

A Guide to Speech-to-Text Services in the Postsecondary Environment

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This resource was developed in a previous project cycle when the four PEPNet regional centers were known as the Midwest Center for Postsecondary Outreach (MCPO), the Northeast Technical Assistance Center (NETAC), the Postsecondary Education Consortium (PEC), and the Western Region Outreach Center & Consortia (WROCC). During the current funding cycle (2006-2011), the four regional centers are collaborating on resource development. The regional centers have been renamed to reflect their region and affiliation with PEPNet: PEPNet-Midwest, PEPNet-Northeast, PEPNet-South, and PEPNet-West. Older materials from the previous project cycles will be updated when necessary.

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I. INTRODUCTION

A. Overview of Guide

The Midwest Center for Postsecondary Outreach (www.mcpo.org) developed this guide to offer administrators, parents, students, and potential service providers an overview of the various speech-to-text service options available in postsecondary environments to students who are deaf or hard-of-hearing.

B. What are Speech-to-Text Services?

Speech-to-text services are support options for students who are deaf or hard-of-hearing to use in an educational environment. A speech-to-text service provider listens to a speaker and using an input device produces text on a computer screen for the student to read. The text can also be displayed on a TV monitor or projected on a screen. All services discussed in this guide are provided in real-time (as it is happening) rather than the alternative of transcribing a recorded lecture. It is important to note that speech-to-text services are constantly changing as newer technology is developed and existing technology improves.

Speech-to-text services (and providers) vary in accuracy related to content and wording as well as the number of pages/words produced in a transcript. These topics are addressed in each speech-to-text service section included in this guide, however, it is suggested that individuals and/or institutions using these services investigate each method of speech-to-text services (as well as the provider) to determine content and wording accuracy in real-time.

While speech-to-text service providers are often referred to as captionists, transcribers, voice writers, and other titles, the term “provider” in this guide refers to the person producing a real-time text display, no matter which input device is being used.

C. Profiles of Students Using Speech-to-Text Services

Speech-to-text services might be appropriate for students who cannot effectively understand a message received aurally and:

- lack sufficient sign language skills to receive a signed message.
- do not benefit from assistive listening devices.
- are hard-of-hearing or late deafened.
- as a general rule, possess a minimum 4th grade reading level.

In addition, speech-to-text services can be used successfully to provide real-time communication access to students who cannot effectively understand a message received aurally and have visual impairments. The various software programs used in speech-to-text services are all capable of reducing and enlarging the real-time text to meet the visual needs of individual students. Students who are Deaf-Blind and fluent in Braille may benefit from a method called Braille Captioning. (*see attachment - Braille Captioning*)

There is sometimes a misconception that speech-to-text services can replace the need for sign language interpreters. There are many individuals who are deaf or hard-of-hearing that will be most effectively accommodated with a sign language interpreter; however, students who prefer a signed message may utilize speech-to-text services in certain situations, such as technical classes with a myriad of vocabulary.

When determining the most effective accommodation for a student with a hearing loss it is important to consider prior accommodations in educational settings, course requirements, classroom environment, and preferred communication mode. It is also important to keep in mind the unique needs of each student. A particular accommodation might be appropriate for one student in a particular class but may not fit the needs of another student with a similar background and/or hearing loss.

II. SPEECH-TO-TEXT SERVICES

Speech-to-text services can be categorized into three basic groups: Steno Based, Laptop-to-Laptop and Automatic Speech Recognition.

A. Steno Based (CART)

Communication Access Realtime Translation, or CART as it is often called, is a service option that involves a provider using a steno machine (8-key steno machine widely used to record court proceedings) and specialized software to create a real-time text display on a laptop computer or other display monitor.

The output is often described as verbatim because the provider types nearly every spoken word into the steno machine and therefore delivers a nearly exact text display. A print or electronic transcript of the text can be made available following class.

The following passage demonstrates the CART display.

Instructor: I forgot my textbook in the office. Oh, wait a minute. No, I have it here. Okay, let's get started now. This science experiment can be done in Australia, Europe, or South America and the result is always the same because the elements are exactly the same.

Display: I FORGOT MY TEXTBOOK IN THE OFFICE. OH, WAIT A MINUTE. NO, I HAVE IT HERE. OKAY, LET'S GET STARTED. THIS SCIENCE EXPERIMENT CAN BE DONE IN AUSTRALIA, EUROPE, OR SOUTH AMERICA AND THE RESULT IS ALWAYS THE SAME BECAUSE THE ELEMENTS ARE THE SAME.

