ROUGHLY EDITED COPY

NTID

ROCHESTER, NY

6/25/03

10:00-10:45 AM

WHAT'S NEW WITH C-PRINT

Present: LISA ELLIOT, MICHAEL STINSON, PAM FRANCIS, GINA COYNE, DONNA EASTON

Captioning Provided By: Caption First, Inc.

P.O. Box 1924

Lombard, IL 60148

800-825-5234

***

This text is being provided in a rough draft format. Communication Access Realtime Translation (CART) is provided in order to facilitate communication accessibility and may not be a totally verbatim record of the proceedings.

***

>> FACILITATOR: We're going to start now.

I welcome you to this presentation.

The code for this is W 10 B. I'll remind you to fill out the evaluation forms.

It could be on-line, on the web, or if you prefer, there are paper evaluation forms there on the chair and leave them with me if you would.

I'd like to introduce this session called "What's New with C-Print System?"

And the first speaker is Mike Stinson.

Take it away.

>> MICHAEL STINSON: Okay.

Hi.

We're all from the National Technical Institute for the Deaf and we are a research, development, and training team, and so there's five of us that -- there are really six of us on the team and five of us are going to be presenting today.

And on -- what you're going to see here is automatic speech recognition, the C-Print version of automatic speech recognition, and because we're going to be showing you this, we can't show the PowerPoint slides at this time, but we're going to go -- I'm going to be talking about the first seven slides.

So if you can kind of stay with me with that.

Is it okay?

Okay.

Well, I'm just going to go ahead and start talking.

It should start going pretty soon.

First, so Donna Easton will be doing automatic speech recognition and she's speaking into a dictation mask, so you may hear a little bit of whispering.

That is the sound that's escaping from the mask.

Also, you probably may see some errors from time to time, once in a while, because automatic speech recognition is not perfect.

We think we've gotten it up to a pretty high level of accuracy, but you will still sometimes see some errors.

So I'm going to give an overview of C-Print, just a quick introduction, and then also talk about why we've made some major changes in the system, because we've made quite a few significant changes.

And so the automatic speech recognition is one of the new features, and Gina Coyne will be talking about that.

Also new is the C-Print Pro software, which is a special software that we use in providing the speech-to-text support.

And Pamela Francis will be demonstrating for you features of the new software.

And we have been field-testing this system with middle and high school students, and Lisa Elliot will be chairing some of the preliminary findings from the field test.

And then if there's time left, I will wrap up.

Also, please hold questions.

We have set aside 10 minutes at the end of this session for questions.

And you see here in your second slide a picture that shows the typical setup for C-Print when it is in a classroom.

This is a picture with a C-Print captionist in the foreground.

She is using the computerized word abbreviation system to produce the text on her laptop, and then you see right next to that, you'll see here a student who has his own laptop and he is looking at the text that is being produced.

And there's no -- there's wireless communication

between the two laptops.

And also, you can't see the teacher, but the teacher is really standing in front of the class, but we just don't include her here.

Okay.

So on the next slide, I want to say a few general things about what C-Print is, so you have a general idea.

It's a support service option for communication access. "Option" is the keyword.

That means we see it's one of a number of tools that can be used to effectively support Deaf or hard-of-hearing students.

We don't think C-Print is the best system for all students, but we think for some students in some circumstances, it can work really well.

Second, we now have two approaches for producing the text in realtime.

When I mean text in realtime, it's really the same kind of thing that you see here with the steno system, so you -- you have text that's being produced as the person is speaking.

So the keyboard system, which uses computerized word abbreviations, we've been using that for more than 10 years, and that now has some new advances, too, that we'll mention briefly.

And then the second way the text is produced is what you see up here with automatic speech recognition.

So both of these provide a realtime display of the text, just like what you see up here.

And also, it can be saved after class.

It can be saved in the form -- electronically on the

computer, or it can be saved as a hard copy of the text.

Electronic system is being used more and more.

We have new software that's really -- we're really, really excited about this, because it makes students better able to participate in classes, in which we're using C-Print, and they can easily and quickly take their own notes, they can do highlighting.

And so the goal of this system is to make speech-to-text support services widely available and relatively easy to provide.

