture. Some who use wheelchairs can walk with the aid of canes, braces, crutches, or walkers. Using a wheelchair some of the time does not mean an individual is "faking" a disability. It may be a means to conserve energy or move about more quickly.

8. Most students who use wheelchairs will ask for assistance if they need it. Don't assume automatically that assistance is required. Offer assistance if you wish, but do not insist, and accept a "no, thank you" graciously.

9. When talking to a student in a wheelchair, if the conversation continues for more than a few minutes, sit down, kneel, or squat if convenient.

10. A wheelchair is part of the person's body space. Don't automatically hang or lean on the chair—it's similar to hanging or leaning on the person. It's fine if you are friends but inappropriate otherwise.

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

Students use wheelchairs as a result of a variety of disabilities including spinal cord injury, cerebral palsy, post-polio, multiple sclerosis, severe arthritis, quadriplegia, paraplegia, amputation, muscular dystrophy, and so on. Wheelchairs come in a variety of styles and sizes, with many types of optional attachments available. Wheelchairs are either manual or powered (electric). Most students who are unable to manually propell the chair themselves will use an **Electric Powered Wheelchair.** Some students are assisted by an aide who pushes the chair, but this creates a dependency on another person that most students prefer to avoid.

Some of the standard accessories that college students may add to their wheelchairs are special seat cushions (to prevent pressure sores which result from long periods of sitting), tote bags that attach to the chair back or arms, and trays that fit over the arms of the chair to serve as a desk. Some wheelchairs are designed with desk arms that are lower in front so that the chair will fit under a desk or table. Most students use this type of chair. There are also wheelchairs that are modified for athletic competition.

Learning Disabled Students

Learning disability has come to be the general term for a variety of specific disabilities including minimal brain dysfunction, dyslexia, developmental aphasia, dysgraphia, expressive dysphasia, aural receptive dysphasia, and sequential memory disorder. Another term sometimes used for the learning disabled is "neurologically handicapped." A common misconception among those not familiar with learning disability is that the student with a learning disability is retarded. The learning disabled student is *not* retarded.

The college professor should keep in mind that the learning disabled student's needs center around information processing. Students with learning disabilities have trouble taking information in through the senses and bringing that information accurately to the brain. The information often gets "scrambled." These students may have difficulty with discrimination (perceiving differences in two like sounds, symbols or objects). Because the information does not reach the brain accurately, the brain often does not do a good job of storing the information with the result of poor memory. Thus, it is important that learning disabled students receive and transmit information in a form or modality that works best for them.

Learning disabled students should always be referred to the campus learning center or tutorial center, if one is available. Reading and writing specialists in English departments, in speech communication, or special education may be able to assist. Some ways of assisting the learning disabled student are suggested here for the professor who may not have such resources available.

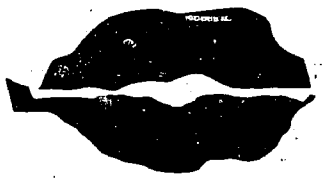
The student who has difficulty with written symbols can use readers or texts that are recorded verbatim (as does the blind student). In this case, the student should be encouraged to listen *and* read along. The student can be shown how to obtain textbook information in "economical" ways by using r summaries, pictures and captions, graphs, tables, bold type, italics, tables of contents, paragraph and unit headings, indexes, glossaries.

Some learning disabled students are unable to communicate effectively through printing or cursive writing (dysgraphia). This condition may manifest itself in written work that appears careless. For such students oral examinations and reports are more valid evaluations of what has been learned. Some of these students may be able to use the typewriter for written communication; many can't. Another solution is for a student aide to take dictation from the learning disabled student.

Other learning disabled students, for all practical purposes, will be "lecture deaf" (aural receptive dysphasia). Many of the adapted techniques that assist the deaf student will also assist these students—TV, movies, role playing, captioned audiovisual materials. Still other students will have difficulty with sequential memory tasks involving letters (spelling), numbers (mathematics), and following step-by-step instructions. For these students it will help to break up tasks into smaller parts. Tutoring in math and spelling usually will be required. In general, the learning disabled student will learn better the more sense modalities used in the teaching/learning process—visual, auditory, tactile, kinesthetic.

Because the *expectation* is that a college student will absorb information, communicate it and be evaluated through the printed page, the learning disabled student will need assistance and support from professors in finding innovative ways of receiving and transmitting information and in being evaluated. Because a learning disability is "hidden," the instructor may have understandable doubts about the validity of these alternative approaches. However, the fact remains that the student's capacity for learning is intact. It is only the means by which information is processed that is different.

Speech Impaired Students



Speech impairments may be congenital or the result of illness or injury. They may be found alone or in combination with other disabilities. In any case, the college student with a speech impairment (unless it has been recently acquired) will probably have received some speech therapy.

Impairments range from problems with articulation or voice strength to being totally non-vocal. They include stuttering (repetition, blocks, and/or prolongations occasionally accompanied by distorted movements and facial expressions), chronic hoarseness (dysphonia), difficulty in evoking an appropriate word or term (nominal aphasia) and esophageal speech (resulting from a **Laryngectomy**).