As mentioned earlier in this guide, speech-to-text services (and providers) vary in accuracy related to content and wording as well as the number of pages/words produced in the transcript. CART generally offers a high level of real-time content and wording accuracy, especially when delivered by an experienced service provider who corrects inaccuracies as they appear. As many as 20 pages can be produced in one hour of lecture because the transcript includes nearly every word spoken by the instructor and other students.

Training in CART varies from two to four years and can result in an associate or baccalaureate degree. Individuals can train to become a speech-to-text service provider using a steno machine in 28 of the 50 United States through day and/or evening courses. An online list of approved reporting programs is available at the National Court Reporters Association (NCRA) website. (www.ncraonline.org)

Special Features:

CART also has the capability to provide remote speech-to-text services. (*see attachment - Remote Captioning*)

B. Laptop-to-Laptop (Text Interpreting)

Laptop-to-laptop, sometimes referred to as text interpreting, is a service option that involves a provider using a laptop computer and specialized software to create a real-time text display on the same laptop or a second laptop connected via cable or wireless card. The process is sometimes described as text interpreting because providers are trained to maintain the meaning of the message in fewer words when a verbatim account is not achieved.

The following passage demonstrates the text interpreting process.

Instructor: This science experiment can be done in Australia, Europe, or South America and the result is always the same because the elements are exactly the same.

Display: This science experiment can be done anywhere in the world and the result will always be the same because the elements are exactly the same.

You can see in this example how the meaning of the message was maintained and accurately conveyed with the use of different words.

Two types of laptop-to-laptop software programs are currently used widely in educational settings: C-Print and TypeWell. While the postsecondary environment currently maintains the majority of laptop-to-laptop services, the popularity is growing in K-12 educational institutions.

1. C-Print (www.cprint.rit.edu)

C-Print is a system that uses specially designed software to produce text on a laptop computer or other display monitor. The provider interprets (i.e. listens for content) what the instructor says and using a standard keyboard and phonetic-based (*Page 8 - Comparison of C-Print and TypeWell Abbreviation Systems*) abbreviation system delivers a meaning-for-meaning text display. A transcript of the text is available in print or electronic copy following class.

C-Print requires an initial (approximately) 60 hours of training in the abbreviation system and text-condensing strategies. Additional training is recommended for the provider to increase real-time skills before entering the classroom.

Training and software expenses are detailed in the C-Print Order Form. (*see attachment - C-Print Order Form*)

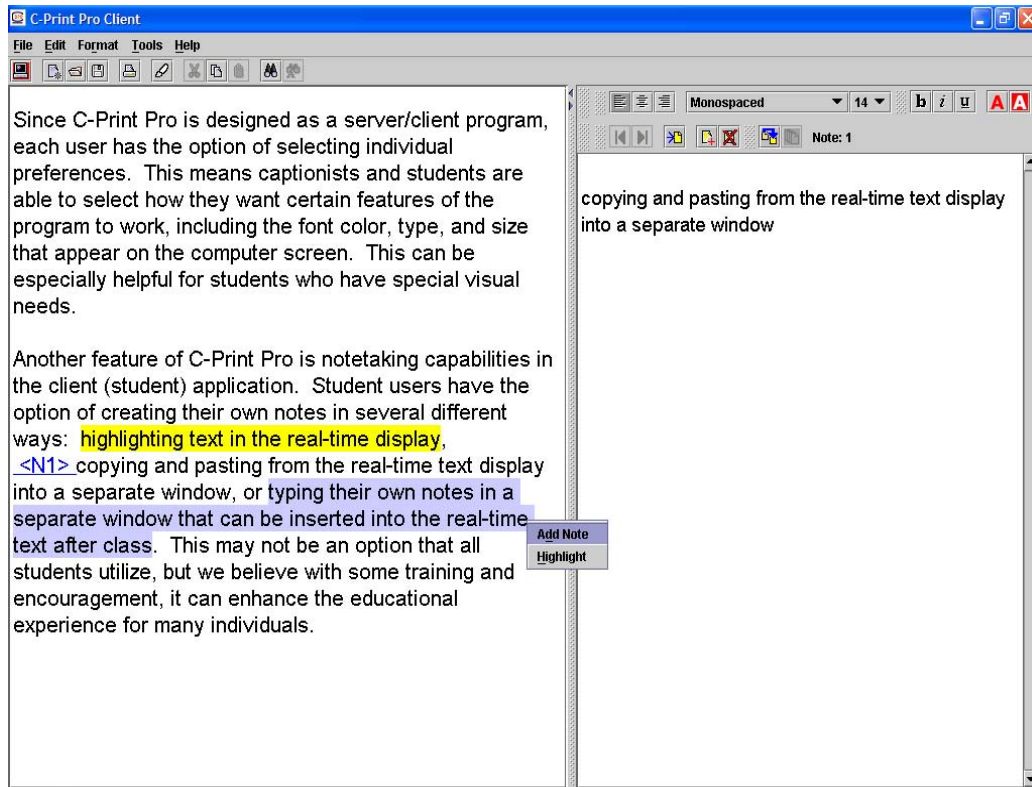
Special Features:

Training to become a speech-to-text service provider using C-Print Pro software is entirely online. Once the initial training is completed, the provider has an opportunity to learn about the automatic speech recognition capabilities built into the C-Print Pro software (enhanced version).

