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"DEAF STUDENTS AT GSD BENEFIT FROM INTERACTIVE TECHNOLOGY!"

PRESENTED BY: GOLA BURTON & MIKE BURTON

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>> Good morning! I have the pleasure of introducing the 11:00 session. And I would like to introduce three people that are going to be help us with the presentation. To my left is Donna O'Brien working with her is Mariam Lerner, and providing the realtime captioning is Mike Cano.

Our presenter this morning is Gola Burton from the Georgia School for the Deaf. And she would like to give you some background information. Thank you, Gola.

>> GOLA BURTON: Hi. I'm Gola Burton, and as he was saying, I'm going to talk today about an interactive program that I used this year to use with English and language learning in ASL.

Who am I? Well, I was asked earlier if I was Deaf or hearing. I'm hearing, but I'm almost a CODA. I grew up in the Deaf community. Both of my parents worked at the School for the Deaf, but they were both hearing. And a lot of Deaf people have accused my father of being born hearing by mistake.

I'm also -- and now I have a step-mother who is Deaf. So a lot of deafness and a lot of interaction within the Deaf community.

I am a teacher at GSD as I was saying, and I have taught middle school, I have taught most recently high school biology, and next year I'm going to be teaching kindergarten and first grade.

's I'm also a mother of two children. They sign very well. My step-mother has been very involved in their upbringing as well as the numerous deaf friends and deaf people we associate with.

All right. Now, the crux of the matter is what is the problem with learning language?

What is the main problem that we have as instructors and teachers of the deaf? Anybody have any idea? Alan Hurwitz --

>> Audience member: Reading.

>> GOLA BURTON: Reading, exactly. Reading, or even more specific language development, acquiring the English language.

Well, there has been some research done about the reading levels and vocabulary levels of Deaf students and hearing students. What do you imagine the gap is does anybody have any idea what the gap is between, say, a six-year-old student who is pre-lingually profoundly deaf versus a hearing 6-year-old? What kind of gap is there between their vocabulary or language?

>> Audience member: About 10,000 words.

>> GOLLA BURTON: About 10,000 words. It's a few more than that from the research in "Newsweek" Magazine that I read. They say that an average six-year-old hearing child knows 40,000 terms. Now, when they're talking about "terms," they're not just talking about single vocabulary words. They're talking about -- and the way that they determined this was they videoed them and sat down and interacted with the students.

They said, okay, they would ask a student get up. Well, that's a term, okay? "Get over it."

"Get around it." So that's all terms, even though they are the same vocabulary words. So it was 40,000 terms based on their research.

Now, the average six-year-old Deaf student like I said that's pre-lingually profoundly deaf, what do you think that they have?

>> Audience member: 2,000 maybe.

>> GOLLA BURTON: Okay.

>> Audience member: 10,000?

>> GOLLA BURTON: 10,000, maybe. One of the things that you've got to realize about these students is that we're talking about the average, so we don't have Deaf parents, they don't have Deaf parents, so they're coming from a hearing family. No involvement with deafness, so actually 40 gestures is sort of what we have seen based on just experience. I don't have any official research, but 40 gestures. And I tell you why I go to that is because recently I'm going to have, as I said, I am going to be pre-K/first coming in. A new student came in to camp and I interacted with her. She had one gesture, five years old. She has been going to public school. She can write her name. But the only gesture she knew was (indicating). Do you know what this meant?

I've got to go to the bathroom.

So if you go to a six-year-old, they've had more experience than this child has had. So the average hearing child learns how many new word as day? And I'm talking about learning. I'm not talking about being exposed to it. I am talking about putting it in long-term memory. They've seen it used, read it, seen it, about seven words a day.

So in 15 years seven words a day, we did some math, how many words would they have to learn to close -- the deaf student have to learn to close that gap? Yeah, a lot of words.

We came up with the number that it would take 40,000. It would take 15 years to close that gap, but at the same time the hearing student has added -- I mean, they're still learning. They didn't stop. So they've learned an additional 40,000 words.