Many speech impaired students will be hesitant about participating in activities that require speaking. Even if the student has adjusted well to a speech impairment, new situations may aggrevate old anxieties. It is important that self-expression be encouraged, but pressure to speak is not apt to be helpful. It is important to allow time for the speech impaired student to express himself or herself so that confidence can be gained. Speaking in front of a group can be an agonizing experience for anyone—the speech impaired student is no exception. It is also important for the instructor to accept and respond to all appropriate attempts at communication. When speaking to a speech impaired person, continue to talk naturally. Resist the temptation to complete words or phrases for a speech impaired person.

For persons who cannot speak and who are otherwise physically disabled so that they cannot sign, write, or type, various communication aids are available. These aids may range from sophisticated electronic "speaking" machines activated by punching a keyboard with a **Head Pointer** or **Mouth Wand** to a spelling board that consists of a layout of the alphabet, a few common words and phrases, yes and no, to which the speech impaired person points and an assistant may speak out loud. Some devices provide a "ticker tape" print-out or display the message on a calculator-like screen across which the characters move. With some less portable devices, the message is displayed on a TV screen.

Depending on the severity of the impairment, various adapted methods may be required for the speech impaired student. Many of the adapted methods for evaluation suggested for other disabilities will be appropriate for the speech impaired student. Some speech impaired students will require no adapted methods at all. Most will need patience, encouragement, and an opportunity to develop self-confidence in an unfamiliar group. The instructor can set the tone that encourages appropriate self-expression.

Other Students With Disabilities

There are many other disabilities that largely affect a student's mobility, such as cardiac conditions; arthritis, chronic back pain, active sickle cell anemia, diabetes, and respiratory disorders.

Students of short stature (Little People) will have in-classroom access problems similar to those of a student in a wheelchair.

The student with epilepsy will have little problem in the classroom. In most cases seizures will be controlled by medication. Students with epilepsy will have learned to manage seizure activity through adequate rest, proper diet, and regular medication. Most of them will be able to participate in sports and lead active, normal lives. A short list of do's and don'ts is included in the Appendix so the professor will know what to do in the unlikely event a seizure occurs in the classroom.

Students who have had an Ostomy (urostomy, colostomy, ileostomy) *may* be advised not to participate in violent contact sports or wrestling. Most restrictions on participation, however, will be the result of causes other than the ostomy itself. Swimming is okay for these students. Wearing a wide-belted athletic supporter or a tight-fitting pair of briefs or panties under a swimsuit can keep the drainage appliance out of sight. Most students have found that a matter-of-fact attitude toward their appliance encourages other students to behave in the same way. Some students with ostomies may be shy about showering in a physical education class. A little support and encouragement from the professor and the other students in the class will help the student overcome this shyness.

Spina Bifida (open spine) is a frequent reason for an ostomy. The student with spina bifida may have short stature and may use a wheelchair, braces or crutches. Classroom modifications that may be required will depend on the student's functional limitations. Most adaptations that are required have been discussed in earlier sections.

Multiple sclerosis (MS), the number one cause of chronic disability among young adults, may affect the student in a multitude of ways. Because MS most often occurs between the ages of 20 and 40, the college student with MS is apt to be currently adjusting to having a disability. Depending on the degree to which the MS has progressed, the student's mobility, speech, vision, and emotional state may be affected. One of the most difficult aspects of MS is that the symptoms have a tendency to come and go, but they continue

to progress. "In between" periods may last from a few days to months in the early stages. The student may appear as if intoxicated—slurred speech, staggering, unfocused eyes. Understanding the fluctuations that may occur in the student's behavior make it easier to understand variations in classroom performance. The physical adaptations required by the student with MS, if any, will vary from student to student, depending on functional limitation. The most common adaptations required have been discussed in previous sections.

Other conditions that may result in marked fluctuations of behavior and performance are **Muscular Dystrophy** and certain kidney problems that may necessitate dialysis.

As a final note, some of the conditions described in this section require medication for control of symptoms. If an instructor has valid educational questions about the potential effect of various medications on the student's performance, the student, if willing, can probably provide some information. The instructor should not hesitate to discuss such issues tactfully with the student. A student health services physician or disabled student services staff member may be able to provide relevant information.

In closing, the following guideline may be helpful: Many disabilities are obvious, and the question then is one of the degree of accommodation and assistance required. However, there are cases in which a faculty member may have no way of knowing that a student has a disability. For example, an epileptic student on medication may not expect to need any adaptation and may not mention his or her condition to the professor. During a remission period, a student with multiple sclerosis may not feel the need to mention anything.

One good policy is for the professor to announce at the first meeting of the class something to this effect: "Any student who feels that he or she may need an accommodation for any sort of disability, please make an appointment to see me during my office hours." This approach preserves the student's privacy and also indicates the willingness of the faculty member to provide assistance.

