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RIT-NTID

REMEDIAL ENGLISH VOCABULARY AND GRAMMAR SOFTWARE VIA THE
INTERNET

PRESENTER: GENE LYLAK and NORM CROZER

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2 P.M.

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[AUDIO STARTED AFTER SESSION BEGAN]

>> Gene Lylak: The thing. Okay. The second thing we had to do with this grant we tried to think that maybe the grant would help us create an easy to use interface for classroom teachers to develop their own vocabulary materials. We're both teachers and we know that teachers are very busy and don't really have time to correct everything and do everything plus teach classes plus do the hall monitoring and take care of the children, talk to the principal, et cetera, et cetera and then grade papers and give feedback to the students. We wanted something that the teachers could use for their own classrooms. That would be flexible enough to allow any teacher in any school to use vocabulary from their own lessons and create easy to study program to give students practice with those vocabulary words. Then we thought well that would be a good thing in addition if we could develop a place where not only my vocabulary words could be housed but also anybody else's. So if you had vocabulary units you developed you could send them to us and any teacher in any other school could use the vocabulary if it happened to match up with the lessons they were using. We wanted to have something like that that all teachers could use whether here or overseas. The last thing we wanted something that would allow us some kind of system to make sure that everybody could use it. Either here in the U.S., in China, in the

Philippines, in Russia, wherever and have access to these kinds of materials. So that the teachers wouldn't have to develop or spend all their time developing materials in addition to doing their classroom work. So that's kind of like an overview of the goals that we're trying to complete. The first thing it was a four-year project. Last year was the first year we started in may last year. And the first year we're going to try to develop this interface and then try to pilot the vocabulary lessons we did develop. And then disseminate the grant goals by giving papers and talks and seminars and different places. We have been to the Pac Rim conference. We have a goal of going to the PEP-net conference in the states and this conference right here. In addition we wanted to also create some kind of interface for the vocabulary site that would develop and pilot vocabulary lessons for our students and disseminate -- I think we did that one. Year two we wanted to refine the web interface after practicing for a year and then develop some kind of website for the teachers and students that maybe they both could use. Not only teacher development materials but also student materials then disseminate more information about the website to other places. That's an ongoing goal for us. And then in the third year were going to try to test it. Do some kind of pilot outside of NTID. Create the central repository for all the vocabulary items, collect teachers' information. Once we had all that then we try to contact you people and anybody who is interested in taking part in this and then sharing the materials that we have with everybody else and then try to develop some kind of new systems to give extra practice. One of the things that I'll show you some of the examples a little bit later. Then evaluate it. See if it's any good or not. See if it's as useful for you as we hope it's going to be. Okay. So then the last year we're going to kind of disseminate -- one more -- the last year we're going to try to disseminate the project some more then test the website itself and then create a final version that everybody could use. And then maintain it here at NTID, maybe. Depending on how much money we have left. So that's kind of the overview. Next one. Of course, there's a theory behind this. My background is in second language teaching, English as a second language. Norm, also. We tried to apply our second language experience to teaching the deaf. One of the things we look at in teaching vocabulary a way to organize it is to create some kind of technique that carries out a method. The method should be consistent with the approach your using. This is a typical framework in ESL theory background. Let's try the next one for techniques. The first thing you should know is this idea, the website and the way the lessons are developed are really a variation of an ESL methodology called audio lingual method and it -- the next slide -- the audio lingual method has to be adapted for students who are deaf. We know the listening channels are compromised. We know they are not able to hear direct speech all the time. And so not only is their input sometimes challenged but also the speech production, the output is also challenged. And then what we're going to do with the website and using computers we were thinking that maybe we could substitute computerized writing and reading in lieu of the oral methodology people had been using for second language learners. We would replace speech and hearing with reading and writing as extensions, print extensions of this oral-oral method. So the lessons you will see are right now available and have been tested this year with vocabulary practice. Where hearing and listening become seeing and seeing becomes writing. That's kind of the approach. The first exercise kind of developed was the idea the students would have to see the vocabulary item. Just the way normal people or hearing people would come to hear certain vocabulary items we're trying to get students to see vocabulary items in the same way. In the first exercise, would be a study of the word, it looks like this on the computer. The wee show the target word and then the definition is given. And then after the definition, the synonyms are given for the word and then the next thing that happens in this case I have been working with word roots that have Latin