So in effect, the deaf child needs to learn, you know, 14 new words a day. 14 new vocabulary words today, putting it into their long-term memory. So we agree that this is a major problem that we're all facing.

Well, I was asked to do some tutoring with some seventh grade students in the afternoon. I talked with some other teachers that were using this program, and we talked about what the solution to the problem would be. And the solution is that we've got to go back and develop the first language, ASL. We've determined that you've got to know the ASL before you can translate it over to the second language of English and learning vocabulary.

So I posed a lot of questions in my abstract that I posted, and one of those is, "Is there a technological tool that can help us to do this?"

Well, I decided to try this particular tool, and I decided that, yes, there is one. And I'm going to demonstrate some of the features of this program.

The first feature. How does this work? Well, this program has multiple choice questions with pictures. Now, what we're doing here is we're assessing their signing skills. We're not assessing their written language.

We're not assessing their vocabulary. We want to know if they know this sign, and they know what this sign means, their first language. They've got to have that before we can go anywhere else? So they see the sign and they have is the pictures here. Notice that the picture does have the vocabulary. And then they choose the answer. That answer was correct. They know it was correct because this flashed green.

So now they have another picture here, another sign. They can see it as many times as they want to. And, again, it was green, so it was correct. Now, let's say that they choose the wrong answer. It tells them, oh, no, that wasn't the answer. The answer was, and it's the one that flashes green.

While it's doing this, it's documenting it, and it will go into the student's file. They have a file on the computer so that I can call up the results of these tests at a later time.

So can we evaluate Deaf and Hard-of-hearing students ASL vocabulary? I used it with the seventh graders. We used it with a special-needs high school group, and another second grade teacher also used it.

So this shows the results, and it was about what we thought that it would be, the second graders had about a little over 80%, special needs was about -- realize that they are special needs. We actually thought they were higher than they turned out. And then the seventh graders did much better.

Now, we're going to -- we've done it with the ASL, and do they know the sign. Now we're going to do it with the English. Do they know the sign and can they match the printed word with it?

So they see the sign and notice that the icons are gone -- I mean, the pictures are gone, the icons, and the student chooses baby, that was the sign for baby, and it flashed green. Again the sign and they choose the answer. And these are the results that we got for this.

Now, comparing the results from the first to the second, now, the seventh graders were actually getting a little different group of words than the other ones were. Theirs were a lot harder. There were more phrases, more like "get up" and "get down." Rather than just the basic signs.

Most of the signs are on around the first-grade level. So there's 26 different lessons, tests involved, and I think that this shows that we can accelerate the learning of words. And we're testing them. So we have these results documented.

Now, they can recognize the word, but if they have to use it in scene tense and they have to write it, can they spell it? They know the sign, oh, yeah, I want to use this word. But if they had to pick it out of a choice, they could still pick it out of a choice, but can they spell it?

We did the pre-test on them. They watched the sign. Now, on the pre-test, this is not something that's been taught. This is individualized. They're doing this one on one with a computer, and you know that you can have one sign and you can have lots of different English words to go with one sign.

So we're going to give them some hints over here on the side. They're going to know that they see this, it begins with a "G," it's long, it has five letters, so they're going to type in the word. This one begins with a "W," and it has five letters.

And then when they get finished, they'll take the test. This shows the student immediate feedback of what they missed. They're going to say, okay, they got those right. They missed these. That's the correct spelling. They can go back and look again. Oh, that was the sign. I didn't know the spelling for the word. There it is, B-A-T-H. So they're learning at the same time that they're taking the pre-test because you know you've got to seat word over and over and over and over again before it's put into your long-term.

Okay. So they've taken the test. Now we're going to do some practice with the words. So number one, we saw the Sign, and we've got choices over here. So it's a multiple choice. It's an exercise. It's not a test. It's just an exercise for them to do to see what they can remember for them to practice it.

