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"HIGH FREQUENCY OF ONLINE INTERACTION CORRELATES TO CLASSROOM SATISFACTION IN MAINSTREAMED CLASSES"

PRESENTED BY: JAMES MALLORY & GARY LONG

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>> I think while we're waiting, we're going to go ahead and introduce the presenters. There are two presenters for the topic. High frequency online learning and how that correlates with classroom satisfaction. And Professor James Mallory and Gary Long are here today. So I hope that you enjoy.

>> JAMES MALLORY: Thank you. Okay. Hi, I'm Jim Mallory, and my associate Gary Long are over here, and our interpreters today are Tina and Jim, and we appreciate their help. I will rely on the interpreters so I can set a good pace for our international guests.

The topic, as you can see, is classroom satisfaction. Based on online interaction.

And we're going to at the end, if you could save most of your questions until the end, that would be the best so that we can just get through the slides. We only have a few slides, we have a movie, and then we can tie it altogether.

This last academic year we took three quarters, and we surveyed a bunch of students, and these were all mainstream courses online. It's kind of loud here. Is that better? I just moved it, Mike, it's okay.

So we were all mainstream courses. Deaf, Hard-of-hearing, and Hearing. And the demographics, total population, we had 1,266 students total, of which there were few more part-time than full-time. They were mostly undergraduate, and here's the breakdown of the hearing and deaf demographics.

More than 1,000 hearing. We had 53 deaf and 35 hard-of-hearing. So the results I'm going to show you, the bar charts, are based on these demographics.

We had four categories that we asked the questions from the students. We put the questions in the four general categories. One is about the deaf and hard-of-hearing and hearing students interacting with each other.

Second, is their interaction with the instructors, again, online.

Thirdly, what learning, perceived learning, that occurred.

And last the overall satisfaction with the courses.

We used a Likert Scale for each of the questions. Today's presentations, we're just going to hit a few of the questions. There's not enough time to go in-depth for all of our research. But for the results you are going to see, the bar chart, you have the Likert Scale, and we combined 1 and 2 -- excuse me. We combined 2 and 3 and 4 and 5. So agree and strongly agree were combined together for a lot of the charts that you are going to see, and for the other analysis disagree and strongly disagree, because we wanted to get a good feel for what the students felt.

We also at the end asked two open-ended questions. We're going to show you a few of those. The ones we're going to show you today is, "What did you like best about the course?" And any of the things that came with the online components.

We also had comments or suggestions, and I will discuss those at the end as well.

Okay. The first category, the amount and quality of interaction with the peers. With their peers. And here's what we noticed. That the deaf, you can see, really felt like they knew their classmates better. Deaf and hard-of-hearing much more than their hearing counterpart because of that interaction. And it's very interesting, on some of these questions, the Deaf and Hard-of-hearing responded the same, and some other types of questions Hard-of-hearing responded more like the Hearing, so it depends on which question you are asking, the results came quite interesting.

Ability to communicate ideas, okay? Again, communication you can see is much better with Deaf and Hard-of-hearing, because removing the interpreter and levelling the playing field, it became much easier for the Deaf and Hard-of-hearing to interact.

Of course, content. You can see here that Hard-of-hearing and Hearing were more similar. This is in terms of the learning category.

Okay. Open-ended questions. Take a minute and let you read this.

So you can see the common theme here that it's basically removes barriers in terms of interaction.

And this is interesting. I was watching the professor from Greece who did a presentation, and she was talking about her online interactions in the vocabulary, the increase of vocabulary of Deaf students, and I found this second quote here quite interesting.

The written English, even students with maybe their English level isn't very high, they actually preferred the online communication. Because, again, it doesn't have the barriers.

Now let's talk -- well, one last comment here. Again, the equal access to communication. Just that theme came up and again and again. We just got a real little smidgen of these interactions. Here is one of my favorite cartoons.

Two dogs sitting at a computer, they say, "That's all right, we don't know that we're dogs."

Regardless of it's a foreign language, Deaf, Hard-of-hearing, Hearing, it really levels the playing field. We haven't done research on dogs yet, but that will be the next symposium perhaps.

Communication with instructors. This is very interesting, too. Look at the results, how much better the Deaf and Hard-of-hearing feel that they know their instructor better.

I am going to show you a movie in a little bit where these students actually talk about this. So significant results comparatively to their hearing counterparts.