C-Print Pro software includes a notetaking feature that the student can use to take his or her own notes during class. The student uses the computer mouse to “cut” the text typed by the provider and “pastes” it into the note section. A reference point is made in the text typed by the provider so the student can refer back to that part of the lecture when reviewing his or her notes later. The student may also add information to the pasted notes. A visual representation of the C-Print Pro client screen is provided to demonstrate this process.

The server edition of C-Print Pro software has a built-in ability for team providers. This component is especially useful in longer (generally more than 1½ hours) classes when two people divide the provision of services. Each provider has a laptop computer and through either a wireless connection or a cable connection, the providers take turns providing the service without interruption to the student and his or her laptop computer.

The standard C-Print Pro software also has the capability to provide remote speech-to-text services. (see attachment - Remote Captioning)



This screen shot is a view of the C-Print Pro Client screen (the students' view).

2. TypeWell (www.typewell.com)

TypeWell is a system that uses specially designed software to produce text on a laptop computer or other display monitor. The provider interprets (i.e. listens for content) what the instructor says and using a standard keyboard and spelling-based (*Page 8 - Comparison of C-Print and TypeWell Abbreviation Systems*) abbreviation system delivers a meaning-for-meaning text display. A transcript of the text is available in print or electronic copy following class.

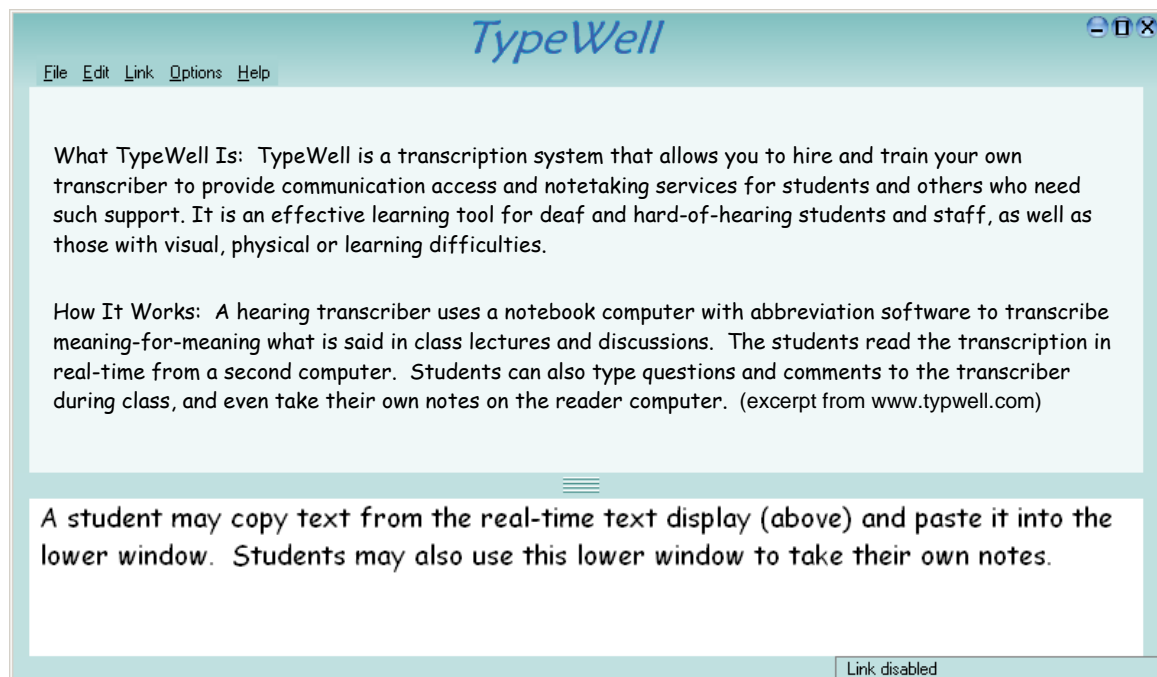
TypeWell requires an initial (approximately) 60 hours of training in the abbreviation system and text-condensing strategies. Additional training is recommended for the provider to increase real-time skills before entering the classroom.