Once they get finished, again, they check it, immediate feedback, they know which ones they got right, they know which ones they got wrong and then if you'll notice right there it says "try again." Now, the computer requires 80% correct. I required my students to have 100% correct. I wanted them to know it. These were seventh graders. I pre-tested all of the pre-tests in this particular part of the program. There are a lot of additional components to it but in this particular disk.

So once they get finished with all of that, then we're going to do the post-test. They've had practice, they've seen the signs repeatedly, I've intervened when they needed me to, but for most part this was them sitting in front of their computer doing their work individually. I can go around and monitor. I can go around and help. But it's individually student-centered, student driven.

So they're going to take the test, and you'll notice that on the test it does not have the hints, okay?

They know what word we want them to spell for this sign because they've been studying it.

So there's no hints on this one, so they're going to go okay. They didn't do well on this test, so we're going to test it again. And then, like I said, I require them to keep testing.

Every time they've taken the test it's been documented into their individual folder. So this is the pre-test on the spelling, and the post-test on the spelling.

And this was for the three groups. This was the average with the three groups. And we did this with more kids other than just these three. I am reporting on these three today because of scheduling problems or different other issues came up with some of the other data, so I just didn't use that. But these are the three, there were three different teachers who used this pretty regular since January, and at the same time I was having to deal with some of the revisions in the program. So y'all don't have to deal with those. It's working great now.

Dr. Easterbrookes from Georgia State University has done research on the importance of knowing your first language, and being able to tell a story in ASL. Once the student is fluent and they can tell the story in ASL, it's much easier once they are comfortable, they know how to do their story, to move that over to the English.

So this is a girl telling a story in ASL. This is a A-B-C -- oh, I'm sorry, I didn't look to see. This is "Jack be Nimble," it's a nursery rhyme. You will see some of the other topics and other stories, but the premises is that we need to have core knowledge. These are short -- these are seventh graders. Do they look like they're hating this? No.

And I've been to some of the other sessions which they also commented on. One things that will really motivate your student is knowing that they're going to get to be in front of the camera. They love to be in front of the camera. This will be one of my students next year. She saw it for the first time. She's probably seen the story twice.

She is watching it as she signs it. Now, the other ones they were required to practice, practice, practice, practice, practice and get it down before they were able to do it.

Now, this is a ASL poem, a A-B-C poem. Some of you may not be familiar with them, but it uses every letter in the alphabet to tell a story. This is probably a pretty popular one. It's the motorcycle. So they used

each hand shape for the letter of the alphabet to tell a different part of the story.

Okay. Once we do that and we have them videoed, then we have a rubric here. It's kind of small. I know y'all can't really see that. But this is a rubric that we use to evaluate their ASL skills.

We want them to be fluent in their first language. Now, can we take all that we've done so far, we've worked on their vocabulary, we've worked on their ASL skills, can we use that to improve the English and the writing? There is a writing component to this. They've practiced the stories, and you can see some the different ones, "early to bed," Jack be nimble" those are nursery rhymes most of them.

So they can see the story divided up into chunks. They can see it in slow motion, and they can see it again. They can just keep clicking on that one phrase that's highlighted right there that's divided out.

" Quick" would have been one of their spelling words that they had. They can see it really fast, the whole thing.

Once they've done that, a couple of times they feel comfortable with it, they feel like they know it, and then they can go to the writing part. And they can see part of it, and then they can start writing.

Now, what I noticed with my little ones I was working with them during summer camp, I just had them for a week, is that they actually started -- and like I said, I haven't met these kids before. This is my first time. I don't know if they've been taught this but the title of the story is. You know, that's in here. They know that that's a separate thing, they know that they need to identify that, and they actually can see her sign it, type it out, and then that again put into their student folder, it's documented, it has what they just wrote.

This is an actual student writing. They did it three times. This is the first time that they wrote it. They watched it, and this is what they typed. They went back, they watched it again, they looked at the English again, they came back, they wrote it again, and then this is their third time.