It doesn't require a lot of training to become a C-Print captionist.

It requires some training, but not a lot.

So now I want to say a few things about why we have made some significant changes in the C-Print, because almost as soon as we developed the original version of the system, which was about 10 years ago, we started to become aware of some of the limitations in that system.

And started to think about what could we do to improve it.

So one of the first limitations is that when -- if -- when we only have the word abbreviation system to use, it requires very intense typing to produce the quality of text for good communication access.

So after about an hour of use, this way, the captionist needs to take a break for an hour.

They can't continue to do this captioning very much longer.

So we needed another alternative that could address that problem.

Another limitation has been that to use the word

abbreviation system, the captionist has to have high -- very high-quality typing skills to begin with.

The second thing was that we were using three commercial software applications.

They -- the system would work with those three, but none of those software applications were designed specifically for this support for communication access in the classroom, so there were many things we wanted to be able to do that we could not do.

Also, sometimes it could take quite a bit of time to just set up, to get all three of these working simultaneously.

The third thing about the system was that there's very little limited opportunity for the student to interact with the software.

If the only kind of interaction that there was with the software was the student would have to raise their hand, the captionist would have to stop typing, then the student could type something that the captionist could read, but that was the only option that we had for interaction.

So because we wanted to address these issues, we wrote and got a grant from the US Department of Education to improve and further develop the system.

And the first goal was to produce the automatic speech recognition approach that we now have, which we call shadowing and which is what you see.

The second goal was to develop the educational software, the C-Print Pro software.

A third goal was to develop procedures and materials to train people to do the automatic speech recognition process and to use the software.

And then the fourth goal had been to do some formative evaluation field-testing, to just kind of see how well this

is working, if it has potential.

So now, at this point, I'm going to turn things over and Gina Coyne is going to say a few things about how we do the automatic speech recognition.

>> MICHAEL STINSON: Here, let me give you the microphone.

>> GINA COYNE: Hi.

My name is Gina Coyne and I've worked on the C-Print project for nine years, helping out with the research and the development of both the abbreviation system as well as now the voice that you're seeing.

I'm just going to very briefly explain what Donna Easton is doing.

First of all, we use the IBM ViaVoice software engine to produce the voice with C-Print.

It is incorporated in our software which Pam Francis will explain more to you about the software, so I won't take time to do that.

I'm going to also talk to you about the mask, which everybody always asks questions about the mask.

They're always like, "What's that?"

This is a dictation mask.

It's very simple structure.

Inside there is a microphone.

It's just housed in this plastic cup, and it has a seal on the outside that you can use that helps muffle the sound, so there's not a lot of sound leakage.

Also, it has a simple adapter that plugs into your laptop computer.

So there's really nothing technical about the mask.

It's a very simple product.

We buy it from Martel electronics, so we are looking into possibly other masks, but right now there really is no other mask on the market for us.

It works very well.

It's got a very good microphone.

And as Mike brought up, Donna is using shadowing, and basically it's the same concept used in the typing system with C-Print, where we condense the information.

It is not verbatim.

So the information is condensed.

The reason we have -- or we've chosen with our project to have an intermediary person in the classroom is because we believe that you can achieve greater accuracy with the person in the classroom, rather than have the teacher wear the microphone.

If I was connected to voice, you would be seeing many errors right now.

Donna is taking the time to correct the errors that you see that pop up on the screen.

Also, it gives her a chance to enunciate the words as she's speaking them into the mask which will give her higher recognition.

The other reason for the intermediary person is that we can identify our speakers in the classroom, so if the teacher is speaking, we would say, "Teacher," and then whatever the teacher would say.

And then when it switches and if there was a student comment, we would say, "Student," and that would also

clarify to the client that there was a student speaking and they would be able to see the difference.

So we do identify our speakers as well.

Donna also -- and this is a very hard task.

Donna's adding in all of the punctuation that you see is being voiced, so not only is she listening, condensing the information, but she's also adding in the punctuation as well as the formatting.

So you may -- the new paragraphs, which I know she probably won't say -- if she was to say it, it would just give her a new paragraph -- is formatting.

So it gives some white space to the document for the student to give a clear -- so it will be clear and simple for them to read in realtime.

So all of that is being voiced.

