**Interview Transcript for Interview #1 (Teacher T; secondary senior sciences)**

**Date: January 19, 2017 (after school hours)**

**Interview format: face-to-face with audio recording**

**Interview length: 21 minutes 12 seconds**

(Interview took place in the afternoon in teacher’s personal classroom. Teaching Biology 11&12, Chemistry 11&12, and Science 10 this school year. Teacher T has been teaching for twenty-five years and is seven years away from retirement. Teacher T did not review the interview questions ahead of time.)

Interviewer (Q1): What prompted you to begin integrating digital technology into your classroom and how has your use of digital technology developed since you began?

Teacher T: Students were writing a provincial exam and were gone the week before and missing some crucial lessons.  So then I looked at, okay how can I get that to them, and we had that Learn Now B.C. and I'd seen someone doing some writing on tablets and I thought can we do this like Skype or how can I...because they need to get those lessons.  And so then we tried Learn Now B.C. with (name of district technology principal) and I sent a link to the girls on the wrestling team to see and that's where it started.  And we had...it worked well but the Learn Now B.C. sort of avenue didn't work well so then (name of district technology principal) got me the Camtasia program and we looked at recording and they were excited to see that being done because the Skype didn't work because then you would have to have them at that time, but when I could pre-record it and send it to them, then they were able to do it in between their matches or whatever and then not be so stressed when they got back.   So that was the drive was the kids that were missing classes and big chunks of classes for sporting events or vacations or whatever.   That's where it started.

Interviewer (Q1 - continued): So then the next question, tied into that is: How has your use of digital technology developed since then; where have you gone from there?  Are you still doing that?  Still using Camtasia?

Teacher T:  Yes.  So, I record every lesson.  I'm now at a point though, I shouldn't say every lesson, because now I've got some back ups, so sometimes I won't record a lesson.  I will do the lesson, but I already have a backup and I load it up.  So for the most part though, I record all my lessons, load them up and so the student can access them.  And I've done things like sent messages on it, “If you’re getting this, email me before 3 o'clock and I'll send you the assignment over the scanner.”  So I've been able to scan and send assignments if they want, like if I didn't have the email.  So kids have done that.  Kids will come back after being sick and they've already watched the lesson, so I don't have to reteach; I just get to help them with it.  So they've already watched it and they don't panic so much about being away because they know all the lessons are up.  I've started to do, in the last couple years but it takes a long time, is flipped education but it's not a total flipped so I don't know how familiar you are with flipped education.

Interviewer:  I know a bit about it

Teacher T:  So the classic flipped education would be that a student would watch the lesson at home and then they would come to the class and only be working on stuff and communicating.  The problem, there's a couple problems with that, one big one is for those top end students because then they’ve got to do homework where lots of times they would be able to do it, they’re thinking a little bit faster in processing, and finish most of their homework in class.  So if you do that, then they actually have homework at home where they’re not used to it and I had visited a school that was doing that.  So there are some lessons where I do a true flipped and generally those are the lessons that are the really difficult ones.  So biology, there's this protein synthesis and there's all these steps really difficult, long lesson.  So I have them watch it and I give them like 3 or 4 days to… “You’ve got to watch this by Tuesday and take all the notes” and then they come and all we do is talk through it, “Well, where did you get stuck?” and I ask them questions and they ask me questions and for the most part they love it.  Because it's a difficult concept, so they've had time to look at the words and be familiar with them and then have a major discussion.  I don't think it would work if I did it every time, so I just picked some of those big key ones for them to watch at home.  The other thing that I've been doing more of is I will have my kids watching the lesson and then I go around and talk to kids individually.  So they're not so good at giving up their lunch hours to go through a test or what, so sometimes I take that time to go to each one of them to see where they made their mistakes and the rest of the class just continues on like I was in front of the class.  So it gives me more one-on-one time.  I've also done, while they're watching, like the other day they were watching organic chemistry which is, you know sometimes they have a hard time starting, and so then I took groups of four or five of them and did some practice ones. So it's a small group and then they go back and finish working on the lesson and then I take another group.  So then I'm freer.  So they're still getting that lesson, but they’re getting more group time and so that has changed quite a bit.  The other thing that I do that I find really good is I use a lot of white boards in my classroom.  So, are you familiar with white boards?