Now, at this point as the teacher, I can do a little more direct teaching. I can take them, and if the whole class is having some of the same issues, I can teach a whole lesson on it. If it's individuals who are having the same -- you know, who is just having that problem for one student, I can sit down with them, and I can say okay, this is what I noticed in your writing. You need to conjugate this verb. You need an adjective here, you know, you need to switch these around and talk about some of the conventions of English language.

This is" Hey, diddle, diddle,"they're seeing the words at the same time they're seeing the signs. They're also seeing pictures, so they're actually seeing it in animation what is it this means. They've seen it in their language, they have it in English, but they also have the visual support.

And the little ones really enjoy that part because they like to see -- it just helps them to visualize. And we try to teach our students that. When you see the English, and you see the writing, try to visualize what that means. What does it mean when the cow jumped over the moon? You know, it goes up and over.

Now, these are simple stories. These are very simple nursery rhymes, but there has been research done, and I don't know if you are familiar with E.D. Hirsch, and his premise is that it is important for all of us to have the same basic knowledge and cultural information.

If you just take a minute and read the newspaper, watch a news program, watch a TV program and they frequently refer back to things that you picked up when you were learning nursery rhymes.

I mean, it's hard to imagine how many times that we actually have these things come up and if you didn't learn those nursery rhymes you don't really understand what concept they're trying to show and tell you about.

So can we improve reading comprehension? Again, they've got to have the ASL skills. They've got to have the vocabulary, they've got to be able to move it to English. Now can they Comprehend what they're readding? Well, this program actually has the questions and the tests built into it to test their comprehension skills. Now, when we are first introducing and talking about comprehension, one of the things that we want them to be able to do is to answer the who, what, the W-H questions.

And standardized tests they can ask it 100 different ways, but they also ask what's the main idea? Who are the characters? Moral of the story? What happened? And so they can watch the story. They are seeing the questions in Sign Language, and every student is getting the question asked to them the same way. So how did Jack not move? And so they are also learning some of the nuances of their own language, but then they can see each one of their choices. They can see each choice in Sign Language, and they can slow it down, speed it up. So they've got to choose the answer.

Now, 100% of the students that I worked with answered "D." He was nimble. Okay?

But he was not nimble. And do y'all see how she said no? Oh, isn't she cute? It's not like, "You're wrong!"

They kind of take that a little bit better.

And then it also gives you the right answer." He moved slow."

Well, when I realized that they had all missed this question, of course, I took the opportunity to teach not, when you see "not" "know test taking, what do you do?

If I take "not" out, I think that the answer is "D," so what's the opposite? Because it's not that answer.

And you also know that on standardized tests they want to know which is the best answer. You know, you've got to determine what they think is the best answer.

So what did Jack jump over? And they got it right!

And the main idea. And many of these can be right. I mean, it's possible he was happy, but you've got to pick the best answer. And y'all know main idea, main idea, main idea. And on standardized tests it's asked a lot of different ways, but first they've got to be able to answer it when it's asked to them straight.

I've talked a lot about the student files. Accountability. I mean, how many times have y'all heard that. Accountability.

How do you know that your students have made progress? You know, when mama calls and said, "What have you taught my student this year?"

They have their own file. So you can pull their file out, and you can say, okay, here is what he did in the beginning, and here's what he did on his practice test, and here's what he did on his post-test, and how much progress he has made. When your administrator comes in and says, you know, "I hear you've been slacking off," well, no, but the student has been at the computer doing it individually. But look what they've learned!

Here is all of their tests. It shows you exactly what kind of test it was. And you can actually see which ones they missed. It gives you -- I mean, you can printout just about any kind of information that you would want to. I mean, this is the first dictionary, the first words with icons. We correctly answered "baby" we correctly answered "mama" on the next one answered sun but the correct answer was "horse" so he is confusing "sun" and "horse" so we need to go over this more.

And you can print it. You can print the report to give to the student. They can take it home, take it to the dorm. They can study it,

they can show it to mama, you can print three or four copies and print one to every administrator who is wanting more paperwork.

