
**SCHOLAR INITIATIVE – FULL TRANSCRIPT**

# TOOLS FOR DISTANCE COLLABORATION

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Mark Horney: Once you get past the contact stage and I'll tell you about my projects and you tell me about your projects, once you get to the point where you're actually going to try to do something together, even if it's just to write a prospectus about somebody else, you have to establish a common computing environment. Your computer has to talk to their computer. If your word processor isn't going to transfer files to their word processor, you might as well give it up because it's just never going to work. And we actually one time had exactly that happen. It became such a difficulty to transfer files back and forth. This was some years ago. It used to be much more difficult than it is now. But it used to be that this Mac/PC divide was pretty sharp because it was so hard to send information back and forth across the dump of that. So you have to get the right communication channel and you have to figure out the right tools to be able to collaborate. And so as you work through the kinds of tools you need you need to look at the ways that the mechanical things that you have to do. So I just mentioned you have to have word processors that talk to one another. Well that's not too difficult these days. If nothing else you've got RTF files and text files that you can send back and forth. But you have communication channels. You have to figure out whether people, how they work on email, whether they can do Skype, whether they can do Tango or any of these other sort of video based conferencing things. You need WebEx or some tool like WebEx to do videoconferencing. And sometimes setting those things up can be difficult. You get some people whose computing set up doesn't have noise canceling microphones. They don't have headphones, and whenever you talk to them on WebEx you get nothing but echoes going around and around. So you have to work out systems where you can reliably do those kinds of things. You're going to have to be sharing files constantly and emailing them back and forth almost always leads to what's called the versioning problem. You get multiple people working on the same document and eventually you reach the point where you've got two versions of the document that are different from one another. And you can't just pick one. You have to merge them together. And there are now tools that will help you do that. I think there's a merge feature built into Microsoft Word these days, but it's a pain to have to go do that. You need to figure out a work structure that allows you to avoid having different versions of things that are all valid that all have to be mechanically brought back together. We use a cloud based storage service called Drop Box. There's lots of these, but this is just a place where you have a folder on your desktop and

you can drop files into that folder. You can share that folder with anybody else in the world. The files in this particular case, those files live on your computer so that you can edit them and work with them even if you're not connected to the internet. They live in the clouds so that if you're on somebody else's computer you can still get access to yours via the drop box website. And those same files live on the computers of everybody else that you're collaborating with. So everybody's got access to the same stuff. So you keep, we use those as a repository. Now Drop Box is one of those companies that makes money by selling you space on their sever, and they give you a gigabyte or something at the beginning. And so one of the issues you're always bumping up against is how much extra space do you have left. One way you get extra space without buying it is to recommend Drop Box to other people and if they sign up then you get more space. So in our center we don't use Drop Box for archival storage. We just put that stuff on a regular server, but we use it for work in progress. This sort of stays within everybody's unit. Drop Box is just one. There's many kinds of tools like that that are out there. We use… it's critical. In any academic endeavor you're going to have a bibliography of materials. And you're going to want to share those bibliographic materials. And it's not just a citation. You're going to want the citation. You're going to want the PDF version of the paper. You're going to want to tag them. You're going to want to write notes. You're going to want to know how to share those notes with everybody. So you need a method for managing your bibliographic information. Endnote is one of those. Now there's an endnote web version that works. For some reason endnote web doesn't speak to me you know. Some software that you get two programs, they do pretty much the same thing, and one seems rational to you, and the other seems less rational to you. So you have to find the one that speaks to you. You also have to find one that speaks to all your collaborators too and so forth. We're using a service called Zotaro, which I think came out of Carnegie Mellon. It's free. They also make money by selling you space on their server. But you can have group libraries. And these can be libraries open. The group can be anybody on the internet, or it can be a defined group of people. And when you're storing your PDFs there you can't have a library that's open to the known world because that would be a copyright violation obviously. So we have these online libraries. So I have a bibliography of 1800 citations that relate to digital books in mathematics. Now there's lots of stuff besides just books about electronic books and books about mathematics. There's all of the underpinnings there. But it's a large group of papers, and we have the PDFs for most of them. They're all in APA style. And Zotaro will create APA6 compliant bibliographic printouts for you. And so we put all of our stuff there so that we can share it among all of those things. So you need mechanisms like that for sharing things. We use a tool called Ever Note which is a note taking tool. Once again they sell you service. If you buy the premium account, you get somewhat better service and you get more space on their server. It's that same in, but you can share. You have a note. You have notebooks filled with notes. You can share those notebooks which appear then on everybody else's computer. And it also syncs across all of your devices. So I can read my notes on my laptop computer, my desktop computer, my iPhone, my iPad. So there's versions of Ever Note that work on all of those different kinds of devices, which is something else that you have. These