or Greek bases. So the target word groups are given for the word and my theory there is that if I can teach the students the root, they would be able to apply it to different words that they didn't know and be able to like guess at certain words that they aren't familiar with. And then to make sure that the student did that, we'd have the student type in the target word as an active practice. And that's the first thing that happens. Right now, we're still working on a part of the project where we're trying to use word forms, different forms of the same word. So not only would the students study the noun form but also the verb form and adverbial form depending on what kind of word it is. So word like see is a verb, you might think about sight as a noun, seeing as an adjective, that kind of thing. So the word forms are another possibility, another kind of exercise the students can then practice with. So this is basically what it looks like when the students sign on and they do the actual practice -- this thing also has a pointer. So like this word ambiguous, the word shows up ambiguous, the definition shows up, and these are all parameters the teacher would write in. The goal would be, this would be a blank. Whatever word you are trying to teach the student would you would type in as a teacher. You would type in a definition you found in the dictionary, one you made up. A context sentence the word appears in. Synonyms if you're interested in doing that kind of practice. Antonym if one exists and word form and ambiguity and the root. Basically the teacher types in these things then the computer stores it and it goes to the next word. And once you develop ten words in this pattern, the computer program automatically generate as self-test that makes the students go through these items and saves them if the student gets it incorrect and puts it in the back of the line which is a built-in feedback loop. The loop makes sure the student gets enough practice with the word. Incorrect it goes to the back of the line, a different form is presented. So the student after he studies the word, usually takes around anywhere from 15, 20 seconds, 30 seconds and then the student types in the word. If the word is spelled incorrect, the wrong word, the student hits the submit button -- the student hits that submit button and then the computer automatically tells you whether it's correct or incorrect. If it's incorrect it goes to the back of the line. If it's correct you go to the next word. That's basically the first practice the student does. The second thing they do is a definition practice. In this one it's a little bit different. The same idea, though. The target word definition is shown in a line. And then there's a space where the word with its foils appears. So the word ambiguous would be -- you're asking the student to match that with a definition. The student when it looks like you have a definition practice, and then this definition would appear in its own line. This is a definition you wrote in. Then the other words that you put into that lesson, the computer searches through the file of words, and picks out words that are incorrect and then places them at random into the different practices. So here the student would click on ambiguous and then it would go to the next word. The next definition would appear, the foils would appear, the student correctly or incorrectly answer. It would go so on for the definitions. It continues like that for that practice. The next practice would be synonym practice. You saw the list of synonyms, the same thing. The target word comes up. Then the synonym and its foils come up. And then the student matches the synonym and then it goes to the next word. And here the example, choose the synonym that best matches the word ambiguous and then uncertain would be clicked. And then there's a feedback loop that shows up here. I can't show you -- I can show you this in realtime but you have to go through each word in the cycle. So this is what they look like and then the fourth exercise, is looking at the root meaning of the words. In this case the student would type in the target word root form. And then if it's incorrect it goes back into a database clue. The program also keeps a database with all the words that you have typed in there and it saves that and if the student gets it wrong, you can -- there's a little feedback loop that says, okay, that's not quite right. Here's a

synonym for that word then the student tries to guess again. If he remembers it correctly it goes to the next word. If it is incorrect it goes into the feedback loop. And then if it's correct it goes to the next pile. Here, for example, identify the root words for ambiguous. The root here is "ambi" the student types it in here and submits it. When he submits it the screen comes up, right. "ambi." If it is incorrect it will come up with a little clue and take you to the next word. That's done automatically and it keeps a file of this. And then the last thing the student does is tries to type in the correct word from the words that he studied into a sentence. And it's called the context mode. The student types in the target word. If there's an error gets another synonym. If it is correct it goes to the next word. And it looks like this. So here's the sentence. Whoops. Here's the sentence that you write in, the answer to that question was so blank that I didn't know what to do. I started off the first quarter I tried to give the students 30 words to study a week. Too many. They not only got very frustrated trying to remember all the words but when they started doing the practice there are so many words they have to remember and many of them are new that they -- they could not actually fill in these blanks most the time. Loose like ten words to 12 words would be about a good amount for I'd say two or three days worth of work.