And it's showing us everything. There's also a game component in this. The kids really love the game. It's a spelling bee. And you can pit one and one. They like to compete against me. Of course, I intentionally miss a few. But I let them think that they're fooling me on some of them. You can have groups. The kids really like to compete against each other as groups and have them rotate around, or have them -- and if you get excited about it, they get excited about it. I mean, you can have them -- I mean, they're running around, jumping up and down and cheering, yeah, we got it right! They didn't know that one. So you can also get some -- okay, this showing the spelling bee.

And they learn points, and then you can give bonus points to whoever wins on their grade or something like that.

So I have to confess, okay, it's confession time, the name of the program is Burton Vision, and it was actually created by my dad.

So do I need to tell you that. I still totally 100% am behind it. Even though it's developed by my father who is hearing by mistake.

It does allow us to quickly evaluate their ASL skills. We know where their baseline is. We can set up a baseline. And that's something that a lot of people don't do.

I mean, this is done on the computer, so it's documented. It allows us to quickly and easily correlate the English vocabulary with ASL knowledge. We can establish benchmarks on the student's spelling ability. We can go into the moral of the story, similes, metaphors, and these are simple stories. You think these are easy. They are baby. But you can use these simple stories with older kids to teach more complex ideas.

And there's so much. I mean, just right here. And there are some that -- okay. So the moral of the girl with a curl, it's got a moral to it it's a little longer.

So we're going to learn a little bit about she may be all nice and cute on the surface, but behind --

Do I have handouts that I am going to give you. It has really a summary of the research that I've done. I mean, I did have to do some research to verify that even though he is my dad it is a pretty good program. So I have some research here that says that it's good, and this is a summary of what I told you today. It's all posted. My paper is posted which is pretty much the whole lecture that I've given today in a little more in-depth.

So anybody have any questions?

>> Could I ask you if you wouldn't mind going to the microphone, please, for your questions?

>> Audience member: I have two, actually. One is how high up does your vocabulary and story level go in terms of academics? And can you add -- can a teacher add video or vocabulary to it?

>> GOLA BURTON: I will answer the second one first. You can not add your own video or vocabulary to it. You'd have to call him and ask him to do it.

>> Mike Burton: The program that we've developed, the basic program, you can purchase and make your own, or you can send the video to us, or ask us to make -- send us a list and this program right here is only about 400 words that go from pre-K up to fourth grade, but we have other programs that have 4,000 words and vocabulary that go on up to college level. Marty saw some of the ones like in the story kidnapped, some very high-level words. So it depends. We have a lot of different programs.

>> GOLLA BURTON: And the stories get more complicated and the stories themselves are on a higher level. Poe, it has all of the same components that this has. But the vocabulary, I mean, gets much more higher.

Anybody else have a question?

>> Audience member: So you can buy like these programs with the different levels?

>> GOLLA BURTON: Yes. My e-mail address is on here, so if you would like to contact me about any of the research or how I've used it in my classroom or other teachers at my school have used it, please feel free to e-mail me as well as the program itself has the website is listed, and Mike's e-mail address, his personal e-mail address, so you can contact him.

And I think that I might have some Burton Vision brochures if anybody is interested.

Do I have any other questions?

Okay.

>> If I may ask? This is a neat way to assess receptive knowledge of vocabulary, and I am wondering about expressive. You have looked at that at all?

>> GOLLA BURTON: Well, actually the expressive comes into when we video them re-telling the stories, and we use that rubric to say, "Okay, you did a really good job with eye gaze." Like if you watched, one of those girls did really good eye gazing where one of the other girls just kind of freaked out on it.

And body shifting. We have a rubric that we use to evaluate. But it is not on spontaneous signing. It is on a story that they've seen and practiced. And that's their favorite part. They want to be in front of the camera.

Anybody else? Okay.

>> I think that we have some time, if you have individual questions and would like to ask Gola or Mike, and I want to thank you both very much.

(Applause)

>> GOLLA BURTON: Thank you.

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