Training and software expenses are listed in the TypeWell Price List. (<http://www.typewell.com/prices.html#training>)

Special Features:

Training to become a speech-to-text service provider using TypeWell software is initially conducted via distance learning and completed at a two-day seminar with a TypeWell Teacher.

TypeWell software includes a notetaking feature that the student can use to take his or her own notes during class. The student uses the computer mouse to “cut” the text typed by the provider and “pastes” it into the note section. The student may also add information to the pasted notes. A visual representation of the TypeWell reader screen is provided to demonstrate this process.



This screen shot is a view of the TypeWell Reader screen (the students' view).

3. Comparison of C-Print and TypeWell Abbreviation Systems

C-Print uses a phonetic-based abbreviation system, which abbreviates a word using the letters the provider hears. For example, the provider will type the letters n - i - f for the word knife and the letters b - k - z for the word because. The provider hears and types the letters and/or sounds that represent the letters to produce a full English word that is immediately displayed when the provider touches the space bar.

TypeWell uses a spelling-based abbreviation system, which abbreviates a word by eliminating the vowels. For example, the provider will type the letters k - n - f for the word knife and the letters b - c - s for the word because. The provider eliminates the vowels (knife and because) to produce a full English word that is immediately displayed when the provider touches the space bar.

The following passage was used earlier in this section to demonstrate the text interpreting process. The purpose here is to expound on the abbreviation variations between the two laptop-to-laptop systems.

Instructor: This science experiment can be done in Australia, Europe, or South America and the result is always the same because the elements are exactly the same.

C-Print: ts sci xprm can be done anwr in t wrld n t rzlt l alwz be t same b kz t elms r xktl t same.

TypeWell: js scnc exprmnt c b dn anywhr n j wrld x j rslt l alwys b j same bcs j elmnts r exctl j same.

Display: This science experiment can be done anywhere in the world and the result will always be the same because the elements are exactly the same.

As mentioned earlier in this guide, speech-to-text services (and providers) vary in accuracy related to content and wording as well as the number of pages/words produced in the transcript. The provider using C-Print or TypeWell software generally offers content accuracy, especially when the provider is experienced and corrects inaccuracies as they appear in real-time. While not every word spoken by the instructor and other students is reported exactly, the provider is trained to maintain the meaning of the message in fewer words. A one hour lecture generally produces a transcript of 10 pages.

C. Automatic Speech Recognition (Voice to Text)

Automatic speech recognition, or voice recognition as it is sometimes called, is a service option that enables a speech-to-text service provider to create a real-time text display using speech recognition software. The process is often described as voice to text because the provider speaks into a microphone and the software translates the speech into text. A computer keyboard may be utilized during this process to change a word or phrase not recognized by the software or recognized incorrectly.

Institutions generally prefer to deliver real-time communication access utilizing speech recognition software with a trained speech-to-text service provider (rather than an instructor

leading the class) for a variety of reasons. The most commonly stated reasons are the necessity to dictate formatting options and correct inaccuracies presented by software misrecognition.

The following passage demonstrates the process of format dictation.

Instructor: Good morning! Are you ready to learn about the history of this great nation? Let's start with the Civil War.

Provider: Good morning *exclamation mark*
Are you ready to learn about the history of this great nation *question mark*
Let's start with the *cap civil cap war period*
new paragraph

Display: Good morning! Are you ready to learn about the history of this great nation? Let's start with the Civil War.

You can surmise from this example how difficult it would be for an instructor to include the formatting during a lecture and how challenging it would be for the students to comprehend it aurally!

The following passage displays inaccuracies that can occur with the use of speech recognition software.

Instructor: Good morning! Are you ready to learn about the history of this great nation? Let's start with the Civil War.

Provider: Good morning *exclamation mark*
Are you ready to learn about the history of this great nation *question mark*
Let's start with the *cap civil cap war period*
new paragraph

Display: Could morning! Are you ready to learn about the history of discrimination? Lettuce start with the Civil War.

The provider repeated exactly what the instructor said and included the appropriate formatting in the dictation; however, the speech recognition software did not recognize and therefore did not display the correct word. The provider can accomplish real-time corrections on a standard computer keyboard without disrupting the flow of conversation.

Other factors that may influence the accuracy of speech recognition are classroom acoustics, voice changes due to fatigue, illness, or time of day, and microphone sensitivity. If the provider is in the classroom, the microphone may pick up environmental sounds (paper rustling, pencil tapping, etc.) or side conversations between students who are seated near the provider.

