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Teachers as Learners: Lessons Learned in Helping Teachers Develop Skills in Applying Instructional Technologies

Vicki Robinson

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Vicki Robinson

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2:00 P.M.

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>> good afternoon.

My name is bill Clymer and I'm the moderator of this session focusing on faculty development in the use of instructional technology.

Today what we have done is invite three practitioners representing different schools for the deaf to come in and talk to you briefly, ten minutes each, about the successes and challenges that they have had at their school related to teaching, related to supporting teachers in the use of instructional technology.

I will let each person introduce themselves, say a little bit about their school, and then they will talk for about ten minutes.

If it goes to 12 minutes, I will stop them and they will go to the next person.

Basically the strategy is they will review the goals that they have for instructional technology development, successes that they have experienced and challenges that they continued to face.

So with that, I turn it over to Shelley Popson Ardis who will speak to you about the work at her school.

>> I'm actually here talking about supporting teachers and general education setting, mainstream and inclusion settings, rather than at a state school for the deaf.

Most of the teachers that the agency -- let me explain where I'm from a little bit.

That might help.

I work at an agency called the resource materials and technology center for the deaf and hard of hearing.

The agency is located at the Florida school for the deaf and the blind.

That's where we're housed, but we aren't part of that school.

We actually are a statewide agency to support any staff serving deaf children throughout the state of Florida.

There are three of us to provide support and consultation and training.

So our role is to -- and our goals are to provide opportunities for teachers to collaborate, teacher to teacher, classroom to classroom, so they're not so alone in their educational world.

We try to provide ongoing practical support that matches their unique situation.

The kinds of learners that they have, the kinds of equipment they have access to, challenges that they might be facing, specific learning needs that the students may have.

Another goal is to provide opportunities for teachers to contribute and interact with others in the field.

They can do this by joining projects that we become involved with or that we offer through our center as well.

There are lots of challenges in this role.

We have a lot of teachers who are the only one of their kind in their school settings.

They may see very small numbers of students with hearing loss.

So in their school situation, they don't have priorities in the eyes of the school system itself.

There is a shortage of support staff, interpreters, and in most cases, none of the other staff at this school can communicate in sign language when that is necessary, so if there's any emergency, any situation, any behavior problem in the cafeteria, any time the student needs another person to communicate with them, either the interpreter or the teacher have to run to take care of

that responsibility, which takes them out of whatever task they are right in the middle of.

We find that when we go visit to provide on sight training, the first few minutes are unloading and reconnecting to someone else in deaf education and then you can start finding out what is going on with their students, what is going on with the teachers specifically, where they are, and try to make steps from either the last site visit or if we're following up after a special event or a conference, we can do that.

We provide training and support using distance learning technologies, but still not nearly as much as we do face-to-face.

There are three of us, as I said, that travel throughout the state doing districtwide workshops for all the staff within a school district, or in an individual teacher's classroom.

A little more slowly?

Sure.

I can try.

Let's see here.

We are also a connection to other disability areas because our agency is part of a network of agencies that serve other students with other types of disabilities.

This allows us to stay up to date with all kinds of technologies and not technologies specific only to deaf children.

The three of us -- the three of us, though, were teachers for deaf children before we became technology specialists.

We have found a few solutions for reaching teachers by putting a lot of the materials, training and workshop

materials on the internet.

We also try to make what we offer very practical so the teachers can incorporate the training into their own professional development plan.

We have a lot of difficulties serving teachers because there's not enough release time.

Right now they're no longer able to leave their classrooms and because it's a statewide training effort that we have, if the teachers can't leave their school district, we can't offer a statewide training.

They can't come, they can't attend.

Being everywhere constantly to provide that on going follow-up is harder to do.

Especially with more and more children going into more inclusion or mainstream situations.

There are more itinerant teachers out throughout the state and they're harder to find and harder to keep -- to pull together to meet.

We also have extreme diversity in the kinds of children that are placed throughout districts, school districts, and even within individual classrooms.

So sometimes the resources that are teacher needs ranges from something for a child who just moved to the country and has no sign language, no written language to a child that is fully mainstreamed that is looking for accommodations that they can take on from their Tech dare schooling to college -- secondary schooling to college situations.