Okay.

What else did I want to say?

Donna -- the corrections you see in realtime, we need to do that because with voice recognition, everything that's printed is a word so you don't really get spelling mistakes, you get mis-recognitions, and that can very easily change the meaning of a sentence.

So it's important that the captionist learns how to do the correction in realtime.

We use typing to do that.

Sometimes you can re-voice it, if you're sure the word is in there.

If the words are not in the dictionary, then they will come up as an error.

So you do have to put some time into the preparation

before you go into the classroom, if there's going to be discussion using specific names.

You would want to add all that information before you go into the classroom, so that it would be ready when you voiced it.

And it would come up right.

Otherwise, it will come up wrong.

So we do correcting in realtime.

I also use -- when I'm correcting in the classroom -- our abbreviation system, so I kind of combine both things together.

I will voice but I will also depend on my abbreviations to make my corrections.

It's much quicker that way.

And lastly, I'll talk about the training and the prep I mentioned a little bit and the editing.

Everyone -- anyone can use the voice system on any laptop, but you have to train the system to your voice specifically, so you go through a tutorial that is set up, and it learns your voice, the sounds, and it matches them to words, and then you continue to add information to create your file.

And I could have a voice file on Donna's laptop, but Donna couldn't talk in my voice file.

She would have to have her own.

It won't recognize other speakers except for the person who trained it.

And editing helps with when you're done in -- after class.

The editing part helps with improving the accuracy of

your voice file.

If there's errors that come up, you can go back in after class, look at your notes, you know, and work with those mistakes and correct them in the system.

That will give you -- definitely give you improved accuracy.

Or add any information that's not there.

And that's it for me.

I am going to introduce now Pam Francis, who is the coordinator of development and training on our project, and she will be able to explain in detail about the rest of our system.

>> PAM FRANCIS: Unfortunately, there's no easy way to do this, because I have to turn my back to you to actually get to the laptop, so I apologize in advance for that.

I could hang onto it, but it would be ugly, no matter how it looked.

(Laughter).

>> PAM FRANCIS: What I'm going to do, though, is I'm going to get out of our little presentation slides here, because what I want to show you -- and you probably don't want to see my kids at Daytona.

(Laughter).

>> PAM FRANCIS: What I want to show you, actually, is the software itself.

What you're seeing are two different applications.

The window on the top is the actual server and the window on the top is the client, or captionist and student, okay?

I'm going to quickly try to go through and show you different features of the software that Mike talked about, and I'll be jumping around a lot, so keep your questions in mind and you can ask them afterwards.

So follow along with your slides because that's how I'll be discussing things.

As Mike mentioned, there are a number of new features to the software, separate text displays which makes a difference when you have students, especially students with visual disabilities, students who need the screen to be a certain color.

Obviously I haven't selected the best colors for the LCD projection, but -- so separate text displays, different types of input, voice and keyboard, note-taking capabilities on the client, and networking.

So we're -- we're pretty excited.

We think it's a pretty nice software.

What I'm going to do is I'm going to connect the server and the client because I waited.

I want to show you how simple it is.

You click on an icon to make the server available to clients, and then you'll click on a similar-looking icon in the client.

You won't always get that screen.

Normally, what would happen is if you had the laptops connected by network cards and a cable, the IP address would already show up here (indicating) but because I'm doing it on the same laptop, I have to type an IP address in.

And they're connected.

Pretty simple.

The student can do it themselves.

Not too many worries.

And it doesn't just have to be one student, it can be a number of clients.

If you notice up on the upper right, it will list -- like the name I typed in was "student" but it could be any user name that the student uses to enter.

And the client also has identification capabilities, so if I have three students and they all have different configurations for the screen, they just put in their user name and they can bring up their configuration so they don't have to fiddle around at the beginning of class.

Okay.

So here's -- here we have our server and our client, and when we talk about the separate text displays let's say for example we have a student who has some visual needs and size 36 font is not quite enough.

They need to go up so we take the font size up to 48, and the student also prefers to have a black background with yellow writing.

A nice light -- okay.

So the student can go in and choose their options -- we'll change the highlight color, too, just to ...

And hit "okay," and the options change to suit their needs.

It is important, especially given the different variety of students that we work with.