Another reason institutions may prefer to deliver real-time communication access utilizing speech recognition software with a trained speech-to-text service provider is the need for extended voice training to achieve a high rate of accuracy. While the initial voice training may take anywhere from five to 30 minutes, it takes significantly more time to ensure quality recognition. The provider uses the technology daily, which regularly improves the accuracy, whereas the instructor is likely to use it only during the lecture in which the service is needed.

Additionally, the provider can review the text as it appears and quietly make corrections without disturbing the lecture. Reviewing the text and making corrections as they appear is challenging at the same time you are delivering a lecture! ☺

There are a wide variety of speech-to-text service options. This is especially true in the diversity of this emerging technology. Consumer Search, Inc. in an October 2004 Consumer Report stated there are “two main competitors in this arena, ScanSoft’s Dragon Naturally Speaking and IBM’s Via Voice.”

(http://www.consumersearch.com/www/software/voice_recognition_software/fullstory.html)

Because technology is constantly changing, the most current information about these speech recognition programs can be found at their respective sites:

Dragon Naturally Speaking (www.scansoft.com)

ViaVoice (www.ibm.com)

As mentioned earlier in this guide, speech-to-text services (and providers) vary in accuracy related to content and wording as well as the number of pages/words produced in the transcript. Automatic speech recognition generally offers real-time content and wording accuracy, especially when delivered by an experienced service provider who corrects inaccuracies as they appear. As many as 20 pages can be produced in one hour of lecture because the transcript includes nearly every word spoken by the instructor and other students.

III. IMPLEMENTING SPEECH-TO-TEXT SERVICES AT YOUR INSTITUTION

A. Determine Your Needs

Once a student has been identified as an appropriate candidate for speech-to-text services, the next step for the institution to consider is the most effective way to provide the service. Institutions may want to contract out for equipment and services if the need is short-term, such as a transfer student taking summer classes with plans to return to his or her home college in the fall. When the demand for speech-to-text services increases and the requests are steady, the institution may want to consider developing an in-house program with staff and equipment to provide long-term services.

B. Short Term Solutions: Contracting out for equipment and services.

Find a Provider: Where to Look

- Freelance CART, C-Print or TypeWell Provider
- Local College or University with Trained Providers on Staff
- Local Court Reporting Agency
- Off-Site Institution and/or Provider for Remote Services

A listing of private practice (freelance) and court reporting agencies may be posted online and accessible via link from your state government webpage.

The regional centers within the Postsecondary Education Programs Network (PEPNet, www.pepnet.org) may also have a listing of providers in your area.

Another potential resource for a listing of providers is direct contact with individual programs:

CART Providers Directory (<http://cart.ncraonline.org/directory/directory.shtml>)

NCRA Professional Services Locator (<http://www.ncraonline.org/applications/psl/>)

E-Mail C-Print (cprint@rit.edu)

E-Mail TypeWell (infocontact3@typewell.us)

What to Consider when Choosing a Provider

- Certification

Quality assurance is an important factor in choosing a service and/or service provider. At the time of this writing, CCP for Certified CART Providers is the only certification available in the speech-to-text service profession.

C-Print and TypeWell have individualized assessments to measure the quality of a providers' real-time output though the evaluation does not provide certification.

The Speech-to-Text Services Network (STSN) incorporated in 2005 is committed to being "an information resource for consumers, service providers, and administrators, promoting quality services through support of provider credentialing, continuing education and professional guidelines." (www.stsn.org) STSN is currently working to develop a national credentialing system and professional guidelines to ensure quality services within the speech-to-text service profession.

- Contingency Plan

Does the agency or freelance provider have an alternative plan in the event of short term or long term illness?

Does the agency or freelance provider have an alternative plan in the event of an equipment failure?

- Education

Is the service provider experienced in the course content and/or educational level in which services are provided?

For example, consider the challenges faced by two providers with varying levels of experience and course knowledge in a graduate level accounting class. The challenge for a provider with limited postsecondary experience and an intermediate understanding of accounting is significantly more profound than a provider with extensive experience in a postsecondary environment and an advanced understanding of accounting. The

challenges posed for each provider can determine the quality (i.e. relaying an inaccurate or incomplete message) of the real-time services the student receives.

- Equipment

Does the agency or freelance provider furnish the equipment?

Who is responsible for maintaining and providing technical support for the equipment?

- Experience

Does the agency or freelance provider have experience working with students who are deaf or hard-of-hearing?

- Payment

Does the agency or freelance provider require payment for prep, editing or travel time?

How often does the agency or freelance provider expect to bill you?