Glossary

Amplifying Telephone Receivers	Telephone receivers with a volume control built into the hand grip are available for a small additional fee from the telephone company. They allow the hearing impaired person to amplify the incoming conversation.
Barriers	Some common standards that eliminate barriers are: Walks: 4′ minimum width Doors: 32″ minimum *clear* opening Toilet Stall: minimum 3′ wide, 5′ deep, 2′8″ outswing door Telephone: dial, handset, and coin slot not over 48″ from the floor Elevator: controls no higher than 48″ from the floor
Braille Computer Terminals	A terminal that can be interfaced with existing on-site or remote information processing systems. When connected to computers or data banks, they can deliver brailled pages of information at a rate of up to 100 words per minute. Students can request information on a standard keyboard and obtain a brailled response in a matter of seconds.
Brailled Books	Most of the legally blind population does not read braille (see appendix for braille alphabet). About 7 ½ percent of this population use braille as their primary reading mode. Braille is extremely bulky and requires a great deal of storage space. For example, San Francisco State University's "Application and Information" booklet, which is 13 print pages long (excluding tables), takes up 44 11″ × 11″ braille pages.
Brailler	The Perkins Brailler is an all-purpose braille writer enclosed in a baked grey enamel aluminum case. It is operated by six keys, one for each dot in the braille cell. There are spacing, line advancing, and back spacing keys. Extension keys are available which allow the user to emboss the full braille cell by one stroke of either hand leaving the other hand free to read brailled material which is being copied.
Captioned Films	Public Law 85–905 established the Captioned Films Program to provide for distribution of captioned films through appropriate agencies to bring to deaf persons an understanding and appreciation of those films that play a part in the general and cultural advancement of hearing persons. Theatrical, short subject, documentary, training and educational films for adults are available. Certain copyright restrictions apply to showings.

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Closed-Circuit TV Magnifier—CCTV's	Consist of a television camera which views the printed page or other materials and a television monitor which displays the image in enlarged form. Light and dark contrast can be adjusted. Most models allow reversing the image from black on white to white on black depending on individual preference. The extent of enlargement is also usually adjustable for individual needs. Students commonly refer to these by brand name (Visualtek, Apollo, etc.).
Curb Cut	Also called a curb ramp, it is a depression built into the curb of a sidewalk to permit passage by a wheelchair. The incline should not exceed a gradient of 1:12 and the flat surface width should be no less than 3'. wide.
Dog Guide	The dog guide ("seeing eye" and "guide dog" are brand names) undergoes extensive specialized training to assist blind persons. It must learn basic obedience, to lead rather than "heel," to avoid obstacles (including overhead objects), and to "work" in stores and elevators, on various forms of public transportation, when crossing streets, etc. Dog guides are legally permitted to accompany their owner into all places of public accommodation, including all Federal and State buildings, hotels, motels, restaurants, grocery stores, airplanes, trains and buses. To refuse entry to any of these places is a violation of the law, punishable by a fine or imprisonment. There are also dog "guides" that assist the physically disabled person and alert deaf or hearing impaired persons.
Electric Powered Wheelchair	Such chairs provide maximum independence for people who must do a great amount of moving around or who cannot use their arms. They are powered by rechargeable batteries. Because a wheelchair does not maintain a constant full battery charge as does an automobile, short battery life is expected. Students must pay close attention to battery maintenance.
Finger Spelling	When no sign exists for a thought or concept, the word can be spelled out using the American manual alphabet (see the Appendix). It is also used for titles, proper names, and convenience.

Head Pointer	A stick or rod which is attached to a person's head with a head band so that by moving the head an individual can perform tasks that would ordinarily be performed by hand or finger movement.
Hearing Aid	Consists of a receiver and amplifier of sound. *All* sounds in the environment are amplified with the same intensity. A hearing aid does not sort, process, or discriminate among sounds. Because someone is wearing a hearing aid, it does not mean that the person can hear normally. Aids do not correct hearing, but they improve hearing in some people. They may enable someone to hear a voice even though he or she may not be able to understand words.
Interpreter	A professional person who assists the deaf person in communicating with hearing people who cannot sign. The following certifications are awarded by the Registry of Interpreters for the Deaf (RID) National Certification Board: *Expressive Translating*: Ability to simultaneously translate from spoken to manual English (verbatim). *Expressive Interpreting*: Ability to use sign language with hearing-impaired persons who possess various levels of language competence. *Reverse Skills*: Ability to render (manually, orally, or written) a hearing-impaired person's message. *Comprehensive Skills*: Includes all of the above skills. *Legal Specialist Certificate*: Includes Comprehensive Skills plus specialized evaluation to qualify for interpreting in a variety of legal settings. A directory, which lists members by states, certified members, chapter officers, and suggested reimbursement for professional services is available for a nominal fee.
Large Print Books	A number of sources produce large print books for the individual with low vision. Most ordinary print is six to ten "points" in height (about 1/16 to 1/8 of an inch). Large type is 14 to 18 points (about 1/16 to 1/4 of an inch) and sometimes larger. The format of large print books is also proportionately larger (usually 8½ by 11 inches). The American Foundation for the Blind, Inc. can provide a list of publishers of large print books. Also the American Printing House for the Blind distributes a general catalog of large type pulications. G.K. Hall and Co., 70 Lincoln Street, Boston, Massachusetts 02111, and Library Reproduction