Expressing ideas, okay, more clearly. Same type of thing. Whether it's with the instructors, whether it's back and forth with their peers. It just comes out again and again.

Here's some open-ended questions pertaining to the professors, interaction with the professor.

So, again, there's no interaction with Deaf and Hard-of-hearing with the professor. Remember, these are mainstream classes, so a lot of the professors don't sign. So it's very advantageous to those. And Professor Long has also done a lot of research with the regular classrooms, and there's a lot of overlap in this research that, you know, the same thing comes up again and again.

And, again, positive feedback on the professor. Some of the negative feedback we got, by the way, is not so much with the online learning aspect as professors not returning things in a timely manner. If you are teaching online -- like, let's say, a traditional classroom, I'm teaching Friday and I don't check my e-mail on Monday, no big deal. If you're teaching online and, let's say, you check your e-mail on Friday and you don't check it again on Monday, they're not happy. You have to and lot more responsive. And the other negative feedback was just work groups. You know, students, you have a group of five students, and two students are doing all of the work. So those are the kinds of negative things that we got, but it wasn't really reflective of the online learning component itself.

Talking about perceived learning in the course, you can see again, Deaf and hard-of-hearing perceived they learned more because of the online component.

And here's a quote, an example of a Deaf student -- these are all from Deaf and Hard-of-hearing students, these quotes. Learning from somebody else's leadership experience. Another student in the class learning from that rather than the professor themselves.

Also tests. You can do online tests where they test over and over. Students seemed to really like -- it's more of an active learning type of thing. You can randomize them and take them at different so it's not the same test every time. So that's becoming pretty popular, too.

Okay. Now, in terms of the fourth category, it was overall satisfaction. You can see that they felt that it was a little more work because of the online component. By the way, for students as well as professors, it tends to be a little more work.

But you can see here that hearing and deaf, a big difference there. This was kind of interesting. Hard-of-hearing didn't think it was much more work than most courses.

In terms of overall satisfaction, you see that hearing and hard-of-hearing were about the same. Whereas the satisfaction with the deaf were far higher. So it does lead to satisfaction with the course, having the online interactive component.

Some open-ended comments for the overall satisfaction. I'll let you read that for a minute.

The flexibility is a key thing that just keeps coming up. Students want to do the any time, anyplace, like the second quote mentions. I mean, you have students that are morning people. You have students that are night people. I mean, some student does it at 2:00 A.M., and so that's the nice thing about asynchronous. You look at the research, and asynchronous is definitely the way to go for online type of learning.

And again the theme comes up, being able to do it at any time, especially with demands of trying to get different schedules. It's a hassle for students trying to fit their schedules together sometimes.

And, again, you can see the business, it just fits. People can fit it into the cracks of time that they have.

Again, the theme going at their own pace. Even though it's structured, you have assignments during the week. If you want to do it

Monday night or Tuesday morning, it really doesn't matter. I'll give you some time to read this one.

Again, for Deaf students to listen to professors, again, these are mainstream classroom hearing professors. We've all had them. Anybody that's been to college they just sit up and talk and talk and talk and talk, and you kind of lose the Deaf students and the hard hearing as well as the hearing, so they like the online component of that so that they can sift through the not-as-important stuff.

I am going to show you a video this is actually from a blended class which is half online and half classroom. But it's relevant because a lot of the comments talk about the online component in the interaction between the deaf students and hearing students, and then we'll wrap up after this movie with Q&A.

This is captioned.

>> In my experience, the regular classroom, the first day of each quarter the Deaf students tend to group together and the hearing students tend to group together and there is no interaction at all. And neither the tween shall meet in some ways. There's no effort in any group's part to come together and talk about anything either related to the class or related to outside activities. So there's always that division. I'm not sure why. I've been mainstreamed my whole life and it's always been like that. But online everything was different.

This course, "History in Systems," was really a new experience for me because I met a lot of hearing students, and we talked online, and I saw them as my peers, and I think that everybody was very comfortable communicating online.

And some of the hearing students were actually motivated to go up to the interpreters and speak to the Deaf students through the interpreters which was really positive experience for me because everybody felt more comfortable talking about school-related things online as well as anything that happened to come up.

And our course had a lot of postings because we talked about a lot of things online. It was a lot of fun.