- Policies and Procedures

Is the agency and/or provider aware of and agree to (signature required) the policies and procedures of your institution? Have this conversation before services are provided!

- Scheduling

What is the maximum number of hours/day and hours/week the service is needed?

It is generally more cost efficient to schedule an agency or freelance provider for a block of time rather than spread throughout the day. For example, schedule services between 10:00 a.m. and 2:00 p.m. rather than 8:00 A.M., 11:00 A.M. and 3:00 P.M.

C. Long Term Solutions: Developing an in-house program with staff and equipment to provide services.

Find a Provider: Where to Look

- Current Employee - Clerical Staff or Interpreter (*training required)
- Freelance CART, C-Print or TypeWell Provider
- Outside Recruitment

A listing of private practice (freelance) and court reporting agencies may be posted online and accessible via link from your state government webpage.

The regional centers within the Postsecondary Education Programs Network (PEPNet, www.pepnet.org) may also have a listing of providers in your area.

Another potential resource for a listing of providers is direct contact with individual programs:

CART Providers Directory (<http://cart.ncraonline.org/directory/directory.shtml>)

NCRA Professional Services Locator (<http://www.ncraonline.org/applications/psl/>)

E-Mail C-Print (cprint@rit.edu)

E-Mail TypeWell (infocontact3@typewell.us)

*Training Required: A brief overview of training and associated costs are listed earlier in this guide (Pages 4-10).

What to Consider when Choosing a Provider

- Certification

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- Education

Is the service provider experienced in the course content and/or educational level in which services are provided?

For example, consider the challenges faced by two providers with varying levels of experience and course knowledge in a graduate level accounting class. The challenge for a provider with limited postsecondary experience and an intermediate understanding of accounting is significantly more profound than a provider with extensive experience in a postsecondary environment and an advanced understanding of accounting. The challenges posed for each provider can determine the quality (i.e. relaying an inaccurate or incomplete message) of the real-time services the student receives.

- Experience

Does the provider have experience working with students who are deaf or hard-of-hearing?

Other Considerations

- Contingency Plan

How will your institution provide services if the provider is ill for either a short or long duration?

How will your institution provide services in the event of an equipment failure?

- Equipment

Will your institution furnish the equipment? Who retains the equipment during the school year?

Who is responsible for maintaining and providing technical support for the equipment?

- Personnel Costs and Responsibilities

Hourly Staff: Is your institution going to pay for prep, editing or travel time?

Salary Staff: Does your institution offer benefits such as insurance, sick leave, or vacation time? How does that impact your department finances and services? What kind of department work can you assign a staff member who works 30-40 hours a week but only provides 25 hours of direct service in the classroom? (department projects, laptop maintenance, etc.)

- Scheduling

What is the maximum number of hours/day and hours/week the service is needed?

Who is responsible for scheduling the provider and/or equipment?

- Minimize Risk Factors

Ergonomic Equipment: How can you minimize risk factors in the transporting of equipment? Is a computer case on wheels or a sturdy backpack the best option for your institution? How can you minimize risk factors for the provider in the classroom? Is a laptop stand a possible solution for your institution?

Limit Service Hours: What is the industry standard for speech-to-text services in your area? Does the service provider have any other work responsibilities that require use of the hands and wrists? i.e. Regular clerical work in addition to providing speech-to-text services may increase the risk for repetitive motion injury. Does the provider have sufficient breaks in his or her daily schedule? Who will monitor overuse symptoms through regular interviews with the service providers?

IV. SCHEDULING SPEECH-TO-TEXT SERVICES

A. Scheduling Considerations

- Is the format of the class primarily lecture, discussion, or both?

A student may enroll in a longer (3+ hours) class that includes an initial lecture followed by discussion or lab. In this case, a dual provider (sign language interpreter trained in speech-to-text services) can be very useful if the student is fluent in sign language. The student can utilize both services during the class period for different formats.

- What does the students' literacy level suggest?

All speech-to-text services provide rapid real-time text and the student must have an appropriate reading skill level to keep up with the lecture. Speech-to-text services can also produce a large amount of text; in particular, ASR and CART are quite lengthy because nearly every spoken word is incorporated into the printed transcript.

- Does the student have an opinion about the location of the service provider?

A student using an assistive listening device may find the muffled sound of ASR distracting if the service provider is seated near him or her. CART requires the service provider to sit in close proximity to the student because of the linking cables while the laptop-to-laptop systems allow for wireless connections.

- Does the student have any experience with speech-to-text services? Which service was most beneficial in earlier educational settings?

The student may already be familiar with speech-to-text services and have a preference for (or against) a particular method.