Depending on the level of the motivation for the students you could find them either adjusting to 14, 16 words. Some students were very ambitious will actually go through 20 words but the error rate is very, very high. But then find the students go back and they keep practicing it again and again until they get the words. When the student finishes all five exercises could completes them without any errors they are able to print a study list. So this is what it looks like when they print it. Here's the target word. Here's the definition. Here's the synonym for it. Here's the sentence that it appears in. Here's the root for it. Here are some forms for that word. The student keeps this as a reference to study and then at the end of the week I give the students a vocabulary test, review test on pencil and paper and they just go in, they try to see what words they can remember. So this is the vocabulary part that is already developed. And then let Norm explain what the other grammar and vocabulary look like.

>> I have gene beat by about ten years. I've been teaching deaf students for almost 40 years. And I have been working on writing my own software for a deaf students for the last 20 years. I started with a vocabulary program and then I transformed -- I transferred into a grammar program and I'm going to show you both of those. The grammar program and the vocabulary program that I have written actually programs because there is more than just one or two, work with a somewhat lower level student than what gene has here at NTID and they are the like the students that want to come here but are not quite ready yet. So I have done -- I have written a program that teaches vocabulary but not quite to the extent that gene's does and then I've written these two programs for teaching how to write sentences and that's something that all of my deaf students really very much struggle with. Then I also written the other programs and I'm going to touch on those briefly later but I don't have time to really go into them now. So vocabulary, how does it work? I have first of all take a pretest that will identify the words that they do not know. That becomes then a personalized list that they then will have for the term for the fall or the spring semester and it's 180 words, 12 groups with 15 words in each group and they do one group per week which is 15 which is what gene was saying which is about the right number. They also get a hard copy they can take home to study. The vocabulary program is 100% self-contained. I don't do anything except say hi when they first start into the class and I don't like to see them again until the very end of the class. Everything is done by the program. They learn the

words by doing these lessons in each group where they first learn the words by seeing them, by having to type them. By having to do them over and over again by having to do the opposite which is seeing the definition, having to type in the word that's going along with that. Taking a practice quiz and doing a random review because this program is based on repetition, seeing things over and over again and if you get it wrong then you have to do it again multiple times. After they get through with those four lessons they can take the test on each group and each test is cumulative. Have to not only study the current words they have to always review everything that they have had up until that point and that's part of the reason they do well at the end of the class. They have to pass each test as they are going through. If they score higher than 70% the program lets them move on to the next group. If they don't they have to retake the test. After that, then the program gives them a final exam which is once again done by the program. It's my option that I would tell them if you don't like what you scored then you can retake it and some of them often times do that. Like I was saying that this program only works with the words and their definitions. It does not go into the detail that gene's does. And there are two levels in this program, level "A" and level "B." Each level has about 1100 words in the database that the students draw from to get their personalized lists. And so I have hearing students and deaf students and students that have disabilities, students that don't have a disability, ESL. We have a huge range of students using this. The program will let the staff person view the test scores to make sure that the students are staying current because I never see them during the course of the class. I can view their dates and times and how often they are like coming in. And like how much time they are spending on the program. I can suspend a student that seemingly is not moving at the rate that I need them to so they have to come in and see me so we can talk about why. I can unsuspend them later on. I can reprint any of their lists the if they lose it, which is often. I can also take out any kind of a student that has dropped. The program runs on our college network but it can run on a stand line, too. And it works very well either way. The students can if they choose to put a password on there so nobody can go in and play with their work. And there are options that will allow the staff person to also go in and it has a hearing component, a vocal component for any of the hearing students so they can hear it as well as see it. Over the 20 years that I've been using the program with all sorts of students, any one that has gone through and finished the 180 words, the average score is 96% because they see it over and over and the tests are cumulative over and over. And no matter who the person is, if they go through it, that's the average score. The text builder is a program that I started writing about ten years ago and I was going to -- I was teaching English and I wanted to have a program then that would work on present tense. The man walks to a school. They have a car and it just blew up from that. And it kind of like went on. I'm trying to emulate how hearing students learn when they are younger by having the program involved practice, repetition, trial and error that I want them to learn by doing not by me getting up there and lecturing and having a textbook and having them learn it in the regular way. The first program is writing simple sentences. The second one is more advanced, more complex and the VS program is giving them new vocabulary they almost certainly do not know and having them learn how to write sentences using those words but in the same way that the other ones do. How did I come up with this? What I saw was deaf students coming in that were passive, used to using textbooks, the old fashioned way, having lectures, less than full attention. They sit in there doing this, yeah, yeah, right. And uniform learning rates where they are all doing the same thing at the same time and very much delayed feedback. All of those things were like a causing the learning curve to be going way, way down. What I wanted was active learners. People actually doing things in class during the whole class time. Having to