So we -- and again, the captionists can adjust their screen too, so that if it's difficult for the capitalist to read size 48 font while they're working, they can adjust their screen, as appropriate.

So let's put some typing in here.

That's really awful looking.

So what other features -- and I just want to drag the window in a little bit so you can see -- so we have our separate text displays.

We can control the type, the font, the colors, the screen size, what have you.

Then we have some other features.

Keyboard input and ASR input.

You saw the ASR input, and we also have the traditional abbreviation system.

And I'll just type in a sentence here.

If I can remember.

Okay.

So we have -- if someone doesn't know the abbreviation system, obviously they can use regular typing, but they can also use the abbreviation system.

They have very quick access to their dictionaries.

They can work with the dictionary pretty quickly in realtime.

They can also add abbreviations on the fly, which means if a term comes up in class that is new and I don't want to have to type it out every time, I can add an abbreviation on the fly.

For now I'm going to just add my name.

Oops.

Sorry.

Was that painful to anyone?

(Laughter).

>> PAM FRANCIS: Okay.

So the next time I add in, it will expand.

And in realtime, that's a real nice option.

Okay.

So we have the different types of input.

And I apologize because I know I'm going pretty quickly.

So we have the different types of input.

What about networking?

Well, we've seen how relatively simple it is to connect the two laptops.

What's not simple sometimes is setting up the laptops to communicate.

And that means hardware.

So that's something that whatever you do, whenever you want to connect two laptops, the hardware configuration, the hardware setup sometimes is a little sticky and if you don't know about setting up a network, that can always be frustrating.

So whoever your tech person is, utilize their skills -- Tommy -- because setting up the network hardware is difficult.

You can use wireless cards, wireless LAN cards, you can use regular -- for example, most laptops today come with a network card in them, so you could use a crossover cable.

There are lots of possibilities.

You just need to choose what is appropriate for you.

Plugging the cables into the laptop and starting the software does not configure the network, does not set up the hardware to work together.

I just want to make that very clear.

You need to work with the operating system and work with your machine independently of that.

The software can't go in and set all that up for you.

Okay?

All right.

So networking.

Another part of networking is the two-way communication, which we feel is very beneficial for the students.

We've gotten a lot of feedback over the years that that's something that the students felt was important.

So if I'm a student and I have a question that I want to ask the captionist, I bring up my chat window, I type without typos, and I type in my question.

Again, with this window, the students can adjust the font and the color to suit their needs.

They have the option of putting -- choosing to send the question to the captionist or the instructor.

If they send the question to the instructor, and we'll do that right now, first of all, the -- if the captionist doesn't have chat opened, they get a little visual indicater that tells them that they've received a message, and when the message is sent, it has a little "I" next to the student name which means that they would like the

captionist to voice it to the instructor.

And while it may not seem important all of the time if the student asks a question and they don't want it voiced, that could be pretty embarrassing, so ...

So -- and again, if they want to ask the captionist a question directly without having it voiced, they can just click on "captionist."

So we have chat.

The other feature that I want to talk about is notes.

And I'm going to close this up and I actually want to -- I'm going to maximize this screen so that you can see how -- oh, that's absolutely horrible, but -- that yellow, but I want you to see the note-taking capabilities.

We have, at this point, three different capabilities.

One is highlighting the text, so as you would highlight -- for example, in Microsoft Word, if the student doesn't want to use the notes screen but they want to highlight independently, they can go in and highlight the information that's important.

So let's say no. 4 is important, and they want to take that first sentence, all they have to do is come up and hit the little icon up here or type a key command and what will happen is that will highlight, and when the students print the notes out later, they'll have a highlighted version of the notes.

So it's a nice little -- it's like taking their little yellow highlighter with their textbook, okay?

So that's option 1.

Option 2 is like a copy/paste option and one thing I did not mention that I think is very important is the student screen can independently scroll, so if they miss something or they want to check some information, they

can scroll back up.

Okay?

So we have some notes here that we want to -- we don't want to have the whole thing.

We only want pieces of the notes.

Let's say the student just wants to take chunks out that they can print out later but they don't want all 12 pages, okay?

They can go in and select the information that they want.

Let's just go here.