	Service, 1977 So. Los Angeles Street, Los Angeles Ca. 90011 are two distributors of large print books. Very little material is available that is appropriate for college level use.
Large Print Typewriters	Various models are available equipped with type faces that are up to 5/8 inches high. Models are usually equipped with a standard keyboard.
Laryngectomy	The person who has had his/her voice box removed is taught to take air into the mouth and swallow, or force the air into the esophagus by locking the tongue to the roof of the mouth. When the air is expelled, it causes the walls of the esophagus and pharynx to vibrate. This action causes a low pitched sound. This sound is the laryngectomee's voice. The sound is then articulated into words with the tongue, lips, teeth, and palate. There are mechanical and electrical substitutes for those who cannot learn esophageal speech.
Little People	Little People of America, Inc. is a national association of persons 4'10" tall and less established to provide fellowship, an interchange of ideas, and solutions to the unique problems of little people.
Low Vision Clinic	Some students who have low vision may need further evaluation of their vision needs. Low vision aids may vary from small magnifying glasses to elaborate electronic devices. When prescription lenses are not enough, a special visual aid may help. The instructor can refer the student to a low vision clinic if it seems appropriate.
Models	Various models of microorganisms, organs and other bodily parts as well as plant and animal forms are available through school science supply distributors (and occasionally from drug manufacturers). In addition, miniature reproductions of works of art and architecture are available. The American Printing House for the Blind sells a set of 19 rectangular models representative of invertebrate animal and plant phyla.

Mouth Wand	A rod with tooth grip that is held in the mouth and used to perform tasks that would ordinarily be performed by hand. Various attachments may allow the individual to type, draw, paint, etc.
Muscular Dystrophy	There are many types of MD. Those types most apt to be found in college students are adult progressive spinal muscular dystrophy (Aran-Duchenne Disease) and myotonic dystrophy. In Aran-Duchene disease the muscles of the hands and fine movements of the fingers are impaired. There may be involuntary twitching of the hand and arm muscles. The legs may be weak and stiff. In myotonic dystrophy there is stiffness in the limbs, it may be difficult to relax the grip, there is a tendency to trip and fall forward, and facial muscles are weakened, resulting in a mask-like appearance. The voice may have a nasal quality. Both types are progressive.
Ostomy	A term referring to any operation that creates an artificial opening into or from a body organ.
Paperless Braille Machines	These devices record and store braille characters on magnetic tape cassettes from a braille keyboard. Playback is through a paperless display panel or reading board. A 60-minute cassette can store up to 400 pages of braille.
Raised Line Drawings	Charts, graphs, and diagrams can be reproduced for use by blind students by using a raised line drawing board which consists of a rubber-like clip board over which pieces of plastic film are placed. Patterns are then traced on the plastic film with a sharp instrument causing the plastic to stretch and raise. An easier method for creating raised line drawings consists of "tracing" over the lines of the chart or diagram with Elmer's glue which when dry results in a raised drawing that blind students can use as they would braille.

Ramp	A ramp should be at least 4′ in width and have a gradient no greater than 1:12.
Reader	A volunteer or employee of the blind or partially sighted student who reads printed material in person or onto audio tape. The "reader" sometimes performs other tasks for the blind student such as mobility assistance.
Reading Machines	Although relatively new and expensive, these devices convert printed materials as found in books, magazines, periodicals, typewritten letters and reports, in different typestyles and sizes of type, into spoken synthetic English speech which is understandable after a relatively short period of practice.
Recorded Books	Recordings for the Blind (RFB), a national, non-profit voluntary organization which is supported primarily by contributions from the public, provides taped educational books, free on loan, to print-handicapped elementary, high school, college, and graduate students, as well as to nonstudents who require specialized reading material in their professions or vocations. Service is somewhat slow during the beginning of the academic year. Students must place their orders early. Many community-based volunteer agencies produce books in recorded form. Contact the Library of Congress for information.
Relief Maps	Most geography departments (and some libraries) have three-dimensional maps that the blind student can use with a reader to understand land forms, locations, and other topographical features. The American Printing House for the Blind markets some relief maps with appropriate Braille keys and some "puzzle" style maps.
Residual Hearing	The amount of hearing remaining after hearing loss. Few deaf people hear no sound at all.