pay full attention to the work they were doing. Getting individualized instruction by using the program, getting immediate feedback so they know right like right then and there whether they are right or they are wrong. And being as much possible self-contained so I had to do less work but still work. So I decided to write my own software and the software keeps the students on the same task until they can master it. It recognizes when the students are ready for each test. It does the review groups for each test. It gives the test which will be cumulative. It moves the students on to the next task but only after they pass the test. And the students have been what has been keeping me going over the last ten years as they use it, as they do things that I -- that I didn't think were -- that they were going to do I see that and I go back and make the change so I am constantly having to change the program by little-bitty word here, word there. The program and this is the key to why this thing works, I think. The -- the program stops the students each time they make a mistake as they are writing a sentence. And it makes them change it if the change is wrong, they have to go back and do it again. So that when they get through typing a sentence, it is a perfect sentence. And that type of work, the trial and error, the making mistakes, willing to redo things is how I want them to learn, not memorization, not having to come up on a multiple choice test. They have to prove they can do it. The program itself has things like you pull down menus, word lists, its own dictionary and it also prints out homework that parallels what they have done that day so they can take it home and also do it at home. I can do all this. I can add and delete students. I can see how much they have done. I can see where they are at any given time. Proofread something another program that kind of works on the other side of the brain where they have to then take a sentence that has one or two or three mistakes, find those mistakes and change them. Based on the work that they have done in the text builder program. So this is working the other side of the brain. In the proofreading, I just got through saying that, the paragraphs program looks kind of like the text builder in the sense that each sentence of a paragraph is given to them in kernels of words like "I have car" so they have to type in "I have a car" the next one says "car be nice," the car is nice, old, red, whatever. They learn how to write in paragraphs in a very simple form. The program has information that goes along with it. About three quarters of the students that have come to me have gone ton mainstream English. I'm not saying my software necessarily was the reason all of them went I think at least some of them were. Now I'm going to show you what the actual text builder program loose like. I'm going to do this real quickly. This is a metaphor because the text builder program is like an iceberg in the sense of what you see is like a small -- it's like a small fraction of what is in the program. The bulk of the program, this part here, is the part you don't see which is the checks that the program does to see what the student types in is right or wrong. There is eight verb forms the program works on. Everybody starts at present tense. Everybody. That I don't care whether you are really good in English or whatever, everybody does that. And you stay working on that until you master it. Then you move on to two, then three all the way down to eight. The goal is to get all eight done by one semester. Sometimes it works and sometimes not. Those eight patterns are used with these three sentence patterns. And these are used randomly with each verb form. So and I have to bring in the concept which seems kind of difficult but I have to of a transitive verb and an intransitive verb, VT and VI. I get the students used to an idea that the transitive verb I have a car, I want more money. Whatever it is. The VI you can end the sentence with it. You can say I walk. But what I do is I want them to type in a place or a -- or a reason. I walk to school. I drove with her. Then the third is the "B" verb and you can use an adjective, she is happy, place, she is a doctor. And the program again uses that number 15 and you write a sentence using -- you write a sentence using -- this is something I want to go through because we're running out of

