

Visible Evidence of Invisible Learning

Speaker: Dr. Randy Bass, Assistant Provost for Teaching and Learning Initiatives at Georgetown University and Executive Director of the Center for New Designs in Learning and Scholarship (CNDLS)

Dr. Randy Bass, executive director of Georgetown University's Center for New Designs in Learning and Scholarship (CNDLS), presented a framework for thinking about teaching and learning in new media environments that emerged from the Visible Knowledge Project, a six-year study of new media pedagogy in over 20 different institutional settings around the country.

Dr. Bass began by explaining that his intention was not to discuss technology, but instead share a framework for thinking about teaching and learning in new media environments. He explained that the Visible Knowledge Project had examined the work of over 70 faculty members on 20 different campuses, ranging from community colleges to major research institutions. He noted that much of the material was published in winter of 2008-09 on a website called AcademicCommons.org. The site includes a large synthesis essay, 19 case studies, and a number of vision pieces by various authors.

He went on to suggest that, following the observations of Kansas State digital ethnographer, Michael Wesch, new media environments require that we consider an inversion of the traditional hierarchy of "what-how-why" in our teaching. Exploring this inversion was the aim of the Visible Knowledge Project. Despite our awareness that there are shifts taking place in the teaching and learning environment, we rarely design our curriculum with this inversion in mind: often the "why" is lost as we get bogged down in content and how to teach it. Referring to Wesch's suggestion that we consider "teaching not subjects but subjectivities," Dr. Bass argued that we should consider teaching subjectivities not at the *expense* of teaching subjects, but *in* subjects. New media provides this opportunity.

Dr. Bass set up the discussion of the Visible Knowledge Project itself by describing an exercise he conducted with his freshmen writing students, borrowing from Wiggins and McTeague's construct of "nested ovals," or levels of understanding. Dr. Bass illustrated the idea by showing a slide of concentric ovals. McTeague suggests that we think about core understandings (the central oval), versus the important things to get out of the course (middle oval), versus the worthwhile things to know (outermost oval). Dr. Bass noted that it is useful to ask faculty to identify the core understandings for their classes and then consider whether their students could do the same.

On the first day of class, Dr. Bass told his students to write down three words that came immediately to mind for each of the levels of understanding (core, important, and worthwhile) when they thought, first, of writing for school, and second, of writing on the

web. He then created word clouds to identify which concepts were most frequently cited. He showed slides of these word clouds and pointed out that for “writing in school” students were preoccupied with style and grammar. Furthermore, they seemed confused about which concepts were core and which were merely worthwhile. As a result, all three word clouds were similar.

The students’ understanding of writing on the web, on the other hand, included words like “ethics,” “understanding,” “value of knowledge,” and “feeling”—concepts that were wholly excluded from their thinking about writing for school. Students also had a firmer grasp of what was core, important, or worthwhile; they understood that concepts related to thought and individuals were core, whereas techniques were more peripheral.

With that prelude, Dr. Bass introduced the idea of “threshold concepts,” taken from the influential work of Meyer and Land, who identify these as new and previously inaccessible way of thinking about something. If we truly grasp the threshold concepts at the heart of a given field, our understanding of its landscape fundamentally changes. Dr. Bass explained that threshold concepts are related to what Perkins calls “troublesome knowledge,” knowledge we find unsettling because it often goes against our values or intuition. Threshold concepts can be troubling for many reasons. As an example Dr. Bass showed an excerpt from a student blog post, in which the student identified the idea that “all religion is irrational” as a threshold concept for his religion course, an idea at the core of the class, but unsettling to him because it violated his deeply ingrained understanding of religion.

In Dr. Bass’ freshman writing class, the threshold concept was that writing was a social act of conversation; this was the most important idea for his students to learn and remember from the class, and assignments were planned with this goal in mind. For example, students were required to interview faculty about the origins of recent scholarly articles and were surprised to find that academics were acutely aware of expressing their own voices in an ongoing conversation among peers.

Dr. Bass then returned to the word cloud exercise he gave his students at the beginning of the semester, this time showing the results from the same exercise at the semester’s end. Now “conversation” and “voice,” the core concepts for the class, were by far the most prominent. He also observed that if you compare results from the first week of class to those from the fourteenth week, the students’ subjectivity is present in both, but in different ways. By the end, we can see that subject and subjectivity have merged: “personal” and “opinion” have been replaced by “voice.” This was the threshold concept of writing which Dr. Bass was trying to convey, and he did so in part by having his students work on the web with videos from Project Rebirth and other new media tools.

Dr. Bass explained that the Visible Knowledge Project had examined over 70 projects that faculty developed to conduct close readings of learning taking place in their classes. A picture had emerged around three big ideas: *adaptive expertise*, *embodied learning*, and *socially situated learning*. Dr. Bass elaborated on each concept, illustrating them with examples from the Visible Knowledge Project.

Adaptive expertise, he contended, is flexible knowledge. Over the last 30 to 40 years of cognitive research, we have learned that expertise involves flexible, rather than routine, thinking. Despite our complex understanding of true expertise, undergraduate curriculum is often based on the idea that expertise is simply additive, an accumulation of information. According to Dr. Bass, we should instead focus on putting students into situations of much greater difficulty that will force them to be flexible and adaptive in their knowledge, which is similar to how true experts think. However, this requires that we shift our expectations of what students produce and how we assess it.

To demonstrate the concept of adaptive expertise, Dr. Bass showed a chart illustrating the traditional concept of expertise, in which a novice undergoes a mysterious, miraculous process and emerges an expert. The Visible Knowledge Project attempts to discover what happens behind the miracle, in the middle area between the realm of novices and the realm of experts, with the premise that new media can make these intermediate processes more visible. The challenge is then to understand these processes, design courses to foster them, and capture them. Small slices of online discussions, interviews, think-alouds, e-portfolios, performances, and classroom assessment techniques are all “captures” of these intermediate processes.