Registry of Interpreters for the Deaf	The RID, Inc., a national organization with over 50 chapters and a membership of over 1800, was organized in 1964 for the purpose of providing translating/interpreting services to the deaf of America and its trust territories. In addition, the RID has members from other nations. The address is 814 Thayer Ave., Silver Spring, Md. 20910.
Self-Carbon Notetaking Pads	A special notebook developed by the National Technical Institute for the Deaf for taking notes facilitates making a duplicate copy of class notes for sharing with a deaf classmate. It is available from The Bookstore, Rochester Institute of Technology, 1 Lomb Memorial Drive, Rochester, N.Y. 14623. Carbon sets offer an inexpensive substitute.
Sighted Guide	When serving as a sighted guide for a blind person, and only when the blind person has agreed to accept assistance, let the person take your arm (right or left depending on the blind person's preference). Walk about one-half step ahead. S/he will follow the motion of your body. When showing a blind person to a chair, place his/her hand on the back of the chair.
Sign Language	American Sign Language (ASL or Ameslan) is one form of manual communication used by deaf Americans. Sign language is not universal. Deaf persons from different countries speak different sign languages. The gestures or symbols in sign language are organized in a linguistic way. Each individual gesture is called a sign. Each sign has three distinct parts: the handshape, the position of the hands, and the movement of the hands. The ways in which the signs of ASL are combined are unique to it. They are not based on English or any other spoken language. Two sign systems which *are* based on English are Signed Exact English (SEE sign) and Signed English (or Siglish). The three systems have elements in common, but American Sign Language is the language used by the majority of deaf persons throughout the United States.

Slate and Stylus	The traditional method for writing braille by hand. Slates are made of metal or plastic frames or guides. A pointed steel punch with a handle called a stylus is used to punch the braille dots. Each guide or frame consists of two parts connected at the left end by a hinge. The face of the bottom of the frame is pitted with four lines of a series of six small, round depressions corresponding to the shape and spacing of the dots of the braille cell. To write on a slate, paper is inserted between the top and bottom of the frame and is held in place by small pins. The braille dots are punched downward into the paper. This makes it necessary to write from right to left in order that, when the paper is turned over in position for reading, the braille characters can be read from left to right.
Speech/Time Compressors	Devices that allow the listener to select the listening speed of audio taped material without altering the pitch characteristics of the recording. They can markedly shorten the time it takes to review a recorded lecture.
Spina Bifida	Sometimes referred to as "open spine," it is the second most common birth defect. It damages the spine and nervous system. There are several forms. Long term effects of the most serious form (myelomingocele) include paralysis of the legs and lack of bowel and bladder control. Some spina bifida individuals walk unaided, but most use braces and crutches or a wheelchair. In the most serious cases, hydrocephalus (enlargement of the head due to excess fluids) is controlled by a surgical procedure called shunting which relieves the fluid pressure.

Standards	The following standards are appropriate for laboratory stations: under-counter knee clearance at least 32" in width and a height of 27½", working countertop height not to exceed 30", no sink wells. Faucet handles (blade type) and gas jets, spouts, etc. should be beyond an 18" horizontal working reach from the counter edge. Doorways should be at least 36" wide and ramps should have a gradient no steeper than 1:12. The Association of Physical Plant Administrators (listed in "Resources for Post-Secondary Educators") can provide further information on standards and specifications.
Talking Calculators	Various models of hand held or desk type calculators that "speak" are available and come with an assortment of basic functions from independent memory to accumulating memory. The Library of Congress distributes a "Reference Circular" that provides information on available models and manufacturers. Calculators with braille output are also available, although not in common use.
Telecommunication Devices for the Deaf	TDD's are instruments such as the teletypewriter (TTY) that allow deaf persons to communicate over the telephone. Such a device must be located at each end of the telephone conversation. Some devices type the message on a paper roll while others display the message on an electronic calculator-like display panel with the letters moving from right to left across a screen. Some TDD's display the message on a television-like screen.
Transmitter/Receiver	A wireless electronic amplification system consisting of an instructor microphone/transmitter, binaural student FM receiver, and a recharging unit. The system allows the hard-of-hearing student to have personal amplification in the classroom setting. Newer models are available that are very compact and inconspicuous.

Appendix

Considerations in the Evacuation of Disabled Persons

It is recommended that the college or university consult with local fire officials on the whole matter of emergency evacuation procedures. A representative from the fire department could address a general faculty meeting or a report of such a meeting could be distributed to faculty.

If such information is not available, it would be well to request the college or university administration to set up guidelines prior to any emergency situation.

In the case of fire drills, careful thought should be given to provisions for disabled persons.

Visually Impaired Persons

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

Hearing Impaired Persons

Although some modern buildings are equipped with flashing light alarms, most buildings are equipped with sound alarms. Therefore, persons with impaired hearing may not perceive emergency alarms and an alternative warning technique is required. Two methods of warning are: 1. writing a note telling what the emergency is and the nearest evacuation route. For example: "Fire—out rear door to the right and down. Now!" 2. turning the light switch on and off to gain attention, then indicating through gestures or in writing what is happening and what to do.

Persons Using Crutches, Canes, or Walkers

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

Non-Ambulatory Persons

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

Ways of being removed from the wheelchair.

The number of people necessary for assistance.

Whether a seat cushion or pad should be brought along with him/her if he/she is removed from the chair.