>> The typical class at RIT I feel that the Deaf population and the hearing students are kind of segregated. Obviously because of the communication barrier so I've never been interactive with any of the Deaf students in the class, and I felt that I was missing out on something. They have something to provide. They are other students. They are a resource. They can help us hearing people, and everyone else should learn. And in this blended course I actually felt like I learned a lot from the Deaf kids, and I learned a lot about them. The professor, he encouraged to us interact with one another online and in the class. We had some good interpreters that were willing to take time out of their schedule to help us to bridge that communication barrier.

Online the professor asked his questions, and that kind of enticed us just to speak to one another, ask the fellow students questions, and I thought it was a great learning experience.

>> I also wanted to add that I was a team leader in that class, and the professor was the one who assigned team leadership in the beginning of the class. And I felt a little bit scared because all of the members of my team were hearing. And I was having to take on the role of not telling people what to do, but delegating responsibilities, deciding what to do for our presentations, and I wasn't used to having that kind after role. And it seemed a little overwhelming at first. But I picked it up. It was very comfortable online. We were able to talk with the other students on my team, and when I've been a part of teams in the past in high school or growing up, I was always a member of a team, but never a team leader.

And I felt that because of the communication barrier the teacher had a concept that I wasn't able to express my ideas and really talk to them. But here I felt very different. I felt very positive about the fact that I was a leader, and I was able to show the people on my team that as a Deaf person I could contribute a lot, and I was able to facilitate a lot of the process in making presentations. And so it was wonderful for me to realize that I can do it, and it was also good for the hearing students to see that a Deaf student was able to take on this kind after role as well

>> I learned that they have a lot, a lot to say and lot to distribute. My project manager, he was Deaf, and he was one of the smartest kids I met. He was able to keep us motivated. He was able to delegate the proper tasks to the right group members. I learned also from a social level that, you know, just like us they are very fun. We actually hung out outside of the classroom a couple of times. I thought that was pretty neat. I never would have hung out with a Deaf student just because it was real difficult to actually interact with them in a classroom. But being online, it's like, hey, what's up? And you want to hangout? Sure. So it was cool.

>> I think because we had the online mode of discussion, that was the only way that I could see that classes in the future would be able to integrate the hearing and deaf students, and give them the ability to communicate with one another.

If we hadn't had that component, I doubt that my class would have been any different than any other course that I've taken so far. Because of that division, I feel that because we communicated online so much every week that division was missing.

>> JAMES MALLORY: There is a great example of even not only with peer interactions but Deaf and Hard-of-hearing taking leadership roles in those group activities.

And, again, on the non-positive side you've got feedback -- you have a group of five or six, you are going to have a couple of slackers in there, and a couple of students doing all of the work. So that was some of the negative feedback that we've gotten. But, you know, no different where you and I work, right?

So conclusions. Just to wrap up. And then I will have Gary stand up here and maybe we can answer any questions that you have. Students love the flexibility. Anyplace, any time. That's the whole battle cry of online learning. Anyplace any time.

Secondly, there is evidence that perceived learning occurred -- okay, the perceived learning increased due to having online components.

Thirdly, definitely levels the playing field for communication. This is very similar to studies that we've done whether it's online or blended, where there's Deaf, Hard-of-hearing, English as a second language, foreign students, it's pretty much across the board.

The other thing is a lot of Universities already have this available. You have your Web CTs, you have your group conferencing software. So it really doesn't cost anything. It's not real -- it's not the cutting-edge multimedia that a lot of people you come to these conferences and you want to see all of the cool, high-tech things. This seems a little low-tech, but it's effective and it doesn't cost the University anything to implement. So, you know, why wouldn't you want to put that in to your classes?

Gary, do you want to add anything, sir? You have to speak into the mic, though.

>> GARY LONG: I guess the only other thing I was going to mention is that in another study, we surveyed all RIT students, Deaf, Hard-of-hearing, and Hearing, and the number one complaint of students taking classes here at RIT is the pace of instruction. So that the faculty member's trying to

compress too much information into a short period of time. And if you add to that that you have English as a second language, or all of the information that's coming through an interpreter, it just makes it much more complicated. So I think that having an online component gives a student a chance to do it at their own pace in their own time. So that's basically I think some of the comparison that we're getting here.

>> JAMES MALLORY: Any questions?

>> GARY LONG: Please, any questions, or things that you've been doing at your colleges with online learning that might relate to this?

>> JAMES MALLORY: I have handouts, and I will pass them out when we're done.

Do you have a question?

>> Audience member: I was wondering if you have some Deaf students who tell you that they prefer having an interpreter than being in an online course? Because some Deaf students like to be able to see the Sign Language and use their own language to communicate instead of typing English, and sometimes they're embarrassed because their English isn't very good, their skills, their sentences.