He then showed several examples of projects available on AcademicCommons.org that examined these intermediate processes. In one, professors analyzed snippets of their students’ online discussions, arguing that these discussions can be structured to look more like actual disciplinary conversations among experts. Indeed, they found that over the course of a semester the online discussions began to resemble the peer negotiation of real experts, as students began to speculate more, take more risks, and simply spout information less. Certainty declined and the uncertainty of speculation and questioning increased.

The second big idea that emerged, Dr. Bass noted, was embodied learning. One surprise of the Visible Knowledge Project was the degree to which the person was reincorporated into learning through emotions, personal experience, identity, the sensory quality of new media, and also the embodied nature of expertise. We now know that what characterizes expertise is, in fact, embodiment.

Dr. Bass defined embodied learning as entering into cognition through emotion; to enter into the critical through the personal, rather than to banish the personal altogether, as often happens in the classroom. The Visible Knowledge Project examined a number of digital storytelling projects in which students created short multimedia narratives that merged autobiographical material with theory or history. He then showed an example of a digital story that reflected on cosmetics and gender construction, which was created for a graduate course on pop culture. In this case, students also wrote a sophisticated theoretical paper reflecting on their video. Dr. Bass noted, however, that an issue raised by these digital stories is that, unlike a research paper in which all of the learning is visible, in digital narratives much of that learning process is edited out. This makes

assessment challenging for teachers, and we must recognize that in most cases no single product will be enough for assessment.

Out of this project of digital stories, some of Dr. Bass's graduate students completed projects in which they interviewed 26 students at various institutions, asking them who they were writing *to* and who they were writing *for*. He showed a short montage of their responses to the question "who was your audience?" Responses ranged from "other people like me" to "people who normally don't think about this topic" to "young women," and, "for myself." Dr. Bass pointed out the mix of novice and expert that emerges in these responses. In many cases, students were creating stories for people who were in the position they themselves occupied only a few months before, the position of novice; in a sense, then, they were reconstructing that position of the novice from their new position as experts. And for many of them, the relationship of their subjectivity to the subject was what mediated that back-and-forth.

Finally, the last big idea was socially situated learning. Students learn differently when they are in situations in which their learning is public and social. As things stand, students rarely see the classroom as a public or a community. Dr. Bass then returned to the question of threshold concepts. These concepts are not just about knowledge acquired, but a whole new way of thinking, acting, and experiencing. That is what the Visible Knowledge Project was looking at: the experience of coming to know.

What ultimately emerged from the Visible Knowledge Project, Dr. Bass concluded, was that the major challenge of designing for new media environments is thinking about how social engagement changes the way students think about their own learning, how that engagement is altered by their work in intermediate spaces on their path to development, and how we might engage the whole person in those intermediate spaces.

Discussion

An audience member noted that often the novice eventually becomes an expert of a different kind than the experts that trained him, because the skills and knowledge required to work in a given field change over time. He asked how we might think of threshold concepts while leaving room for the evolution of the field.

Dr. Bass responded that this is precisely what distinguishes a threshold concept from a building block concept. The latter might be tied to content or something more ephemeral, whereas a threshold concept is at the very essence of a field and enables an expert to shift paradigms within it, or to shift in terms of the kinds of problems being solved. Adaptive expertise is about those qualities that allow experts to work comfortably at the limits of their competencies. Our challenge is to train college students to be these adaptive experts, but the current curriculum rarely forces students to operate at the edge of their comfort zones. The findings of the Visible Knowledge Projects suggest we should think of adaptive expertise as the fundamental pedagogical project from the very beginning.

Frank Moretti, executive director of CCNMTL, suggested that adaptive expertise has a lineage—that there are antecedents in the pedagogical literature for meta-cognitive

approaches that go back many centuries, but that the obstacle to implementation has long been institutional structures in which pedagogy is practiced. Not only administrators, but also faculty often internalize resistance to meta-cognitive approaches. He went on to observe that every student is torn between the seduction of knowledge possibilities and the sheer terrorism of the competition. This does not mean, Moretti explained, that supporters of this pedagogy should not persist, but that they face a serious obstacle. Moretti asked how Dr. Bass perceives this challenge and went on to question if there might be a way to turn this pedagogical critique into a larger social critique, effectively of political economy. Finally, he asked, with regards to what is left on the cutting room floor when a student makes a short video, is there a way to re-examine these discarded scraps to better understand the significant intermediate processes that led to their not being used?

Dr. Bass replied that even the very resistant eventually find something that tempts them into adopting new technologies; part of the challenge is to figure out who they are and how to work with them. Faculty development is really about trying to paddle faster than the current, staying a step ahead of where these practices are going, trying to figure out what kinds of problems students and faculty are trying to solve, letting them know that there are solutions for them, and creating good models that are transferable.

Maurice Matiz, vice executive director of CCNMTL, observed that when we teach students to write we are able to give them templates or models to follow and that with digital projects those templates, often do not yet exist. Dr. Bass agreed, noting that even in the second or third year of using some of these digital tools, faculty members notice improvement because students have models to follow by then.

The final question was how we can be clear with faculty about both the promises and the limitations of digital media, given that educators are often concerned that much of students' engagement with digital media is entertainment-oriented, and potentially distracting from educational applications.

Dr. Bass explained that we should find ways to create intermediate inquiry committees of faculty who are using digital environments. We don't yet know enough to make sweeping claims about the value of these environments, so we must develop our knowledge and evidentiary bases, and engage faculty in collaborative inquiries. This is a major challenge ahead.