And they can hit "enter" and unfortunately the information is very awful over here, but they can create their own set of notes.

And I'm just going to quickly go in and change that.

Oh, we'll make it blue.

Okay.

So it's a little easier to read.

And that changed everything.

I'm not quite sure why that did that.

Okay.

So they can create their own notes.

And the last option, I'm going to delete that note for us.

The last option is they can create their own notes.

So -- and my computer does not want to behave.

Hmm!

Well, my computer does not want to behave, so what I'm going to show you is without the text.

The student would place the cursor next to the text that they want to identify.

So let's say we have a sentence there, and it's a piece of important information.

The student would hit "enter," it would create a tag that would tell the program where the note should be printed later on, and the student types their own note.

What happens is, later on they get a set of merged notes, which means they have their notes and in the notes where they chose to place the information are -- are their notes.

It's a nice little option.

We have -- we're working right now to make the -- the tagging system a little bit cleaner.

It's -- it's a nice system, it renumbers the tags and what have you, but we want to build it.

We want to make it a little bit more useful for the students, but we need to get feedback from the students to do that.

We need to know what they need.

So we're working on that.

The students can manage their notes.

They have the tools up there to do it.

They can delete them.

They can take 15 notes and show all of their notes at

one time.

So they have a lot of different options.

That's a very, very brief overview of the software, but I know we're running out of time.

The last thing I want to talk about is the actual on-line training, just a very brief mention of it.

Okay.

Right now we are about ready to launch a captionist training on-line, and we're very excited.

We think it's going to be a wonderful option and an opportunity for a lot of people who haven't had the option to go to C-Print training but -- because they aren't able to travel.

So the on-line training will have a number of topics covered, the abbreviation system, the ASR training, condensing and summarizing strategies which all of our captionists use, and discussion of the captionists' role.

For example, ergonomics, how do I complement the system, how do I work with the student, those types of things.

All of that is included in the on-line training.

There are different sections.

The cost of the training itself is $250 for about 20 hours.

That's on-line.

There is additional practice outside that the -- that the trainees will do that -- and that's -- they receive audio training -- audio -- they're not cassettes, they're on CDs but they receive audio files for those -- that additional practice.

The software is not part of that purchase.

It's a separate purchase.

And with the modules, the trainees have to complete a module successfully.

They have to pass a quiz at the end of a module before they can move on.

So it's not going through the modules wherever and whenever.

They have to go through the modules in succession.

I realize your handout, you can't see this, but this is the menu of the different modules in the on-line training.

They are introduced to the system and the software.

They learn the abbreviation system.

They go through some condensing and summarizing strategies.

They learn if they're going to prepare notes for after class, they learn how to do that.

Section 5 is the actual ASR training, okay?

And then there is a section 6 that's not in there that is the captionist's role.

So all six modules are pretty lengthy, but, again, none of the modules are -- on-line training -- self-directed learning is just difficult.

It's tough.

We're hoping that the on-line is a -- is more motivating for people.

None of the modules are that long where someone would fall asleep, hopefully, at their computer, going

through them.

There -- many of them are interactive, so that helps.

And if you notice on the right, what will happen is once the person has been through the first module, then the next module will be released.

So it's saying they're -- they're going to be available soon, as soon as you've finished the previous module.

And I think I'm done, so Lisa, come on up.

This is Lisa Elliot.

She is our -- a research associate who has been working doing lots of interviews with the students.

And she's going to talk about that.

>> LISA ELLIOT: Yes.

My research is hot off the press.

We just finished last week, so I'm looking forward to sharing some of that with you today.

And Donna is going to push buttons for me.

First of all, I'd like to talk a little bit more about accuracy with the automatic speech recognition.

Both Mike and Gina mentioned that sometimes there are some errors that occur.

What we did last summer is that we used transcriptions that both Gina and Donna produced in high school and college classrooms.

We also made an audiotape recording and then a verbatim transcript and we compared those transcripts with Gina and Donna's.

And first of all, what we found is that -- we looked at the

idea unites.

What's an idea unit?

Well, that's a little chunk of meaning.

How much were the captionists getting?

And in it a typical sentence, you might have more than one idea unit, so you could say Bill fell and marry laughed and that's one sentence but it contains more than one idea unit.