B. Scheduling the Equipment

There are a number of possibilities for scheduling speech-to-text service equipment. The method of assigning a number to a set of equipment is versatile and efficient for each group (Steno Based, Laptop-to-Laptop, Automatic Speech Recognition). Set 1, for example, includes all of the equipment necessary to provide real-time services in the classroom.

In general, scheduling options are the same for each group.

1. Assign a set of equipment to each staff member. The assignment can be for a semester in which the staff member is responsible for the care and maintenance of the equipment.
2. Assign a set of equipment to each class. The staff members pick-up and return the set to the office each day or before/after each class. The institution is responsible for the care and maintenance of the equipment. Note: It is important to review the equipment schedule carefully with this option to ensure there is no overlap. (i.e. Assigning Set 1 to a class that meets from 9:00-10:30 and 10:00-11:30)

- Steno Based

Most steno based service providers own the equipment, however, some institutions own the equipment and allow staff members to use it.

- Laptop-to-Laptop

Institutions vary between uses of one or two laptop computers in the classroom. With the use of two laptop computers institutions may want to add an additional layer of identification by adding a letter to the set number for each laptop. (Set 1, Laptop A and Laptop B) This is especially useful when a provider reports technical concerns about a particular laptop by using the classification of Laptop 1A or Laptop 1B.

- Automatic Speech Recognition

Whether the institution or the provider owns the equipment, each must consider the importance of sanitation as it relates to the microphone or steno mask. Providers may share dictation equipment but to ensure proper hygiene it is necessary for individuals to adhere to sanitizing guidelines. Assigning dictation equipment to each provider does not eliminate the need for sanitation, though it lessens the potential for cross contamination.

C. Scheduling Hourly and Staff Providers

There are a number of things to consider when scheduling providers of speech-to-text services.

1. Is the provider qualified to facilitate communication at this level and for this subject?
2. Is the schedule conducive to overuse issues or does this provider have a team provider and ample breaks between classes?

In general, laptop-to-laptop service providers require a team provider in classes that meet longer than 90 minutes.

Steno based services can be cost effective in longer lectures (2+ hours) because the 8-key steno machine enables the provider to use less keystrokes when creating the text, which can allow the provider to work for longer periods without a team.

A student may enroll in a longer (3+ hours) class that includes an initial lecture followed by discussion or lab. In this case, a dual provider (sign language interpreter trained in speech-to-text services) can be very useful if the student is fluent in sign language. The student can utilize both services during the class period for different formats.

3. As it is with the equipment schedule, the provider timetable is equally important to review carefully to ensure there is no overlap. (For example, assigning the provider to a class that meets from 9:00-10:30 and 10:00-11:30)

- Hourly Providers

It is generally more cost effective to schedule hourly providers in blocks of time rather than spread throughout the day. For example, 9:00-10:15, 10:45-12:00, and 1:00-2:15 as opposed to 9:00-10:15 and 1:00-2:15. The institution benefits with efficiency in the coverage of service hours and the hourly provider is more likely to accept a schedule without large chunks of time between classes. A block schedule for an hourly provider can prove even more efficient if the institution pays for travel time.

- Staff Providers

A positive outcome for both the institution and the provider can be accomplished by working together when determining the schedule. The person arranging the schedule may solicit preferences from providers for a particular arrangement. Some individuals prefer to work evenings while others prefer to work mornings. Staff members may request to work a 4-day week, which will require longer days, or ask to have a schedule that allows for a leave time of 3:00 p.m. on Tuesday/Thursday. It is important to keep the student a priority though offering staff one schedule request can go a long way in fostering a collaborative work environment.

V. DEVELOPING POLICIES and PROCEDURES

A written policy about the rights and responsibilities as a student using speech-to-text services and as a provider delivering the service is essential. Equally important is the opportunity for each student and provider to review the policies and demonstrate agreement with a signature before services are provided.

A. Student Responsibilities

An appropriate time to educate the student about his or her responsibility as an individual using speech-to-text services is early in the semester and preferably before the service is provided. Having this conversation before services are provided offers the student an opportunity to understand the expectations and offers the institution an opportunity to verify agreement.

Topics to Address

- Is the student expected to transcribe visual material presented in class?
- Is the student expected to notify someone if he/she is not going to class? Who? When?
- Is the student expected to notify someone if he/she is late for class? Who? When?
- What is the student supposed to do if the provider does not show up for class?
- What is the transcript policy?

Will the student receive a transcript?

Will the student receive an electronic or print copy of the transcript?

When will the student receive the transcript?

Can the student share the transcript with another student?