Interviewer: Yes

Teacher T:  The whiteboards are fabulous for some quick feedback.  So I'll say, “Okay what's the formula for this compound?” and they write it down and they hold it up and I go, “Yes, no, yes, no” and it's good for quick things so, but I've developed some Moodle lessons where, like if they're calculating moles or whatever, so I'll put a question on Moodle and then they pause it and they do it on the whiteboard with their partner and they hit play and then the answer comes up with all the steps of how to do it.  It does take time, but I've got a few so, like Chem 12, a lot of them forget their Chem 11, so I have different ones loaded where they get to practice.  So there will be four or five questions and they can pause it.  If they get the answer right away, they don't listen to my answer as long, and so then they'll jump.  But they're hearing me, and they're hearing what I want, they're hearing what I want to see.  So I've been using it to do those kind of things as well too, which has been really nice.  A big advantage for us here in the north is when I’m absent, the students are still hearing me and they're still getting my lessons, so they just come and watch it.  So three years ago, we won a grant, (name of colleague) and I, and so I have class iPads, so that's where they watch it.  Like it used to be, that the sub would come in and play it on the screen, but now I have all the iPads so they’re individually listening.

Interviewer: The iPads just stay here [in classroom]?

Teacher T: Yes.  They're in my class.  They're just mine.  We won ten grand, so that's where my laptop and all that programming is from.  So, it seems to be really effective.  The other thing that's really interesting is that sometimes when the kids are, you know they’re not so focused sometimes when you're at the front of the class because they can have conversations, but I have one iPad between two splitters and so they're both listening and they're focused because they're listening to their ear buds and the screen, so sometimes it focuses them in.  They can also pause it and have conversations with their partner, so there is a little bit more focused work sometimes so then I try to switch it up and do that.

Interviewer: Is it all through Moodle?

Teacher T: Yup.

Interviewer: Okay, that’s what I was wondering, what your platform was.

Teacher T:  So my platform is Moodle.  I load up with YouTube, which worries me a little bit in the fact that I’m going to have to make copies and find it and download from Moodle because if Moodle ever shut down then I've lost it all, right?  It used to be that I made my own, but this turned out to be better, so we've gone through a process.  So I record, it renders, I load it up on YouTube and it gives me a connection, and that's what I put in Moodle.  So the other thing with that, because it's YouTube, then the kids can watch it on their phone.  So if they're traveling, they can watch those lessons on their phone, where they couldn't watch them the other way that I had, when I would actually... I can't remember all the steps, render it and get it so that it was an actual video clip that was attached to Moodle.  It wasn't a connection to YouTube, it was an actual clip that was in there and then they couldn't watch it unless they had certain things and the iPads didn't have that.  So the iPads have made it much nicer, but they're becoming more available too, so...

Interviewer: So what about students...do you find that students don't have access to Internet?  Has that been a problem?

Teacher T:  Because it's YouTube, what we can do is Keep Vid is a program and you can go on and download your YouTube video and so they can open it up here at the school and put it onto a stick and take the stick home and watch it.  So that part we sort of...most of them seem to be able to do it, but that's what we’ve with a few of them, is they’re downloading it onto a stick and then they take the stick home and watch it.

Interviewer:  Wow!  Good job...that’s impressive!  That must have taken a long time to get going!

Teacher T:  You know, when I first started recording I was petrified and (name of district technology principal) had to be close and when I was done it was like, “Okay…” and he was going to do it all and get it all loaded up, and very shortly it was like, “No, you can do this” and I've learned.  Like if the internet goes down while I'm recording, I have a test backup and I can often find it and I'm getting better at that because I'm not very technological savvy...I have a flip phone.

Interviewer:  Well, I'm not either; this sounds amazing!   I can't even imagine doing what you're doing so…

Teacher T:  It's very easy...it’s very easy...and it certainly...yeah... just to have that access.  The kids enjoy it.  They don't panic as much when they're missing classes.  They rewatch them too.  Especially those who are really anxious students.  They rewatch lessons and they go back.  Especially reviewing for finals, they’ll go back and watch.  So it's also used for that.

Interviewer (Q2):  My next question was going to be: If I were to focus on learning and integrating one new program or application related to math or science, which program or application would you recommend in terms of having the most impact on student learning within the classroom?  So I guess probably it would be Camtasia and all of that?

Teacher T:  Yeah, I think so.   Just again just the practice.  I mean they like to sit there and they like to play on whiteboards besides hearing that information but it's also, I mean the parents can watch it if they had to, right.  You know, they can get on there and watch.  I think that one [Camtasia], yeah, that's the one I would do, but...  I think they're starting [name of colleague] is starting to do some social studies recording, but she's got a mic in her room that's permanent so I can record at home and upload them from home like if I was sick I would just record from home and do my lesson.

Interviewer: Which is amazing.  Especially, as you said, for a TOC.  I know I’ve been put in, when I was TOCing, into a senior science class or math, and I didn’t know what I was doing, so I would hope that the students who knew what they were doing could help the other ones, but this just eliminates that problem for the most part.