So we were looking at the transcripts to see how many idea units were contained in each transcript.

We found that on average, for that first trial, we had 82.66% of the idea units captured.

That was last summer.

Now we've got this summer a lot more practice.

The next thing that we looked at was the accuracy, and as you may have seen, there have been a couple of errors that have come up.

There are varying degrees of error.

Sometimes it might be something as dramatic as he cannot get in touch with this fall there instead of his father.

Or it might be something a little bit more subtle like substituting one form of the word "to" for another.

Bear in mind this is going to be important in a few minutes when I talk about the students' actual experience in the classroom.

But what we've found -- next slide -- is that we got 97% word accuracy when we reviewed those transcripts.

And that was last year.

We've been getting better and better all the time.

So now let's see.

We're going to talk about this fresh, hot off the press, research that I just finished collecting last week.

We -- we were in some local schools in our area, both middle school and high school classrooms.

We've -- last spring, we worked with four -- four kids in middle school and high school.

This spring, we looked at five more children.

You can see the distribution of the grades.

We had a wide distribution, for a change.

The last -- last spring was a three-day trial.

This spring was a four-day trial.

Last spring we had the old C-Print software, this spring we had the new C-Print software, so we had some great basis of comparison.

We had an interesting gender distribution this time, more males than females, and their ages ranged from 13 to 19, their reading between grade 6 and post-college.

We had some excellent readers in this group.

We interviewed the students and we also interviewed their classroom teachers and their teachers of the Deaf.

These were itinerant teachers.

There are a variety of ways in which the itinerant teachers work with the students.

Some of them are actually this is classroom on an everyday basis.

Some of them don't even see their students except for once or twice a year to plan, and we had that whole range this time.

I'm going to talk a little bit about some of the perceptions of the students now.

The first thing we want to talk about is those errors, and again, we were really surprised.

We asked the kids about, how did the errors affect their comprehension.

And most of them said -- most of the time, it didn't bother me at all.

And we asked them, "Well, how did you figure out what was going on in class?"

And they said, "Well, you know, I figured out from the structure of the sentence."

Some of the students, because this was a very short trial, had their regular support services, so they might have interpreters or note-takers.

FM systems in the classroom.

So sometimes if they couldn't -- if the error was very dramatic, they would refer back to their previous support service.

As you can see, there's a quote here.

We talked about the amount of information that the kids understood, and they said it helped them a lot.

This is a great example of one of the experiences of one of our students.

>> LISA ELLIOT: Okay.

We've heard similar stories, again and again, throughout the years that we've been doing this research, so this just is one more example.

Okay.

Some of the other issues that come up, lag time.

If you've been watching the screens, you've noticed that the different interpretations have been coming on at different times.

And some of our students were bothered by the lag time.

It takes C-Print about three seconds to come up on the screen.

Other students are not bothered by it.

It seemed to me in this set of interviews that I was getting the sense that different students were using C-Print in different ways, and this might be influencing their perception of lag time.

So for example, you might just focus your attention directly on C-Print all the time, and if you're focused only on the C-Print screen, the lag time didn't seem to be an issue.

Or you might use the C-Print as a backup, so let's say you're listening to class with an FM system and you miss something and you would only go back and check C-Print when you missed something.

Again, lag time is not an issue.

The time when it seemed to be most troublesome is when people were using -- were going back between C-Print and interpreters, C-Print and the teacher and just going back and forth, back and forth, back and forth.

That's when the lag time seemed to be the most troublesome.

But again, many of the students didn't have a problem with the lag time.

In terms of the user interface software, those highlighting, note-taking and tagging functions, we asked the students to try the it automatic out.

It was a very, very brief trial.

We didn't have a lot of time to work with students to see how they could use those things but they all gave them a try.

Everybody really loved highlighting.

That's not a surprise.

Particularly in secondary schools, that's probably the first note-taking skill that kids are learning so this is a good practice for them.

But they all tried the tagging and the note-taking as well, and they were all pretty well received.

The last thing we need to talk about in terms of students, though, is the -- what I like to call the coolness factor.

C-Print, having a laptop in class, is very cool.

(Laughter).