- Discuss the use of campus equipment with the student.
- Explain the role of the service provider to facilitate communication.
- Advise that the provider will transmit information without censoring, giving opinions, or participating in the class.

Sample Responsibility Form: Student (*see attachment - Student Responsibility Form*)
 Feel free to use this form as is or modify it to meet the needs of your institution.

B. Provider Responsibilities

A good time to educate the speech-to-text service provider about his or her responsibility at your institution is during the hiring process. It is important to have this conversation before services are provided to ensure an understanding of the expectations and verify agreement.

Topics to Address

- Is the provider expected to transcribe visual material?
- What is the provider supposed to do when the student does not show up for class? How long does the provider wait for the student?
- Is the provider expected to develop a dictionary of technical vocabulary for each class?
- Is the provider expected to supply the student and/or instructor with a transcript? Is the provider expected to edit the transcript?
- Is the provider responsible for the students' behavior, academic performance, or attendance in class?
- Is the provider expected to transmit information without censoring, giving opinions, or participating in the class?

Sample Responsibility Form: Provider (*see attachment - Provider Responsibility Form*)
 Feel free to use this form as is or modify it to meet the needs of your institution.

C. Instructor Training

Developing a collaborative relationship with the instructor early in the semester can foster a positive learning environment for both the student and the provider. A good rapport can be especially useful when requesting prep material and/or classroom cooperation from the instructor throughout the semester.

A free online training, Orientation to Serving Students Who are Deaf or Hard-of-Hearing, is a valuable resource for an instructor or other educational staff person. The one-hour training offers a basic understanding of hearing loss and offers suggestions to encourage effective communication and learning in an educational environment. A potential incentive for an

instructor to participate in this free online training is the opportunity to download and print an official certificate of completion.

The free online training is available at PEPNet Online (<http://www.pepnet.org/train.asp#orientation>)

Topics to Address

- Inform the instructor about the presence of a speech-to-text service provider in the classroom.
- Explain the role of the service provider to facilitate communication.
- Advise that the provider will transmit information without censoring, giving opinions, or participating in the class.
- Explain that the provider is not responsible for the students' behavior, academic performance, or attendance in class.

- Offer the instructor information about how and where to acquire captioned films.

Note: Institutions can refer instructors to the Captioned Media Program online to utilize the free-loan media program. (<http://www.cfv.org/freeloan.asp>)

- Inform the instructor of the transcript policy.

Will the student receive a transcript?

Will the instructor receive a copy of the transcript?

When will the student and/or instructor receive a copy of the transcript?

Is the transcript available to anyone else?

- Provide the instructor with contact information for the person to speak to if he or she has questions or concerns about the accommodation and/or the student.

Sample Letter to Instructor (*see attachment - Instructor Letter*)

Feel free to use this form as is or modify it to meet the needs of your institution.

VI. ADDITIONAL LINKS

PEPNet, the Postsecondary Education Programs Network, (www.pepnet.org) is a national network of four regional postsecondary education centers funded by the U.S. Department of Education, Office of Special Education and Rehabilitative Services. The mission of PEPNet is to improve access and the quality of postsecondary education for students who are deaf or hard of hearing.

To realize this objective, technical assistance and outreach centers were created to ensure every postsecondary institution in the United States could easily access the technical assistance and outreach services each regional center provides.

Each regional center serves specific states, which are listed below.

Midwest Center for Postsecondary Outreach (MCPO)

www.mcpo.org

- Illinois
- Indiana
- Iowa
- Kansas
- Ohio
- Michigan
- Minnesota
- Missouri
- Nebraska
- North Dakota
- South Dakota
- Wisconsin

Northeast Technical Assistance Center (NETAC)

www.netac.rit.edu

- Connecticut
- Delaware
- District of Columbia
- Maine
- Maryland
- Massachusetts
- New Hampshire
- New Jersey
- New York
- Pennsylvania
- Puerto Rico
- Rhode Island
- Vermont
- Virgin Islands

Postsecondary Education Consortium (PEC)

<http://sunsite.utk.edu/cod/pec/>

- Alabama
- Arkansas
- Florida
- Georgia
- Kentucky
- Louisiana
- Mississippi
- North Carolina
- Oklahoma
- South Carolina
- Tennessee
- Texas
- Virginia
- West Virginia

Western Region Outreach Center and Consortia (WROCC)

<http://wrocc.csun.edu/>

- Alaska
- American Samoa
- Arizona
- California
- Colorado
- Guam
- Hawaii
- Idaho
- Montana
- Nevada
- New Mexico
- Northern Marianas Islands
- Oregon
- Utah
- Washington
- Wyoming