



The Last Two Feet of The Web: From Screen to Human

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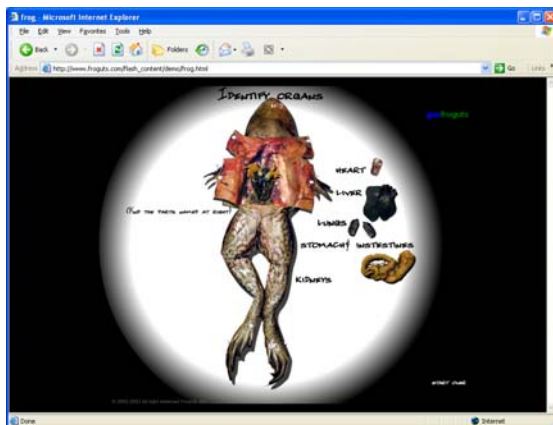
Norm Friesen has had a long and diverse academic career. It began at in Winnipeg where Norm completed a BA in German. Then he moved on to Johns Hopkins University in Baltimore, to do an MA in German as well. Then Norm worked in schools, teaching, before coming to the U of A to do a professional degree in Library and Information Studies. But even with a BA and two Master’s degrees, Norm Friesen’s educational career was far from slowing down: “Then,” he says “I worked at the U of A’s Academic Technologies for Learning for three years and started developing and learning about educational technology. Around that time I began to work on a PhD in education at the U of A as well.”

Norm’s education prepared him well for an important but difficult area of study during this PhD. Most study of computer technology focuses on the hardware, and then works its way to the human component. But Norm asserts: “Out of all the wires and circuits that make up the Internet, it’s the last two feet between the screen and the human that is the most complicated and that we understand the least about.” So Norm decided to study the growing importance of Information and Communications Technologies (ICTs) starting from the human part of the equation rather than the hardware.

In this focus of study, Norm continues, “What I focused on is the moment when something goes wrong, when there is a breakdown. In that breakdown you see what are otherwise hidden elements” of the human – computer relationship. Looking not at what technology is capable of, but rather how we cope with the new situations it puts us in formed the basis of the study. This leads to deeper understanding of the new ways the Internet forces us to think of and identify ourselves. Norm gives an example of one of these breakdown moments: “In an online discussion forum, for example, somebody would sign in under a name that wasn’t the name they had meant to use. For example, using someone else’s account (in an online classroom). Then your body doesn’t posit or carry your identity, it’s your name that posits your identity online. The message you write, the way it is crafted and how it presents you also ‘carries your body’ as well. Like the way you look or dress, for better or for worse, serves a lot of those purposes in the physical world. Then the question is in some ways, “how can we recognize that fact and enhance people’s ability to choose the way their name appears online?” The goal



PhD candidate Norm Friesen



Screen Shot of an online frog dissection.

of Norm’s research is to produce options in online learning that give people “help in structuring their online message (and identity). The difference between an online message and physical presence is that there is much more you can control and craft, which is not an option in the physical world.”

Looking into the uses of ICTs for education along these lines Norm began to see the strengths and weaknesses of ICTs themselves as they relate to the way students learn. As he says “One of the things I found out, is that objects online for example, are disposable and infinitely replaceable. Very often they are flexible and visible with a kind of clarity unlike things in the real world. Think of a dissection or a physics experiment. Those aspects can be very useful,



and apply themselves very well to the sciences.” But online learning also has difficult terrain to cover, as there is still a significant gap between the virtual and the real.

Using the example of an online dissection, which is becoming ever more familiar to students, Norm explains: “I interviewed students who had a sense of wonder that things fit together, like intestines which are thirty miles long and wrapped into a tiny ball. You need to use incredible care and attention in a real world dissection, and the feeling of the process is extremely important. This is all lost in an online dissection, so it is best used to prepare and see visually salient properties and procedural priorities, but it is not a question of trying to get the computer to be so real that it ‘fools the student.’ The difference in those two realities should be understood rather than trying to paper them over. We need to see what computers can add, but also what they can’t replace.” But there are a number of strengths and weaknesses to be taken into account when it comes to learning online, and again it is the breakdowns that teach us the most: “You can do all kinds of things wrong dissecting online, but you can’t undo them in a real dissection. But the dissection can freeze online and crash, which never happens in a real dissection.”

Norm Friesen’s work is part of a large process of change taking place in society as we come to terms with the possibilities and difficulties posed by technological advance. One thing is certain, the type of study Norm has engaged in will be a big factor in the future of schooling at all levels.