We have started making publications that are more dynamic and interactive.

So they are multimedia and demonstrate by either little video clips or screen captures of software programs, they're the kinds of things that we're advocating for

students so teachers don't have to read through a lot of print article-like, research paper-like materials to find answers.

They can be presented information in a more interactive engaging way.

And we're also trying to encourage teachers to communicate with other teachers through video conferencing, bulletin board, things that keep them active members of the deaf Ed community instead of being -- becoming so alone in their district.

I can probably stop there.

>> thank you.

I should point out to you that we're going to try to have some time at the end for questions and that each of our panelists have prepared handouts that are in the back of the room, to their talking points, and that these handouts will be posted on our website so you can access them later.

Jeff Porter and I will summarize some of the additional discussion that we have today and we'll also post that on the web as well.

So now I would like to ask Karen warren from the American school for the deaf to do her presentation for about ten minutes.

>> hi.

I'm the Director of Information technology at American school for the deaf in Connecticut.

We're a K-12 residential school for the deaf.

We have started expanding our services and are now providing more services statewide through our outreach program which I think is a very common trend, but I think I'm coming today from the perspective of the

center school residential program.

When I was asked to do this, the first thing I did was sat down with two of you are educational technology specialists that work for me so they didn't have the choice but to sit down with me and talk with them an sit down and find out what is working, what is not working and what some of the goals are, and what is happening on a day-to-day basis.

When I was looking at the goals, I was not just looking at the goals for our organization, but I was trying to think of it at a broad level, a K-12 level of goals, and I would say that I'm trying -- we're still trying to narrow that gap between those who will and those who won't.

And as I've been in this field now for awhile and seen that it's changing, I've seen that it is slowly changing, that the teachers that are coming in now, it's now finally starting to get more on the will-do side on the won't-do side, through natural attrition or people who have finally said, okay, okay, I'll do this, that is good, but I want that gap to narrow a little bit faster, I think.

I know from the perspective of somebody in charge of the technology for the organization, in charge, I always -- that is an odd word to say, I guess, the person who serves as the leader is, I want to reduce this idea that the Tech belongs to the Tech people.

There's been a lot of -- and I see improvement there.

There's been a lot of -- the techno people know how to do that, call the Tech people, not as much a shared ownership of everything that is going on, the technology really isn't art, they just work in that department, and there is I think the change from the won't dos to the will dos is also a change over in not seeing technologies belonging to the Tech, but it's everybody's and we just support it.

But the last thing I mentioned as a goal here is a purposeful rather than a competitive integration.

What I mean by that, that sounds like a fancy term, but all I mean is that it's very easy and I'm sure this is true in other fields as well, to get very caught up in what everyone else is doing.

You kind of go -- and I know that the administrators above me and this probably happens to many of 0 you, you know, you get these articles handed across your desk, or look at this, they're doing that, look at this, they're doing that.

And that is often very helpful in terms of knowing what people are doing, and so I'm not -- I'm not discouraging that point of view.

But trying to stay on track is applicable to us in our organization, is this applicable to us in our student population?

This is a great tool.

Will we use it, or are we getting the tool to be added to the list of schools that use the tool.

I try to stay on that track of not always trying to keep up with the Joneses but also requiring technology that we're really going to use and that is beneficial.

So I will quickly, but not too quickly, try to summarize some of the challenges and what has worked for us.

But I think some of our challenges are really similar to yours, similar to everybody sitting up here, and I hate saying funding in time, because everybody is going to say funding in time, but it is funding in time, and that is, you know, that is part of the issue.

And I don't know how to make more time.

If I find that out, that would be great.

But part of it, aside from those obvious things, I meant -- I want to mention attitude, and, again, I think this is going back to that same concept of will do and won't do,

and we still do have some teachers, you can put all the tools right in front of them, and unless you want to put their hand on the mouse and move it for them, they're still really not that interested.

That is a fewer number of people, though, I will say.

That is a fewer number of people.

But that is a challenge.

That, you know, not everybody is rushing out to embrace this.