time. I want to show you. Okay. So the program has two screens. This is the first screen and the program randomly chooses a subject and a verb, ask them to type in a related word for the verb. What most deaf students will use is -- surprise party. But you cannot really surprise a party. So the program comes up and says, wait a minute, that's wrong. You have to use a person there. So then if they need to they can go up and get some help so they can know how to do that but they already gotten help so in this case they would have to type in a here's the help. They would type in girl. They would type in man. Type in teacher. Type in anything that's a person. Then the next screen will give them those three words and say, okay, now type a simple sentence using those three words in present tense. If they try to make a past tense it's going to say, no, not yet. If they try to do any other verb form they are going to say no. The first thing they would probably do is to try typing in -- man. The program is going to say, well, yeah, but you really got to start with a capital letter. So it goes back and type in man. Can't really do that. Because you really have to start off with some sort of an article or a word that will help to know what that is. Say "the man." Type that. Type in the word surprise. If they need to there's the help up at the top which will give them all of the rules, all of the spelling rules, the grammar rule these can use. In this case this is the help that they would get on how do you type in present tense? Then they would type in the word surprise and the program would probably say, well wait a minute, that was a singular noun so you've got to add "ses" or "ies" then they have to type in the word surprises and girl. That's wrong, too. Once again got to say a girl, the girl, that girl, so they would do that. Then they might not add a period. Got to add that. There is the sentence. And that's a perfect sentence, nothing is wrong with it but they made four mistakes in getting to that point. Typing in 15 sentences, I have told the program if the student makes three mistakes or less, that is mastery. They can take the test for that group. So they move on to the next sentence and that's how that works. I think because of time we're going to have to probably stop there. I had more that I could have shown you but that's all I have time for now. Gene, come up and we'll have any questions right now.

>> It depends, sometimes they try to explain in my own way in sign language or ASL, or signed English, or cued oral speech, or depending on what I think the student has been using, and I try to figure out what it is that he understand and what I can produce and how it relates to linguistical awareness in English. I do the best I can. This -- I guess, for myself, I'll speak for myself and Norm agrees with me. We're kind of solid on this. The idea is that you have to actually study and practice English to learn English. It's a real problem for us. So we try -- I try to keep all my text, all my responses, everything in English. Then if I know a way of relating something in ASL or in sign language for a certain English grammar function, like conditionals, "if" suppose that kind of condition. I will use my body and try to explain that, okay, if the first condition appears with present and then will and explain that in grammar and then try to use my body to say, okay, if lean forward, move my -- try to do that. Is that what you mean? I try to do that. It's very difficult to make that one-on-one connection. There are certain grammatical structures in English that don't always translate very well into sign language. Similarly there are certain sign things you can do that are very, very difficult to translate into English. The idea for me in the hand-out that I have, the theory looks at how -- how do you make sure that what you're trying to say in one language is the same as what the student is trying to produce in another language. That you're not sure of. You can't really -- can't really control that situation. But you can control the kind of exposure you can give to written English or printed English. And so if you keep going back to that and you make that commitment, the student will kind of make that

change at one point. That's the best I can do. I don't know exactly. I haven't found a better way to do it over the last 32 years or so. It's something I struggle with all the time. Especially in day-to-day classes because there are some things that are very easy to explain and when it's successful the students, they don't make that mistake anymore because they are adults. Look, this is a problem. Do this. When this problem comes up use this technique and it's kind of like a self-repairing thing. But there are other things you really can't do. I haven't been able to do successfully. We have -- there are a couple of teachers here at NTID who are certified interpreters, sign language specialists and teachers and one woman in particular tries to explain to students what features in ASL directly translate into English. And has a kind of grammar linguistic approach to it. So they will have a set of ASL things, a gloss, ASL gloss on one side the English on the other side. That seems to be -- I try to use that strategy sometimes. Depends on the student. Depends on how much I know about the structure. Sorry about that. It's very complicated.