Whether to extend or bend extremities when lifting because of pain, catheter, leg bags, spasticity, braces, etc.

Being carried forward or backward on a flight of stairs.

After-care if removed from the wheelchair; i.e., whether a stretcher, chair with cushion pad, car seat, or perhaps paramedic assistance is necessary.

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

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

Some people have no upper trunk or neck strength.

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

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

If a seatbelt is available, secure the person in the chair.

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

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

1. *All* persons shall move toward the nearest marked exit. As a first choice, the wheelchair occupant or other disabled person *may* attempt to use the elevator (except in case of fire or earthquake).

2. As a second choice, when a wheelchair occupant reaches an obstruction, such as a stairway, s/he should request assistance from others in the area.

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

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

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

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

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

*First Aid for Grand Mal Epilepsy**

1. Remain calm. Students will assume the same emotional reaction as the instructor. The seizure is painless to the individual.

2. Do not try to restrain the person. There is nothing you can do to stop a seizure once it has begun. It must run its course.

3. Clear the area around the individual so that s/he does not injure him/herself on hard or sharp objects. Try not to interfere with movements in any way.

4. Don't force anything between the teeth. If the person's mouth is already open, you might place a soft object like a handkerchief between the side teeth.

5. It isn't generally necessary to call a doctor unless the attack is followed almost immediately by another major seizure, or if the seizure lasts more than about ten minutes.

6. When the seizure is over, let the person rest if s/he needs to.

7. Turn the incident into a learning experience for the class. Explain that the seizure is not contagious and that it is nothing to be afraid of.

from **Epilepsy Foundation of America*

Code of Ethics

1. Interpreter/transliterator shall keep all assignment-related information strictly confidential.

2. Interpreter/transliterators shall render the message faithfully, always conveying the content and spirit of the speaker, using language most readily understood by the person(s) whom they serve.

3. Interpreter/transliterators shall not counsel, advise, or interject personal opinions.

4. Interpreter/transliterators shall accept assignments using discretion with regard to skill, setting, and the consumers involved.

5. Interpreter/transliterators shall request compensation for services in a professional and judicious manner.

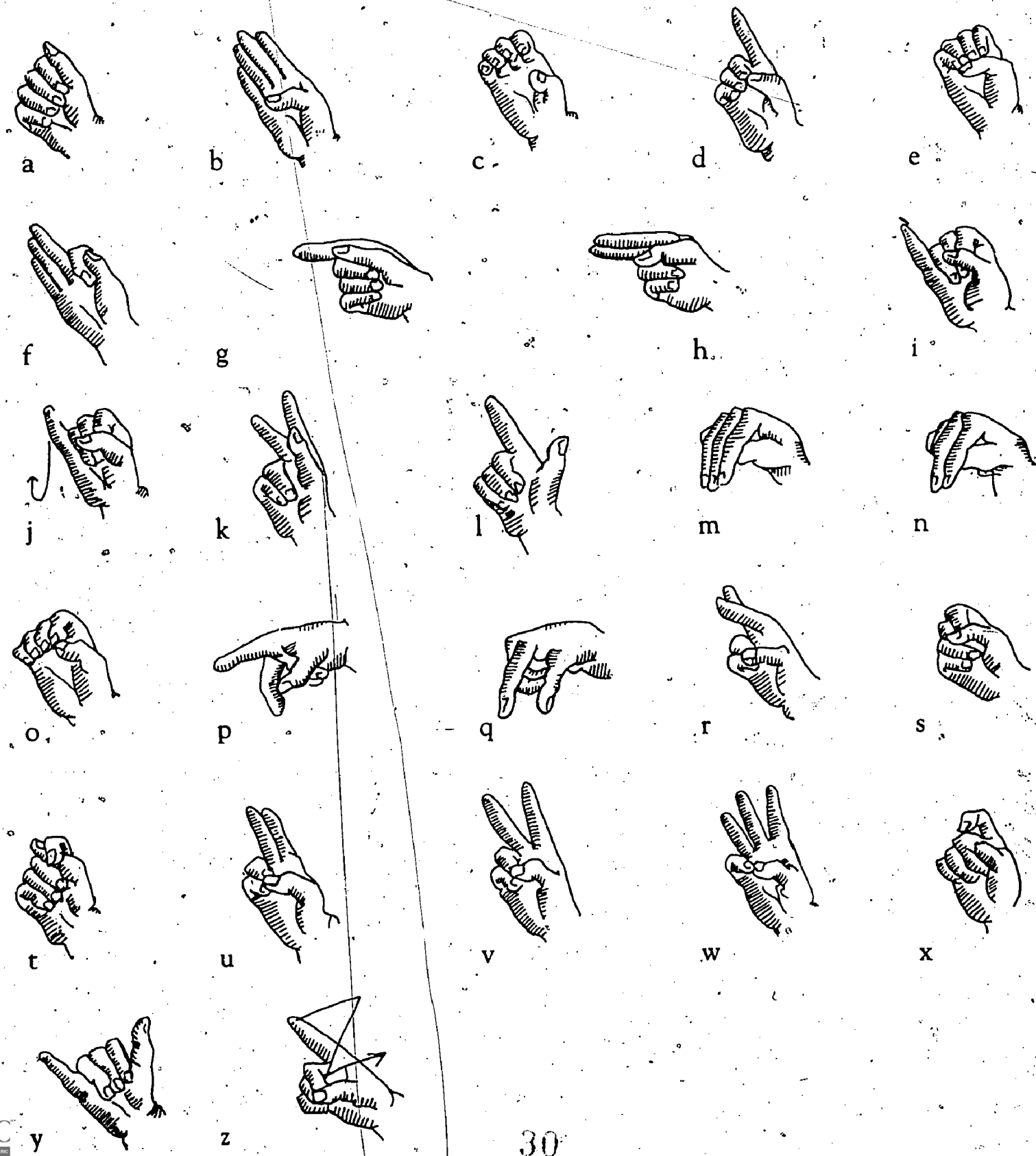
6. Interpreter/transliterators shall function in a manner appropriate to the situation.