Not everybody is here and excited about what is happening.

And I'll speak in our organization and I don't know how broad this is, but a certain lack of mandates at the administrative level, for very specific requirements, which I know in itself can be time consuming for the administrator, but we finally started addressing this, whereas, you know, they must use this program.

Okay.

How?

We really need to get down to what is the mandate.

What are the requirements?

What skill level do you envision for these people?

Because they are lacking in certain -- okay, I'm using it, that is good enough, and also building that into the future evaluation.

That is the only way for some of the won't dos are going to do it.

And so -- but without having something specific in there, it's kind of a very vague goal for them.

What has been successful for us -- I actually wrote down a quote.

I don't know if it was your quote, but it was on your slide this morning that said people in education want to work with people.

And I jotted that down because the most successful thing has been for us is the teacher to teacher training.

Now, and I know that sounds obvious, but we -- we more and more of the teachers that come in, particularly the newer one, I don't know if you're finding that, too, but as they learn something and they go to show somebody else how they applied it, that -- that takes on much quicker than when the technology staff says, hey, this is great, and I have a really great technology staff, but we're still not the teachers in the classroom.

So I've been able to work with the administration quite a bit that we found ways to help promote that interaction.

And we -- the way we can award CEU credits for the teachers, they're very creative in their approach at the administrative level and that helps a lot, so teachers who are willing to work with other teachers earn CEU's, as the teacher, as well as teachers are able to get that one on one kind of training without having to go out of house and they're earning credit for their time, and that is -- that is important to them, for obvious reasons.

And one of the things that I've applauded ASD from the beginning about 6 or 7 years ago now, they've started out that they right off the bat have dedicated what they call educational technology staff and for us what that means is we have two staff people who just work similar actually to what Shelley just described.

Their function is the integration of the applications in the classroom, their function is not my computer is frozen, what do I do?

We have other people who do that.

And that's good, because that allows them the time to play to find new things and to spend the time with the teachers and not get bogged down, because you can.

I mean you will get bogged down with Tech support, if that is your -- if you have to do both things, you will -- there's no way around it, so by saying no, okay, we'll report that to the Tech support and they stay on as the Wilson County the projects, I commended the administration for doing that, because that's -- that's a choice to make with your resources and sometimes you may not have that option.

But they did do that and we have two full time people and that has helped a tremendous amount and I think on that, I will turn it over and stay right on time.

>> our third panelist, Vicki Robinson, from NTID, who coordinates the instructional technology consortium here at NTID.

>> Hi, I'm Vicki Robinson and this is my home turf, so if I start signing just because when I'm in this room, I really want to sign, so keep watching the interpreter, though, trust me, she's better at it.

I'm a faculty member here.

I teach physics.

I have been teaching physics here since 1978.

I am -- I know, I know, I started when I was 3.

Thank you all so much.

Also, I'm a really big geek.

I love technology.

I love computers.

I'm married to a geek.

We have raised two little geek-Lets.

We're moving house right now and we just threw out 7 computers.

That is not the ones we're still using and my daughter -- I had to send my daughter about an hour ago out to the new house because the two new laptops had been left by apple computer on the porch of the house we're not living in yet.

This is my background.

Since I teach Newton's three laws, three times a year, for 27 years, I would have gone more crazy than I already am if I hadn't tried to keep up with instructional technology.

There are certain things I have to teach.

So I teach them.

But I certainly don't teach the way I did when I came here in 1978.

I use the web for instructional delivery.

I use the web for exams.

I do online exams.

I create laboratory simulations with -- with specialized software that students can take home with them.

They -- oh, there's so much going on.

So that is why when the -- when the instructional technology consortium here at NTID got started back in 1998 I was one of the first ones batting down the door take me first, take me, take me, we started with summer workshop, one week, or two week, what were they, bill, one or two, summer workshops that were 8 to

5.

We did all kinds of real interesting things.

There were three different strands you could choose and at the end of that, those of us that participated got a laptop.

Yeah, that was pretty cool.

We're not doing that anymore.

But our purpose is still the same.

Our purpose is to introduce technology -- instructional technology to faculty, support them while they learn to use it, give them financial support, if we can.