>> My students work on this the entire hour and a half, twice a week that they are in my class. There is never a time they are sitting there listening doing nothing. There is homework they have to do. When this goes on the internet I am going to give it at homework. Show me next day they have done three groups, four groups, five groups, whatever at home. The homework that I would give them now and then is printed so they are getting practice in writing that out so that's the carryover, that's how I can be sure what they are learning here is being translated into what they are writing here. If they make too many mistakes can tell the program go back and give them the same words. The words they are having here come out here. They get to practice the same words at home writing they just got through doing here. If they make too many mistakes here I can tell the program go back and give them the same words again, another homework again. So I can keep on hitting with them like over and over again. My job when I'm in class is to walk around and answer individual questions about to clarify why this is wrong, why that's not wrong and so forth. So I'm still working perhaps harder doing it this way than I would have if I was doing it the old lecture way but there's a lot more going on because they are not passive learners. They are active learners. That's what I think is going to make them learn.

>> What we're trying to do, maybe not very clear but what we're try doing is to come up with a set of programs, a set of computer programs that are theoretically for teachers, but in fact our real goal is to come up with a set of computer programs that any adult can use with any child. I mean, if we could do this in the second grade or the third grade or the fourth grade, it would be really I think monumental in the sense that it would change many, many deaf students language behavior in terms of how they learn English. I know myself that when parents sit down, there are thousand and thousand of parents across the country, across the world right now who are sitting there going, man, what can do I to give my kid more? You can see the kid is making mistakes. I mean I remember when my son was -- my son was in grammar school, and at the time there was a reading movement called whole language, whole language movement at the time. And whole language, the idea was that you had to kind of get the whole message at once and then you could iron out the problems and the details later. Unfortunately, with my son, he got the whole message it just that he couldn't spell any of the words correctly so when the teachers see that, he said well you're going to have to learn the phonics and sound out the words that actually represent this sound and spell it that way. That's the convention. My wife, myself, my cousins, my nieces, everybody would like try to help, spell this word correctly, spell it incorrectly. That kind of

happens all across the country with parent whose have deaf children. When they see that their children or their child isn't able to write English correctly or to a level that they think they should be writing at, then the parents always want to help. But there aren't a lot of tools that you can have as a parent. I mean you can go on line. Look for stuff and go, here's a reading grade 12. And you have a 5-year-old, 6-year-old. It's not appropriate. So what we're trying to do is develop some kind of programs that you, yourself, as a teacher, and also as a parent, can operate very simply with a computer. Sit down with your child. Sit down with a young deaf adult and you can go through these lessons, either on your own or at some point the student is an independent enough to be able to do it on their own. That's the goal. The goal of the program in developing this kind of program is to make it available for people at all levels at no cost. So the website would be maintained here, you log on, you go to this website, here's a list of words you can practice. Here's a list of grammar, things you can practice. The things you recognize the students are doing incorrectly in the class you can bring to bear immediately. Or if it's a child/parent situation the things you recognize in the child you would like to repair or like to become better at or like to fix or like to teach, you will be able to find things if you can't find something write your own. Type in your own words here. And make up your own sentences. You can type in your own vocabulary words. The program will generate itself and give that student the practice. The practice with hearing acquisition you have this constant reinforcement, the linguistic listening speaking reinforcement. With deaf students you can only do it through vision and sight. You can change the format of what the students see. Give them signs. And in the program that you saw that I had earlier, in that box, in that frame, in the future this year I'm working on a frame where we can assert a web cam photo of yourself. If you're sitting there and you know enough sign to explain something to a student or to your child you can web cam, take a picture of yourself, doing the explanation and insert it right in the bottom there so when the word comes up, you can ask the student do you want to see this in an ASL interpretation. Do you want to see it as a speech reading exercise? Want to listen to it and with residual hearing? Do you want to be able to hear this pronunciation? Want to see it phonetically? Do you want to see it in print? Click on each one of those things and that actual vision, that actual box will show you that word. So ambiguous, little box comes up. You go, maybe you can do that or ambiguous. There are so many different things you can do now because the technology is there. But how do you package it so that people who are adults and working with deaf children have access to it? That's the trick. So my idea or our idea now is to centralize it and have people feed into here. Or some place and then anybody can see any of it so if things are in common you can use them in common. If they are not you can develop your own. If there are things you think are particularly useful put it there and let other people use it. There is something that works great for your child or student and you can share it with other people, your system. That's the goal here.