days you don't have one device. You have many devices. And you need to be able to interact with your stuff and with your people on any of those devices. So the cloud is king these days, everything you want to be in those kinds of places. Scheduling meetings, you know if you're collaborating with people you're scheduling meetings with them whether they're face to face meetings or email meetings or telephone meetings or webinar meetings and so forth. You need tools for doing that because sending emails back and forth. Well can you meet at 6:00? Yes, I can, but Joe can't meet at 6:00. He can only meet here (unint.) you know that doesn't work. Doodle, is it Doodle? Yes, Doodle is a tool for doing that. You set up, and it's free. You set up a message. The message gets sent to all of the people that you want. You specify some times you think that are available to hold the meeting. That's when you're available. And then you ask people to check off whether they can meet this time or that time or the other time. And you try to find some common time when everybody can meet, or you find a common time for the people that you're for sure need to meet with can meet, and then everybody else is potluck. So you need tools for doing that kind of thing. You're going to have all of these PDFs that are stuck off in Zotaro. You're going to want to annotate those. So you need a PDF annotating tool, something that you can suck that up into that you can write on that tool. And you need a tool. We use one called a Good Reader is the one that we use. There's lots of them. Find the one that speaks to you. But the thing I like about Good Reader is two, one is it talks to Drop Box so that if I want to annotate a PDF I get it in Drop Box and then I can download it to my iPad which is my PDF annotating tool of preference, but I can do that directly. It will talk to any server and it downloads those things. Then it has all the standard annotation tools. You know you can highlight and underline and you can attach little notes and messages and do all of those sorts of things. They all do that. The thing about this one that I really like that they probably all do now too but this one does is it will extract your annotations from the PDF and put them in an email. And so when it does the extraction it puts in markers about where it extracted something. So if you highlighted something, it pulls out everything that you highlighted and so forth like that. And it sticks all of this into an email which you then can send to yourself. And now you have it in a text file which you can then stick in as a note in Zotaro so you have all your notes there, or you can email it to other people. This is what I thought of that paper and so forth. So you can have multiple people annotating the same papers. You can merge all those together by being able to extract them. That's the key feature of it. Remember you have to keep all of your stuff hot. You have to keep it flowing. You have to keep it able to move from device to device, from person to person to person. Any time something freezes out onto paper you're in trouble because to get it hot again is a huge amount of work. So you want to keep it hot from the beginning. And you want to keep it in these forms that you can move thing around.

James Basham: Yeah, and paper, and another tool that kind of does all that in one it's a little expensive. And I think it's seventy-nine bucks. Papers 2 is another tool that kind of does what Zotaro as well as the annotation does. And it also provides mechanisms for you to kind of collaborate and have circles of collaborators around different papers. And it has like a scholarly community around different papers where you can kind of provide feedback. It

can actually do little reviews of PDFs or articles that you read, etc. So that's another one of those nice tools that kind of does that. But everyone can ask to purchase that tool to make it kind of work. I use it personally, and we have groups using it now.

MH: We used Papers for a while. We abandoned it and went to Zotaro. Papers also has some of the search engines built into it to do searches. Unfortunately the search engines they have, or at least the last time I looked, were slanted towards the physical sciences and the life sciences and didn't search educational archives as well.