So they maybe learn faster, they think, through an interpreter. Have you heard that? I notice that there was a lot of positives here, but you weren't talking about the negatives. I am sure there must be some Deaf students who instead love to have interpreters and be in a classroom instead?

>> GARY LONG: Over the years of looking at that kind of thing, a little bit in terms of almost a personality difference, not so much related to using Sign Language or not using the Sign Language, but more of the preference of having the structure of the class to go to, and the -- what do I want to say? Basically passivity that's involved in having the teacher present it to you is preferable to some students. To be honest with you, and Jim can talk more about this, but I think that the most success with some of the online stuff has been with students who are pretty responsible structuring their own time and making sure that, yes, they do get to the activities and do the work.

>> JAMES MALLORY: It's true. The other thing is the time on task. Because I don't think that the English level is much of an issue as one would think because it's not like presenting a paper. They're just communicating. I have two teenage daughters, and they text me on the cell phone, and it doesn't look like English. They have their own shortcut. So I think that with the younger students that their communication isn't proper English, and so I don't think that's as much a barrier as you may think. The negatives, you said that there were no negatives, I did mention, and I will bring them up again, some of the negatives were mostly geared at like the professor not returning work or not responding timely or in group projects regardless if it's hearing or deaf.

You have five students, statistically there's going to be two of them doing all of the work to make sure that they get a good grade, and a couple that are slackers. So that's a very good point you brought up. But we don't see it too much. And I think that's the reason. Even hearing students they say later, they say L&R when they're texting. So they've developed their own communication language that's kind of a different slant.

Yes, sir?

>> Audience member: So I'm just wondering two questions. First question is I assumed that the course that you are doing this blended approach with has had previous sections or has since been taught again or something like that.

So were you able to, I guess, compare outcome in terms of marks, in terms of GPA between blended and non-blended and completely online versions of the course and see how that works? I realize RIT is its own little world

because of the deaf/hearing mix, so it's not something that you can easily compare in your average hearing University, you know what I mean?

>> JAMES MALLORY: Sure.

>> Audience member: And then the second question that I had is more related to learning style. To me the problem with online learning, I have to say I teach and I also learn. So my biggest issue is in terms of online learning, I'm very much an aural learner. I have to hear it before I learn it which is odd because I am hard-of-hearing, and you that I would be a problem, but anyway, I have to hear it in order to learn it. There are other people that have to see it in order to learn it. There are others that have to feel it, to touch it. They're more tactile learners. And I was thinking that maybe an element of the difference might also be learning style. So I was just wondering if you could comment on that one. Thank you.

>> JAMES MALLORY: Dr. Long has done other studies on that. Do you want to take that one?

>> GARY LONG: Yeah. I will go to the first question first. And that's about I think what we really would like to see is that this shows an increase in learning. That they understand more of the content from the course because of this educational intervention that we've done by adding to online component, let's say.

At this point all we have is that students are saying that they are feeling like it's improving their learning, and that they feel that it's improving their communication. It's their perceptions of the situation.

We've talked about doing more of a lab study where we'd actually manipulate those things and do some comparisons. And we may do that. The next thing that we've got, though, is we've got --

>> JAMES MALLORY: That's a good segue.

>> GARY LONG: Yeah. We've got a study going where we're quantifying all of the RIT con line courses based upon the amount of interaction that occurs in the course. We've divided it into four quadrants. And we also look at the amount of postings and interaction from the teacher. And then we're going to look at satisfaction with that course, and grades in that course by deaf and hard-of-hearing students. So it's basically a field study rather than a manipulative lab study to look at some of the same things.

In terms of learning styles, I'm sure that you are absolutely right. I am sure that it's that way with any educational intervention that some students are more receptive to it. I have a daughter who would say exactly what you said. I need to hear it to learn it. And she is lucky in that if she hears it she does learn it.

(Laughter)

So, you know, I am sure that interacts with it. But what's nice about this and what's kind of important about this is that the deaf and hard-of-hearing students are pointing to this vehicle as a way to improve communication in a mainstream setting. And so one other thing that we're doing this next year is using instant messaging in the classroom so every student will have a computer, and they'll be able to interact. It's a statistics course. They have specific problems to solve in small groups, and they'll be able to interact with their partners, their hearing partners, by IMing them. So the interpreter is basically taken out of that. So we're at least starting to study that and see if that will affect communication in group work.