>> It's actually really nice to see something on a lower level but it's not so easy, so thank you for that. Do you have any issue with student motivation doing the same sort of activity?

>> The only problem that I have is students coming in saying, I want a textbook. Where's the book? I'm going well, books are fine but I want you to learn by yourself and make self-discovery and learn that way. They are going "I want a book." The repetition, having to do things over again. It's a challenge for them. We're at the like 18 and over, so I'm not sure whether that would be the same for younger children but certainly at the 18 or over, I can do this.

>> [inaudible comment]

>> I never had that happen. They will question me as to why is that wrong or something? Because they really want to know. The really neat thing is after a while, after they really start to see how this works they will start to help the person next to them. No, that's -- and they really start to get into it sprint seen that, no. Going along with what gene said my goal this summer is to put a bunch of short videos in that program that will have me explaining why this is the case. Why that doesn't work and so forth. If they want to see why in a signed way then they can do that. No, you would have to -- no, it's ready to be sent to you but not ready for the internet yet.

>> [inaudible comment]

>> That it is ready to be purchased now or -- not with the internet yet, but that's coming. That's our goal. Any other questions? Yes.

>> It gets harder. It takes them longer to understand it. I think, but once they do understand it, it's there. They really have it. Whereas with the other way, with the textbook way and so forth they might understand it then "A" they couldn't apply it and "B" they would tend to forget it later on. This tends to make it stick. And they start to make these changes without even being conscious of it. They have -- they really -- they will all of a sudden go ding, like the light coming on and going, now I see it. Now I know why I've been doing it wrong. And I try in this program to come up with all of the things that I know they are going to do. Like the thing with the surprise and party that I have seen that happening so many times and I'm going. I'm going to wait for them. I'm going to ambush them. When they do it, you're wrong. If they make that same mistake too many times they are going to start to learn it and not really know they learned it. Which is what my goal is likewise with Gene. Any other questions? You can't replace the teacher, exactly right. Exactly right. That's why when I'm using this I have to be in the room walking around to answer questions. But it has taken it to a level that I never was able to get to when I was doing it with a book and the regular lecture. Not even close.

>> When we see deaf students they tend to make the same types of mistakes regularly and I was wondering if there's any sort of grammar software where they could -- I wanted something to be able to give me immediate feedback on my grammar. So maybe this can be applied in that way in the future.

>> I think adding the video component that I was saying that I was going to add, I am going to do short little-bitty segments why this is happening, that is happening. The text builder II program I didn't show you is at a quite a bit higher level of sentence patterns.

>> I mean more like free form text.

>> That would be difficult to write a program to do what I'm doing here. This is so contained that I can keep them where I want them until they learned it. If you go to free form that's much harder to do but when I'm having them do the homework.

>> Yes, I know.

>> When I'm having them do the homework and later on after they have gone through the programs I will have them do it on typing in sentencing or whatever, a short paragraph, in word and I go over it with them. Remember back here when we were talking about this rule here. That's where you use it here. Oh, really, okay, fine. So they free form has to be done more on a one-to-one with the person, with the teacher. There's not a program that I can imagine that would have the ability to do a free form correction like this one does.