JB: It's gotten better now.

MH: We've actually had great luck. If you're looking for a particular paper, you get the title. You just paste it into Google, and 95 percent of the time it dumps it into Google Scholar is where it goes. It will pull up a reference to that paper. And quite often if a PDF is available you can quite often just one click and you get, it will download the PDF. If not it will take you to a place you know wherever the publisher is or something that sometimes you have to buy these things. The other nice thing about it is it has the Google Scholar search has built into it the cited by list. So quite often you don't want, you're not so much interested in that paper but who else used that paper. And now you click on that, and now you get a list of all of those. And of course now you have cited by with all of those things. We have a process. When we're building a bibliography, the trick is to find one good paper, one paper that speaks directly to whatever it is that you're looking for. And then you chase the reference list backwards in time. You look up all the papers that are on the reference list. And you look up all the papers that are on the reference list of the reference list of the ref. You know you go back as many iterations as you have time to go. But you also want to chase forward in time by using the cited by list. You can sometimes get these cited by lists from publishers. If you go to the Web of Science, if you're working in stem areas, those sorts of papers get cited in the Web of Science which has these kinds of things. Whatever the tool is you need to do these kinds of things, so you look for tools that do them. But it's remarkably how useful just Google Scholar is to find particularly in education.

JB: In Papers 2 now, the new version has, you can search directly in Scholar, Google, which is wonderful because it does some of that built into the system.

MH: When you're in those meetings, you need to record meetings with people. Now if you're using videoconferencing software and so forth like WebEx has a button you can push and it records everything that happens on the screen and all the audio and so forth. But when you're in face to face meetings you need to take records from there too. I personally am a terrible note taker. I have unreadable handwriting and I can't talk and write at the same time. So I either have to have somebody else take notes or I have to have some other tool. And who's heard of a pulse smart pen? Anybody? Okay, one person. A couple of people. A smart pen, the company that sells them is Live Scribe, and I think that's on here some place.

It's a pen, looks like a regular pen except it's really fat. And it has a speaker and it has a microphone built into it. It also has a little video camera built into it. And when you buy the pen you also buy a notebook of special paper. And it looks pretty much like ordinary paper except it's tinged a little bit gray. And if you look at the gray paper very carefully you'll see that it's covered by a collection of small microdots of different colors. And it turns out the dots are arranged in unique patterns. And when you write on the paper the video camera takes a video of your writing. And it knows where you are on the page because it's reading the pattern of dots. And it's recording all the, making a recording of what's being said while you write. It even has a pair of noise cancelling ear buds that have speakers in them like regular ear buds, but they also have microphones in them. And it's the same technology as in a Bose headphone. And it plugs into the smart pen. And this is meant to be in a conference hall type space and listening to a speaker. And I've been in rooms as large as the salons over here with the speakers and in the back of the room. And I get a useable recording of the speaker. So you can take notes as you write. You get this sound recording of the audio. And then when the speech is over you can go back and whenever you tap on the page in your notes it jumps in the audio file to where that sound is. So you have now audio notes that are indexed by the written notes that you've taken. Now some people take really good notes and so forth. All I can manage to do is to take an index. Bill is talking now about Fred, and that's all I write. But when I want to hear what Bill actually said I can just tap on that. You can also so you have these things on this funny paper. And the funny paper isn't very expensive. I got four very large spiral notebooks for 20 bucks once. You can also if you have a moderately good laser jet, color laser jet printer you can print out your own paper. And we do things where if we have an observation form like for going into a classroom, we print the form onto the paper. We first print some paper, some of the Live Scribe paper, and then we send it through the printer again and print our form on top of it and then take our notes in the smart pen. So we're getting a recording of what's going on as well as our field notes. You can then extract this thing from the pen and you can put it on your computer screen. And you see what you've written on the screen, and you can tap with your mouse to get the audio stuff. That is a file that you can then email to anyone. And they can go to Live Scribe and get the reader software for free and so they can access these notes in the same way that you did.