

# Teaching Tips/Notes



## Grounded Application of Connectivism in the Classroom

### Introduction

The way we gather information has changed dramatically over the past 20 years and this has implications for learning and engaging with the millennial generation. Connectivism can be thought of as both a learning theory and an instructional theory. Stephen Downes defines connectivism as “...*the thesis that knowledge is distributed across a network of connections, and therefore, learning consists of the ability to construct and traverse those networks*” (Downes, 2007, para. 1). While this seems pretty straight forward, some scholars feel that the theory isn't justified and already exists in terms of the constructivism, behaviorism, and cognitivism disciplines. However, it is largely accepted as a useful tool in the classroom to engage with the large bank of information available over the internet. I use the term grounded to suppose that while the technological route is a necessary one to take for students and teachers to keep up with the cultural shift, class room learning should remain grounded in the interaction between students.

### Procedure

A connectivist procedure is one that I have participated in as a student and believe works very well to find a balance between engagement with information through technology and also with engagement with peers through human interaction. Iowa State University has several required core classes for students in the Graduate Program in Sustainable Agriculture. One of these is Agroecosystems 509 which has three professors from different disciplines and begins with a week-long field trip around Iowa where we saw a range of agricultural systems. We saw a 5000-head of cattle operation, an ethanol plant, a direct market grass-fed dairy, a school greenhouse garden, a highly diversified 20-acre vegetable farm, a corn and soybean operation that uses cover crops, one that doesn't, and the list goes on. This field trip was followed by a weekly 4-hour course, which included a lecture by one of the professors and then a peer engagement activity. Often times we were just asked to share our opinion on a certain topic. Other times we were asked to get in groups and come up with a collective response to a question. The most memorable was when we were asked to draw a landscape of our hypothetical future farm for homework and the following week we shared with the class on an overhead.

### Assessment

In consideration of connectivism, it can be applied as a learning theory and an instructional theory for this case of Agroecosystems 509. In terms of connectivism as a learning theory, the millennial generation is very much reliant on computers and smart phones for how they gather information and communicate with friends. However, they are still human and require a high level of social interaction which should not be left behind. In fact, it should be propped up because the quick cultural shift toward technology has caught us off guard and our society wasn't particularly prepared for the shift.

In terms of connectivism as an instructional theory, it is important to note that throughout our lectures we were allowed to have our computers out and had a world of information at our fingertips. While the arrangement was never discussed, the expectation appeared to be that we were taking notes on our computers. Often students are in fact working on other assignments and seldom students will bring into the conversation information from other sources to bolster the discussion. On another note, we had one assignment where we were advised to employ the use of our computers to research a particular topic with a colleague 15 minutes and report back to the class what we found. That was actually very exhilarating because this is a task that we graduate students do all the time and we were being asked to perform this task as part of the class which is unusual.

It appears that graduate professors are just beginning to understand the use of technology in the classroom. The expectation for graduate students is certainly different and more hands-off than the expectation for undergraduate students. However, in both scenarios the computer, iPad, or clicker can be used to engage students. For me personally, being asked to research a topic was a new level of excitement that I hadn't experienced in graduate school since then. Another point is that teachers have to be more prepared for class to facilitate a higher degree of engagement with the students. The fallback is

to just quickly get through a lecture and let the students go. In this 509 course there was one professor who took the extra time to engage us and we really responded strongly to it.

### **Conclusion**

A successful graduate/undergraduate course should include a high level of human interaction and technological interaction to fully engage the millennial generation. While it may not be practical to engage both areas in every class, it would be most beneficial to do so. Certainly it is not reasonable to visit a farm each week, but it is possible to incorporate engagement between students and/or computers each week, in addition to the professor's lecture.

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