For example, if they want a piece of software that their department can't afford, we may buy it for them depending -- I mean, you know, a $10,000 final cut pro, no, I don't think so, although people ask.

But -- but other things, you know, I think this could be useful and we say, well, show us how you're going to use it, they say we want to do this and this, they say great, we'll buy it for you, please do a workshop for us, and they do.

We also try to encourage people to use technology in their classrooms.

We don't have an institutional expectation.

Oddly enough, at the national technical institute for the deaf.

But we do not have an institutional expectation of infusing instructional technology into your teaching and since -- I've been here 27 years and I'm not one of the more senior members of the faculty yet.

So there are a lot of people that, you know, wrote their

courses and say these courses work.

And they do.

We do a good job, they say why should I spend hours and hours and hours learning this new technology when what I'm doing works.

It's kind of hard to answer that because what they are doing does work.

But the students expect it.

That's one thing.

They're coming out of school like yours and they're saying, well, golly, my high school teacher did this, you know, in 8th grade we did that, and I've been using the web, I've been using instant messaging.

Why aren't you using it?

And it's hard not to have an answer.

However, time is a biggy, as everybody says.

When -- Shelley, when you said time, we both went (indicating) together because that is always everybody is overburdened, everybody has 500 things they should be doing at any given moment and you say, well, look at this new thing you can use, how long will it take me to learn it, because I have five minutes, you know, and you say, oh, well...

So providing people with support, providing people with resources they can use for example, saying, well, okay, you don't have time to learn this, but you know there's the guy up on this third floor in educational development and research that will do it for you, if you can tell him what you want.

Oh, really, they say.

You can drop people in and show them on this Web

page, or go to the URL and check this out.

You can get people excited.

You can get people saying well, I could use this technology.

This would be a good way for me to give my student at glossary of technical terms we're using.

This would be a good way for me to get my students communicating with each other.

One of the people -- one of the professors that I work with, he also teaches science, is using instant messaging in his classroom.

Each student uses a laptop, we have laptops that are assigned to our science classrooms, they open up their laptops, we have a private -- I think it's called eye storm.

I'm sorry, I don't know much about this particular technology, but the students sign on, and they have the kinds of discussions that I thought I had left behind when I left the hearing classroom.

People talking over each other, people interrupting, people going, oh, oh, oh, wait a minute, I've got this great idea, that the ideas come thick and fast and it's all recorded.

We have a log of everything that the students say, and then they take that home and they working with it, so classroom discussions have become a lot more fruitful from this technology and that is one of the things we're going to be showing off next year to the rest of the institute.

Our job with the ITC is not to impose technology on the faculty, because we're all faculty ourselves, we're all teaching faculty, me as the chair, I'm still teaching, it's not a full-time job.

Well it is a full-time job, it could be a full-time job, but it's not my full-time job, and the people on my committee, we're all teaching faculty, and our job is to get ideas from other faculty members and help them figure out what they want to do.

Our job is to show them what other people are doing.

And say, "You could do this too.

Do you need some help"?

We have some money, not a lot, but we have some money and we spend it.

We have equipment.

Starting next year we have a lending library of four laptop computers, two windows boxes, two apples, and they're beautiful, boy, they're speedy, nice, powerful machines, video editing, all kinds of cool stuff, which we will lend to faculty who feel that they don't have adequate equipment or feel that they would like to have a laptop to develop some sort of project.

So we're -- we're trying to go from all different angles, we're trying to provide enthusiasm, we're trying to provide instruction, we're trying to provide leadership, hardware, money.

We're trying to get people on the technology train, and I think as -- as more -- as, well, boy, you said it first, so I can say it too.

As newer people join the faculty too, we're getting more and more interest in it.

You know, the -- we get these 25-year-old professors coming in, well, their high school teachers use the web.

They're used to this.

This is normal, you know, the same way I moved into my first office in 78 and said "i don't have a type

writer," which I didn't.

I had to share one with somebody else.

Our newer faculty are coming in going, well, where is my Web space and how come there's not -- how come I don't have enough for even the one courses worth of Web pages that I want to supply?