7. Interpreter/transliterators shall strive to further knowledge and skills through participation in workshops, professional meetings, interaction with professional colleagues and reading of current literature in the field.

8. Interpreter/transliterators, by virtue of membership in or certification by the R.I.D., Inc. shall strive to maintain high professional standards in compliance with the Code of Ethics.

Source: *Registry of Interpreters for the Deaf, Inc.*

American Manual Alphabet



SAMPLE STUDENT AGREEMENT FOR TAPING LECTURES

DISABLED STUDENT SERVICES

SAN FRANCISCO STATE UNIVERSITY

In the "Rules and Regulations" outlining procedures for compliance with Section 504 of the Rehabilitation Act of 1973 (Nondiscrimination On the Basis of Handicap), it is stated, in the HEW Regulations, § 84. 44 (B), "a recipient to which this subpart applies (S.F.S.U.) may not impose upon handicapped students . . . rules such as the prohibition of tape recorders (or braillers) in classrooms . . . that have the effect of limiting the participation of handicapped students in the recipient's (S.F.S.U.) education program or activity."

Some professors may later want to copyright lectures and therefore are concerned about allowing students to tape record their lectures. This problem can be solved by the student's completing the following agreement:

I, _____, agree that I will not release
name of student

the tape recording or transcription or otherwise hinder _____
professor's name

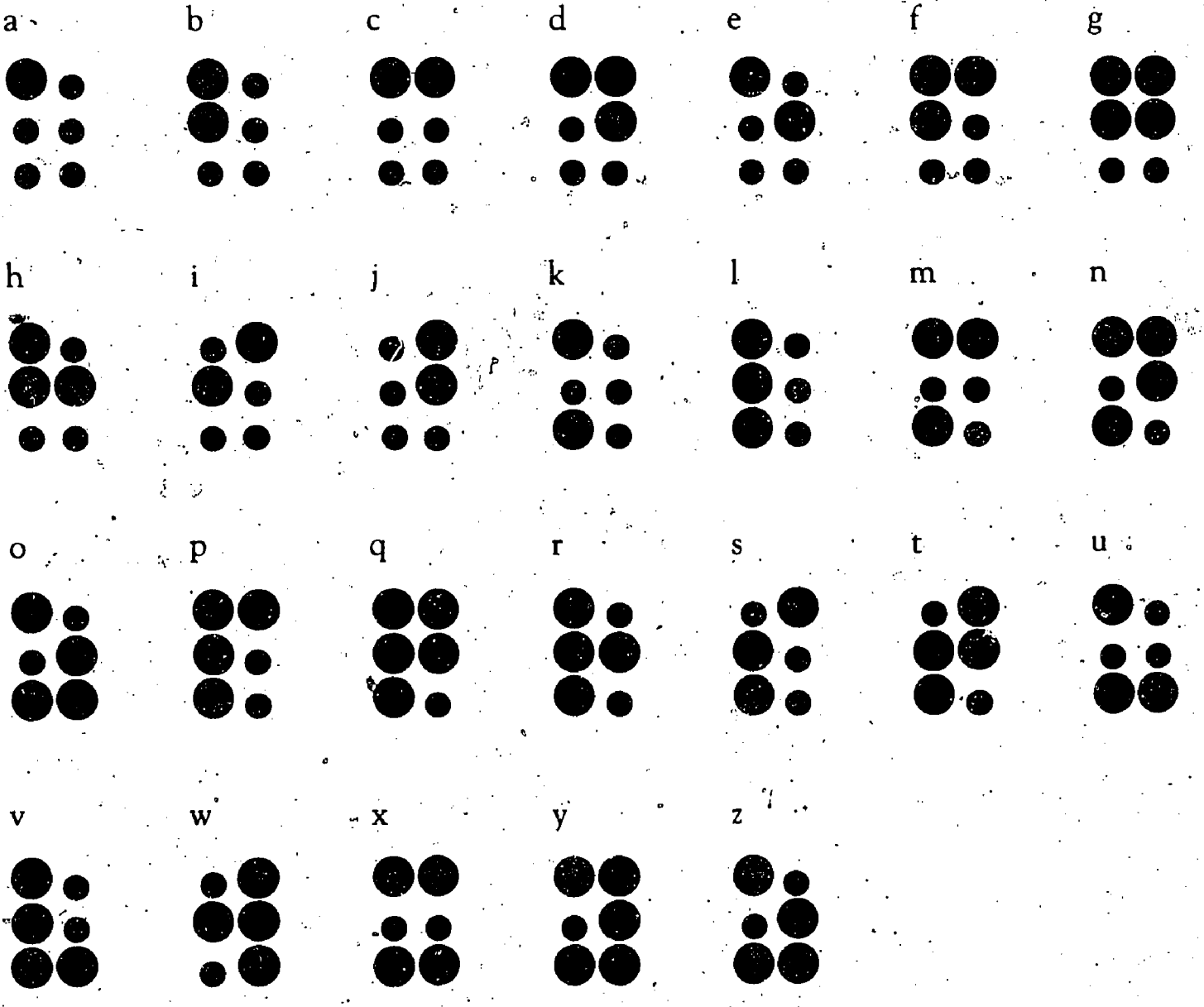
ability to obtain a copyright on lectures I have taped in _____
dept., course # and title