>> LISA ELLIOT: We found that some of the students were a little concerned that their peers wouldn't accept them and wouldn't accept this thing in the class and they were all very surprised.

They got a lot of positive attention from other people in class because this is very cool.

And after the C-Print trial went away, sometimes

students came up to them and said, "Hey, where is that person with the C-Print with the laptop?

We miss it."

So they got a lot of positive response from having C-Print in class.

We also interviewed the teachers.

One concern was how distracting the C-Print would be, especially with voice recognition, because there's somebody talking during your presentation.

But we found it's consistent with previous forms of C-Print, that teachers were not distracted.

And here's a great quote of somebody who wasn't distracted.

Even though she thought she might be.

>> LISA ELLIOT: I would say there was one teacher that did make comments and she was more concerned than everybody else about having C-Print in her classroom, but there were other issues going on for that teacher so I would say that in most circumstances, teachers would not be distracted.

The teacher that was distracted, this was the very first time ever that she'd had a Deaf student in her class.

It was the first time they'd had a Deaf student in the school.

And there was a little bit of ambivalence about bringing in a support service about this.

They were even resistant to having a notetaker for this student.

So there was something else going on there that heightened the sensitivity to this one teacher.

But as I say, eight out of the nine teachers were very receptive and didn't notice it at all.

Okay.

So what do we think -- what did the teachers think about C-Print?

First of all, the ones who were receptive were happy that their students were receiving information in multiple channels, so they could read the information, they had the information in the textbook, and they could also manipulate the information while it was coming to them.

A number of the teachers talked about the fact that they were happy that their students had the opportunity to become more independent learners because they could manipulate the information using the interactive software, and again, this coolness factor came up.

The teachers noticed that their students were getting more positive attention from the other students.

As one teacher put it, it was helping the students get past her student's disability because there was something they had in common, this common interest in computers, that helped them to bridge a gap, so it was very positive.

For this session, for this trial, we also gave the teachers the copies of the notes that the students had created, so that there was the actual text from class plus the student notes, and they were really pleased to see that, because it helped them to understand what the students were focusing on, what the students felt was important.

In addition, the teachers saw the dialogue that was happening in class, so not only did they know what their Deaf or hard-of-hearing student was thinking, they also saw what -- how the other students were processing the information, and so it helped them to think about the way they were presenting material, what they needed to review in the future, and it gave them a permanent

record of what went on in class.

Okay.

So that -- we can hold on, if there are questions about the research.

Right now, I need to talk a little bit about C-Print -- captionist certification.

We're in the process of pilot-testing a C-Print certification test.

The final version should be ready by January.

What do you need to be able to be -- to take this test?

First of all, you need to have participated in some sort of C-Print training, either on-line or in-person.

And you need to have had 200 hours of documented in-service time, excluding editing time.

The test is a two-part test.

There's a 40-minute performance test, where people will actually be captioning, and you can use this captioning test with either the abbreviation format or the ASR version.

We're going to score on the amount of information captured, similar to that technique I talked about in scoring the accuracy for ASR.

The second part is a written part.

It takes about an hour to complete.

75 items, multiple choice.

On topics of computer technology, basic stuff like how does your laptop work.

Captioning issues, everyday issues in the classroom.

Issues relating to Deafness and Deaf culture, relevant legislation, and captionist ethics, and of course the scoring is pretty much the way every multiple choice test is scored.

So ...

Let's see.

Yeah, so what are we going to do in the future?

We're going to continue to figure out how the C-Print is working for people.

We're going to refine the on-line training.

We're doing the captionist certification and we're putting together a student guide to help the students use C-Print more effectively.

Mike, you have a question?

>> MICHAEL STINSON: I'm just going to say that I'm sorry that we used up all the time for our presentation, but we will stay around.

We need to clear out of this room, but we will stay around right out here, but we would be happy to answer questions out here.

Out there.

But we need to clear.

>> FACILITATOR: Another suggestion is if you have a question, put it into the evaluation form with your e-mail address and someone on the C-Print team will get back to you with the answer to that question.

That would -- if you want to move on to your next session, and don't have time to talk with the team right now, that's another way of getting your questions

answered.

I want to thank the whole C-Print team, and thank you for attending.

(Applause)

Close