It's moving.

As time go on, as people become more comfortable with the kinds of technologies they see and get more interested in producing it themselves, but we have to be there to be the engine, I guess, that drives that interest.

And I think that is probably a good place to end.

>> thank you.

What I would like to do now is we have fifteen plus minutes where we can have a discussion.

If anyone has a question, please raise your hand, I'll recognize you and then one of our panelists will answer.

>> I'll repeat the question.

>>[INAUDIBLE]

>> okay.

The question was for Karen or myself that are working with the K-12 children, what two or three technologies do we think teach.

Should come into the field prepared to use an understand, should know about?

Do you want to answer that first?

I have some ideas.

>> I do.

You know, it's funny that you say that, because I was just looking in an article and on my resources it had 20 basic technology skills that every educator should have.

Yeah, right, 20.

And you know, I literally cut and paste this, because I would modify this for our specific environment, and I don't know how -- how basic -- when you say, you know, any basic, when they come in, I expect them to understand the concept of working on a network, so I'm going to be really basic here, I guess.

And for the most part, they do.

They -- coming in now, they should be doing things -- I guess I'll just say basic, but electronic grade book, electronic lesson plan, all of it is electronic now.

And putting up basic Web pages on classes, with the simplest of tools, I mean there are tools now that you don't have to really know anything.

You know, really, you don't.

So the willingness to do I would say those -- those are some of the most basic things, but the expectation from day one is that they will be doing those things.

>> I think also they need to at least have an awareness of some of the more innovative tools that they can use, might not necessarily will software program, but the document cameras, the video cameras, digital cameras, smart board, they need to know about it, because when they set up their classroom, if it's new unit and they might have startup money, they need to know what to buy to equip their classroom, or if a grant comes their way or something.

If they don't know about technology or don't have those basic skills how to tip in a URL, how to find some educationally appropriate websites, it's hard to move

them to the next steps of integrating things meaningfully and purposefully so the students have really rich educational experiences.

>> [INAUDIBLE]

>> so the question was the role of a technology specialist that supports teachers who are in the classroom, what does that role look like, do the teachers request trainings for things they need or is the technology training imposed on them.

>> that's actually a -- that is a really good question and I'm going to do my best not to go on too long with the answer.

The model that we have now, we have somebody -- we're a pre-K through 12 school, we have somebody that is pre-K through 6 and somebody dedicated 7 through 12.

There's a lot of crossover there, though, it's by no mean as very strict line.

People that tend to focus their energies in those directions.

When we started this concept about 6 or 7 years ago, it was probably more of the -- and I hate using the word impose, but it was a lot more marketing.

I'll say that.

Now we tend to have the teachers more coming to us.

The way that we initially set it up was on a project-based model and that model still pretty much stands where the teacher has a concept of something they want to accomplish.

What we really try to encourage, and we still market to this day, is that they don't have to know how to implement it and that's where we ran into some of the hurdles up front, they felt like they had an idea they

wanted to do something, but they weren't really sure even how they were supposed to do that with technology so they wouldn't ask.

We're like, no, no, no, no, what do you want to do, whether it was a claymation on a unit, is there a too hard or can they make it work, once they started to get past that model and depending on how they decide to set up the structure of the project, if it has kind of a beginning and an end point they can use CEU's for that time of working with the technology person and they have to meet some specific goals and the principal has to approve that, they can't say, look, I did this, give me my credits, and then some of them, they aren't specifically focused on the credit but they really want to learn how to do something.

I feel like I'm being a little vague, at the pre--K through sixth level, one of the technology people becomes very, very skilled with Intellitools but she works with a team of teaches and they help her and say, okay, it's very much a tag team effort.

In terms of the stuff that is maybe a little more technical, she's put some effort in, they work with her, so now it has become to go back the your original question much more of them coming to us.

I don't know if that answers your question on the model -- the structure of the job.

Does that answer it?

Okay.

Can I add a little bit to that also?

I know at the Florida school for the deaf and the blind, they have that same issue, they have technology support people and if the school is updating to a new version of something or getting a new tool or buying a specific piece of software or online subscription, they offer training related to that to push it out, make sure people -- they're paying for the resource, they want

people to use it.