>> JAMES MALLORY: Just to add what Gary said, and the last line, Mike, what happened to our video here?

Just to kind of add on to what Gary said, we're starting interactions. They've grouped all of the courses at RIT. They have an online component into four quartiles, highly interactive meaning each student 10 times or more interacts every week, versus low quartile. And we'll break them out and see

is there more learning going on and things like that the research that we showed you today kind of took all of those quartiles together to give you a sense of the overall trend. So our future research -- we just didn't have time. We just got that data at the end of last quarter and crunched it. So that's one of the next projects we're going to be working on.

And, by the way, we'll have handouts here. If you want to contact us, this information is on the handouts we'll give you. We'll also post it on the web. Our e-mails, and I post a lot of our studies, past studies, on blended and other things on the website there as well as this current one which will be posted on the symposium.

How are we doing on time?

Okay. One more question. We have time for one more question.

>> GARY LONG: Yes, sir?

>> Audience member: I took grade graduate course, instructional technology, and it used Web CT, and at the time I was living in Texas, and I lived that graduate course online. The discussions, there was more time, you know, there was so much learning between the graduate students, you know, going back and forth, it was great. I really preferred that to having an interpreter in a graduate course because when I was doing homework and looking at papers I was stuck, you know? There was no vocabulary, no nothing. That really helped me in taking the course online.

But my question is -- and I missed it in the beginning maybe when I arrived -- the research that you are doing about online interaction, is the course fully online or is this a blended course where half of the time you are in a classroom and half of the time you are online doing interaction? Which are you talking about today?

And then secondly, do you have research about graduate students in this process?

And then third one, last one, I swear.

>> JAMES MALLORY: I am going To move back to that one.

>> Audience member: Is which area going To be good for the future in research related to this area? I am really kind of curious about this.

>> JAMES MALLORY: Okay. To answer your second question, that's up here (indicating). We had 497 graduate students in our sample, and 769 undergraduate. That's the answer to your second question.

The first graduate -- or first question was 100% on all of our charts and data was online. The movie was about blended because we didn't have any testimonial movies about that type of thing. So all of the research that you saw was strictly online.

Dr. Long and I did a study which is posted on the website I gave you strictly on blended. We've done both of them, and the results are pretty much the same, whether it be blended or online. Gary, do you want to add to that?

>> GARY LONG: No. If you look at the blended study it will give you a good look at what we did. We've done similar studies and blended and in fully online with maybe 3,000 students at this point. We're getting the same findings pretty consistently time and again. So we're not shocked by the fact that Deaf students are, you know, even more positive than the Hard-of-hearing students.

And that category is self-declared. We asked them how they see themselves. We didn't measure that, but that's how they see themselves, that Deaf versus hard-of-hearing.

I guess we'll turn it over. There is one more in the back. Okay, sure, one more. Go ahead.

>> Audience member: Barbara Keefe from Maine. I am curious, did you have a minimum of students that you could accommodate online?

>> JAMES MALLORY: Well, minimum of students. In terms of providing a course?

>> Audience member: Yeah. Registration.

>> JAMES MALLORY: It's an economic thing. I think that it's six or something like that. They needed six students to run a course to pay for the professor's time. That varies per department, depending on which department teaches the course. My department is six. They won't run a course without at least six students in the course.

>> Audience member: I am talking about maximum. How many you could take and really teach?

>> JAMES MALLORY: Again, it depends on the department. I've seen limits of 20-30.

>> Audience member: You don't have 50, 60, 70 students online?

>> JAMES MALLORY: No. That's way too much. It would be too much to keep up with.

>> GARY LONG: The idea here is that there is still good pedagogy going on here. The faculty member is involved in posting responses. The things that the students pointed to as being most helpful is the faculty member being in there and engaged and giving feedback and helping the student understand things that they don't understand. So once you get up above 20-30 students, that obviously becomes cumbersome. Obviously there is pressure from the University probably to make more money.

>> JAMES MALLORY: I think that we'll turn it back over to our moderator here, and we'll pass out the handouts.

>> Thank you for your time and coming to the presentation. I would like to -- I have evaluations for you to fill out. If you could do that. Or we also are encouraging people to fill them out online later. So if you want to fill out a paper one, come see me and I will give you one, and you can give it back to me before you leave. Or if you prefer you can fill it out online on your own time. Thank you for coming.

(Applause)

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