>> adding to that, there is -- if you're familiar with word, Microsoft word, in the track changes column see that if you're going today it something in a document, you can click on track changes and make changes as you edit. What I'm working on is a grammar correction program kind of based on that same idea. So what would happen is the student would write something, and then you would notice it. Or even for your own writing, you would notice it. Then you would say this is a type of error. Let's say pronoun agreement error where the pronoun doesn't agree with the verb for some reason. Maybe one of these words like everyone, everything, anyone, anything, those kind of pronouns that cause people problems in agreement. Well, what you could do with one of the programs that I'm working on now is you could have -- highlight -- have somebody edit it. Somebody who is going to be teaching English or somebody like yourself or someone who you are working with. You could see a mistake in your -- in the production of the writing. Then you would highlight the mistake. And then you would develop a grammar tutorial for that kind of mistake. Let's say pronoun agreement. And so you would show a number of different mistakes and pronoun agreement on a separate feedback. And then show a number of possible corrections for that type of agreement based on the grammar rules. Then you send it back to the student and then when the student looks at it, there is a yellow kind of marking on that. Clicks on the marking and that window that you explain the grammar in pops up. It's not, it's the same kind of mistake the student makes. But it's not exactly the same word. Could be a different word or different mistake. But that gets at the idea that Norm was talking about. You have to create this kind of environment where the student knows the rule without having to kind of ask anyone. And then even though they make mistake themselves. The exact mistake isn't corrected by anyone other than the person who made that mistake. And that's a very effective strategy to get students to change their writing behavior. It's very useful for grammar so that idea like we tracked changes instead of showing the rule and the mistake. You click, highlight the mistake and then have the student look at that category, they will hold general category of mistake and then have them develop their own grammar to make that mistake correct. That's one way of doing it. We've been very successful with that. It's called a mark-up editor if you're going to be around. I will show you an example on the computer when you want. It's the same kind of thing. Here with this one you write in the program or the change that you want to teach and I've been thinking about how to do that myself for a while because a lot of deaf adults, I did it originally with a movie course where students signed on line to do a study of movies and literature, film and literature and then started working on that and then found that many deaf adults they want -- they have certain problems that they know that they are doing but they don't know how to fix them. Don't have anywhere to go fix it. Don't have anyone to ask. So that would be a good thing to have, also. A commonplace where certain types of questions would come up and certain types of answers to those questions would be saved. You could access it any time you wanted to know. We don't have some place like that yet but that's something in the future.

>> Conceptionally come up with some type of system that rested on top of word so that if as a teacher you come along and find a mistake. Okay well this needs to be changed in this way because written out of an explanation or --

>> Right.

>> Then you could go back and take that and convert into it something where it touches [inaudible comment] you could make it into a challenge.

>> Right. I have examples I can show you that do that, yeah. It's a writing practice. A different kind of practice than what Norm was showing where we are actually working on sentence structure. We're looking at nine basic sentence patterns here that really can account for 90% of the language that people produce in English. Then the remaining 10%. Yeah, you can -- but much more efficient. People are 90% of them at 100% much better off than learning a much lower number.

>> [inaudible comment]

>> He has one built into that grammar program. This is available now but it's not, can't do it on line. Have to -- have to download and it run that program. Yeah.

>> To follow up on this last question, this lady here had, the students when they first used the program if there's a window that pops up and says what they did wrong as quickly as they can move it out of the way so they can keep on typing. They don't want to see what they did wrong and I have to say, wait a minute. You've got to stop right there and read what it says so you understand why you were wrong. I tell them, if you don't understand why you're going to keep making the same mistake over and over again. That's when they stop doing that or that's when they intend to.

>> So how many students tend to be -- how many students in college who are deaf? A few or several?

>> About a hundred students per year, we're one of the largest in California. Of those 100 the ones that come into my class is maybe 10 or 15. The rest of them are more prepared for mainstream but the ones that are coming to me are the lower verbal, the ones that are also struggling with learning English. We also have this same program that a colleague of mine at Piece is using with developmentally delayed students that can speak fine but can't have a very hard time writing. This works well with them, too. Any other question?

>> One more. Have you heard of a project from the university of -- icicle. I'm not quite sure how to spell it the icicle project from the university of Delaware that really focuses on grammar and facilitating the development of grammar use among deaf people and I haven't looked at it quite in-depth but I didn't know whether that project was still up and running or not.

>> I have never heard of it.

>> If you Google it maybe you will find it.

>> [inaudible comment]