They want to make sure they're comfortable and they take advantage of it, otherwise they're wasting their money in making the purchase.

So in that case they do try to push out a little bit, we have this resource, we've bought the subscription, its was a value -- we always usually have teachers evaluate before they purchase, so that is part of it, too.

The decision to purchase something you have to have buy in on both the administrative curriculum technology level and also the implementation of the teacher level, so that is an important part of it.

Did you have a question or a comment?

>> I'm Phil from the Claire center, and I actually had my two instructional technology specialists here, Julie works at the high school, and if you saw Rosemary this morning, Rosemary is the other one, she's at the elementary school, an grab them, ask them questions, pump them for information, you can find out what you need to know about how their position works.

Okay?

>> thank you, you're welcome.

>> [INAUDIBLE]

>> the question is if developing of the technology, of the ability of the teachers reflected somehow on their salaries?

[LAUGHTER]

>> I could take a stab at that.

Of course we have very different setups where we work.

The national technical institute for the deaf is a college, and we have a fairly typical college structure, so faculty

develop their plans of work and my plan of work has always been very heavy on wanting to learn a new technology, work it into my classes, somehow my class delivery or home work or whatever, and produce a product that I can show my boss, and that has -- yeah, that certainly has been reflected in my salary, I think, you know, half a percent a year or something like that.

[LAUGHTER]

>> half a percent?

[LAUGHTER]

>> that is a joke, but not much of a joke.

But more importantly it does count heavily in my annual review because it's part of what I planned to do, part of what I agreed with my manager I would do for the year, and so therefore my -- doing that successfully counts and I think -- I know that it counted very heavily in my promotion from assistant professor to associate professor four years ago.

So, yes, for us it makes a difference.

>> for a classroom teacher, they do have some benefits.

It's not normally salary, but they attend conferences because they are the new trainers.

They are sent to workshops and special vents.

They sometimes receive stipends in exchange for supporting the other teachers in their building, so stipends, special projects, sometimes they get grants or they get the new technology first, because they're motivated and willing.

So they have a lot more benefits that they don't have to go use their money, they don't necessarily get extra money or much, but they get benefits.

>> just to add to that, that's exactly the same.

And I know that in Connecticut now it's built in.

There's no direct connection like you complete this, you're going to get this raise.

However, it is built in to your certification requirements and I know in Connecticut the state requires certain number of technology CEU's in a certain window, and you have to maintain that accreditation in order to continue on and to keep your job.

So in that regard, I think that is kind of an incentive at this point, but it isn't an additional salary bonus.

>> for example, how much teachers do you have?

>> the Florida school for the deaf and the blind has how many -- what they have, 70, 80 teachers?

>> okay.

>> more than 100?

More than 100?

There's a lot, there's about 700 and some kid, so however many teachers that equals out to.

>> more than that then.

>> I don't know.

I have no idea.

The state of Florida.

We have teachers, probably 45 to 60, probably one of the largest districts, like Miami-DADE County, south Florida, has about 60 teachers and the smaller districts may have one to fifteen.

>> what is the approximate age...

>> of the teachers?

>> ranges from just out of college to -- there's a wide range.

There's a wide range.

We actually -- we have a lot of teachers getting ready to retire which is very scarey for the field, because there aren't enough teachers to replace them.

More teachers are going into itinerant fields, or the Itinerant part of the fields, so there's a lot of diversity.

>> [speaking in foreign language]

>> it looks like -- so it's supposed to be very difficult to the older generation of teachers to learn all of this new technology.

For some of the older teachers, I will be happy if they will e-mail.

If we can get them to use e-mail and read our newsletter, we're pretty happy, because they at least know something is happening out in the world.

For the younger teachers, they're a lot more willing to do a lot more and as Karen mentioned, I'm not sure who, they tell each other and they keep in touch with people they just recently graduated college and they start sharing about technologies with each other, and they're more comfortable communicating even if they live far away through internet communications programs.

>> okay.

Good luck to those teachers.