Teacher T:  Yup.  Except when I’ve got new courses.  Then I don’t have... you know... but if I know ahead of time where I'm going to be away then I do that.  Or sometimes I've even, when I've known it's not a science person or there's something coming up, I just sort of talk; it's not even a lesson it's a “Here’s some instructions: you're going to do this, and then you're going to do this.  Now don't panic about this... this is...you know, focus...”  So it's good and I mean I can load up other things.  I mean the interesting thing with Camtasia is, if I wanted, I could video things too.  Like it's not just… so anything that's on my tablet is recorded.  So anything I write.  Hearing, they hear everything I say with a mic, but if I pull up a little YouTube clip of some biology scene or whatever, that’s recorded.  I pull up a sheet; anything that's on that tablet is recorded.  But there’s also a camera on there.  I did it once and I recorded a little demo because there were some kids who were going to be away and I didn't want them to miss the demo but I’m not really big on having my face on there, so I don't really do it.

Interviewer:  So usually it's more the written stuff that you would do and then…

Teacher T:  Yup, the written and voice.

Interviewer (Q3): Can you share how (or if) your assessment of student learning has changed with the integration of technology into your math or science classroom?   And I'm thinking that the way that you're using technology probably your assessment hasn't changed that much other than students might be improving.

Teacher T: Yeah, I think so, and it gives me that more one-on-one time.  Because...that more one-on-one time, that reviewing, “let's go through this test” and so, because I just, like I said, I find that they're not so available, so that I think has improved.  It depends on whether they embrace it or not, or, you know I might have more...you know because if they're doing the practice questions on there then I'm not marking it, but the overall assessment would…the actual assessment that I'm recording, hasn't really change that much.

Interviewer: They must be more engaged and motivated though with the technology?

Teacher T: Yeah, I think so, but again it might be the courses.  I'm hoping that, like with the biology, I see more like if they're watching part of the lesson ahead of time or they’re watching the lesson and with the group I’ve done it where I get a bigger whiteboard and it's like “Okay, the three of you, draw the heart and label all the parts” and so to be able to spend the time doing that individually and talking to them and saying “Okay, let's draw” and so incorporating that whiteboard in because I'm able to have the rest of the class doing their lesson is, yeah, so I have to play with up a little bit more too.

Interviewer (Q4): Do you feel that an increased implementation of digital technology in the classroom corresponds to increased learning?

Teacher T:  I think so and I think it gives more opportunity for that feedback, and that when they're missing, because I'm finding kids are away way more and they're accountable.  It keeps them accountable because often they'll say, “Well, I wasn't here” but the lesson was loaded, you should have been able to watch it.  So that's not really an excuse anymore and for those kids, you know, that are doing those extracurriculars, yeah, they don't get quite as stressed because they know the lesson’s there.  Or I have one that's away for the next ten days before her final and so I was able to load them up early for her.  So I can do some of that loading up early or giving them access to that.

Interviewer: Do you put them all on at once or do you sort of release them as you get to them?

Teacher T: As we get to them. Um, sometimes because I have a few sandboxes, like the one that's going away, she doesn't really have a choice, then I put her in another class where all of them were showing so she could go ahead so then it's alright.

Interviewer (Q5): What positive learning experiences for students have you encountered by using digital technology? What might be some negative learning experiences?

Teacher T:  I think the big thing is more feedback, not getting behind, being able to review.  I'm hoping to do more flipped education; that's where my direction is sort of going, but I’ve really seen some of the benefits of being able to sit down in the class with small groups and still have them.  I also as the teacher, I know this shouldn't be true, but you know when you teach a, especially in biology, when you teach a 40 minute lesson, you're exhausted and you don't have as much time or energy to, “Okay, let's orally quiz, let’s go through this, let’s...” but if they're listening to me and then I'm not having to do that, then I have way more energy to go and do that individual and probe, and figure out where they're going.  And then some of the practice they'll be able to do at home when they start to panic, right.  There's that whole panic at home and now they have access and they can…  Um, sometimes the negatives, I mean I was a bit worried that maybe they wouldn't come to class because it's already loaded, but I haven't really seen that. Especially, I think, the more I do the flipped.  If I can have different components, so “You still need to be here because you need to do this part.”  Sometimes when you're recording, sometimes you don't hear what they're saying and so sometimes they can misinterpret if they're reading and that's possibly a negative because you've recorded and you’ve loaded it up and everyone can go back and hear everything you said and any interaction with a student, which they might not be hearing the whole story and it could be misinterpreted.  So that’s sort of the negative.  There's also an expectation that I am going to have all of my lessons loaded, so it does put a bit of pressure on.

Interview (Q6):   Are you using digital technology at this point to communicate with parents?

Teacher T:  No.  I mean I’ll email with parents, but I'm not doing any FreshGrade or any of that.  I always think that I'm going to send more group emails out, but it never seems to occur and I think too it might be part of my level of teaching.  A lot of the parents don't understand the materials so there’s not...it’s not as much...certain things they couldn't access and the marks at this age, they’re sort of responsible to let their parent know.