_____ _____
student signature date

The student gives this to the professor upon completion.

The Braille Alphabet

Braille is a system of raised dots for touch reading and writing by the blind. The entire system is derived from an arrangement of six dots referred to as the braille cell. Each arrangement of dots and each blank space occupy a cell. To aid in identifying the dot positions which comprise the various braille characters, Louis Braille numbered the dot positions of his cell 1–2–3 downward on the left, and 4–5–6 downward on the right.



*From: *Understanding Braille*, American Foundation for the Blind, p. 1, 1969.

Resources For Post-Secondary Educators

Accessibility Information Center, National Center for a Barrier Free Environment, Suite 1006, 1140 Connecticut Ave., N.W., Washington, D.C. 20036

American Alliance for Health, Physical Education and Recreation for the Handicapped, Information and Research Utilization Center, 1201 16th Street, N.W., Washington, D.C. 20036.

American Speech and Hearing Association, 9030 Old Georgetown Road, Washington, D.C. 20014.

American Association for the Advancement of Science, Office of Opportunities in Science, 1515 Massachusetts Ave., N.W., Washington, D.C. 20005.

American Association of Collegiate Registrars and Admissions Officers, One Dupont Circle, Suite 330, Washington, D.C. 20036.

American Association of University Professors, One Dupont Circle, Suite 500, Washington, D.C. 20036.

American Coalition of Citizens with Disabilities, Suite 201, 1200 15th St., N.W., Washington, D.C. 20005.

American Foundation for the Blind, Inc., 15 West 16th Street, New York, NY 10011.

American Printing House for the Blind, 1839 Frankfort Avenue, P.O. Box 6085, Louisville, KY 40206.

Association for Children (and Adults) with Learning Disabilities, 5225 Grace Street, Pittsburgh, Pa. 15236.

Association on Handicapped Student Service Programs in Postsecondary Education, Wayne State University, Wayne, Michigan. 48184

Association of Learning Disabled Adults, P.O. Box 9722, Friendship Station, Washington, D.C. 20016.

Association of Physical Plant Administrators of Universities and Colleges, 11 Dupont Circle, Suite 250, Washington, D.C. 20036.

Captioned Films for the Deaf, Bureau of Education for the Handicapped, U.S. Department of Education, Washington, D.C. 20202.

Council of Citizens with Low Vision, 1211 Connecticut Ave., N.W., Suite 506, Washington, D.C. 20036.

Higher Education and the Handicapped (HEATH), Project of American Council on Education, One Dupont Circle, Suite 780, Washington, D.C. 20036.

Mainstream Inc. and On-Call, 1200 15th Street, N.W., Washington, D.C. 20005, (202) 833-1136.

National Association of Blind Students, 1211 Connecticut Ave., N.W., Suite 506, Washington, D.C. 20036.

National Association of College and University Business Officers, One Dupont Circle, Suite 510, Washington, D.C. 20036.

National Association of the Deaf, 814 Thayer Avenue, Silver Spring, Md. 20910.

National Association for Students with Handicaps, Iowa Memorial Union, University of Iowa, Iowa City, Iowa 52240.

National Association of the Visually Handicapped, 305 E. 24th Street, New York, N.Y. 10010.

National Arts and The Handicapped, Information Service, National Endowment for the Arts, 2401 E Street, N.W., Washington, D.C. 20506

National Center for Law and the Deaf, Gallaudet College, 7th St. and Florida Ave., N.E., Washington, D.C. 20002.

National Suttering Project, Box 324, Walnut Creek, Ca. 94596.

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