>> addressing the age thing for one second, because yesterday I believe Jeff asked me if I actually saw an

actual correspondence between age of teachers and willingness to adopt the technology and I think he really wanted me to say no, but I had to say yes, because I do.

However, some of them have really surprised me as well.

And some of them, when they finally saw what was happening and the benefits, really did some great stuff, and we've had a couple of teacher, one who just retired this year, and I remember when she started working with one of my educational technology staff members, you know, I was thrilled because I thought this isn't going to happen.

She started doing stuff with Powerpoint and digital pictures and she was one of the people this last year who regularly did book discussions over video conferencing.

And I was so happy and the thing was is I also -- we tried to make a point of recognizing that and giving her the credit, and I would make a point of telling the principal or telling the education director, hey, she did a great -- hey, you should see this unit, or this was great, and this worked out great, and that made them feel good, it is a new world to them, absolutely, when you started the field, you mentioned type writer, for some of them, this is before that, so, you know, I mean I'm sort of tongue in cheek there, but this is brand-new, and I think really encouraging some of them who have taken it on, and that helps the others because they're saying, well, she did that.

>> until recently I don't think there was enough examples of how people applied the technology, once the older teachers, the more experienced teachers see how it's applied and if the students are motivated or benefitting, they're more willing to do it, they see basic difference and they don't want to waste any time if they know it's a hard task that we're all facing.

One more question in the back.

>> I would like to take a little offense for obvious reasons, being one of the cohorts of the people on the panel, I have also seen a great improvement with some of our shall we say experienced teachers.

I'm avoiding a particular word.

But our more experienced teachers I see a lot of rejuvenation.

They are like reborn teachers.

Now that they are getting some of this new technology, they have been kind of stuck in their ways and they get this new technology and they're going.

Any other questions?

>> the big question I think that a lot of us have, we can work with the teacher, we can give them new skills, we can see them doing new things, what thoughts do you have about how we can measure the impact of these revitalized teachers upon the performance of the deaf and hard of hearing kids?

>> well, you know, I thought we had gotten through this session.

Okay?

But there's always a trouble maker in every crowd.

And it's an excellent question because I don't know how to answer it.

Obviously we could say, well, you teach your class using paper and pencil and I'll use -- I'll use the web and online testing, and let's see who does better, but I'm not sure how you actually separate out the educational effects of the technology, what it is about the technology that is helping students learn as opposed to

just good teaching.

You know, one of the things -- one of the reasons I use new technology as much as possible is because, like you said, revitalization, rejuvenation, it keeps me going, and the more enthusiastic I am, the better my students learn, I could be writing on the wall with charcoal and that would be true.

That is a question that I think we're all going to have to start asking ourselves and getting down to getting real answers from it.

I know that we're all trying to judge that impact, but I don't really know exactly how to do that.

And get results that are attributable to technology.

There are so many confounding factors.

If you figure it out, let me know.

>> and I think, actually, from some of the reading that that is true in educational technology in general, not just -- not just deaf Ed, they're having a hard time assessing that and I'm not sure if, you know, recent federal legislation is going to assist in that at all.

But -- because I don't think it's in testing.

I always feel like for me, and of course this is not going to count anywhere on any documentation, which is frustrating, but it's anecdotal.

It's when I see a particular kid who started here and got here and I'm just so excited for that -- for that child, or that student, and I think, wow, all right, we had something to do with that.

And unfortunately, though, that isn't anything that shows up on any kind of statistical analysis, and I don't -- I admit I guess I echo you that I'm not sure.

>> I think there's also two other things that come into

play.

Some times the students know more than the teachers when it comes to technology, so the students bring in a lot of knowledge and a lot of experiences and if the teacher's trying to introduce something, the student is already more comfortable with, they're a model, they're a leader, and how do you evaluate that when the teachers themselves aren't strong yet?

Trying to remember what the other issue I was going to talk about was.

I can't remember.

Senior moment.

>> veteran moment.

>> I'm in trouble now.

[LAUGHTER]

>> I can't remember now.

>> okay.

With no other questions, I think we'll bring this to closure.

Thank you all for coming, and see you at the reception.

Thank you.

>> please do the evaluation forms.

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