

**YouTube Anchors and Enders:
The Use of Shared Online Video Content as a Macrocontext for Learning**

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YouTube Anchors and Enders: The Use of Shared Online Video Content as a Macrocontext for Learning

The emergence of the Web 2.0 has brought a wealth of new resources and materials for teaching and learning (Alexander, 2006; Downes, 2005; The Horizon Report, 2008; Time Magazine, 2006/2007). One day you hear about a new online news service, the next day there are pronouncements about the scanning of more than a million books (Benson, 2005), and the day after that there is a new document or video repository (e.g., Scribd.com, SciVee, YouTube, et.). Colleagues down the hall or in another university will record podcasts of their classes and make them available for you and your class (Deal, 2007). Others create repositories and summary lists of those podcasts. When attending conferences and professional development forums you hear about innovations of instructors at other universities and institutes.

Lately, one craze in higher education is related to the use of open educational resources (OER) (Geser, 2007; Johnstone, 2005) which typically offer freely accessible contents for anyone with an Internet connection. There are free and open online courses from MIT (Huijser, Bedford, & Bull, 2008; Lee, Lin, & Bonk, 2007) and dozens of other universities around the world. In addition, there are open access portals such as MERLOT and Connexions as well as and shared online video of class lectures, invited speakers, and other content from many higher education institutions and professional organizations. A second trend is that the content available for learning is shifting from that which was formally authored by an organization or institution to that designed by learners or trainees. This is a participatory learning age (Brown & Adler, 2008) where "YouContent" (Masie, 2008, p. 12), or content that is personalized and perhaps created by the learner (Lenhart & Madden, 2005), is becoming more accepted and expected. As highlighted by a special issue of Time Magazine wherein "You" were named the "Man of the Year," Web 2.0 technologies offer increasing power to the learner or user (Time Magazine 2006/2007).

Inter-Institutional Collaboration

As such participatory and collaborative technologies become increasingly common, so, too, are calls for collaboration with them across classes, universities, countries, and regions of the world. When you teach in instructional technology, experimentations with collaborative technologies are simply expected. I have spent the past two years trying out an assortment of new ideas and approaches with emerging technologies and associated pedagogy with instructors from other universities and countries.

For instance, two years ago, Dr. Mimi Lee from the University of Houston and I discussed various ways we might foster rich and engaging interaction and collaboration of ideas across our classes to collaborate. As we talked, various emerging technology ideas filled the air. Might we use videoconferencing to start or end our courses? Sure! With free Internet-based videoconferencing, that was a relatively seamless way to collaborate. Might we try to have our students matched up for feedback on online papers and book chapters and turn them into a wikibook? Yes, that would be possible as well, though many more steps would be involved.

Wikibooks. We have coordinated online paper exchanges across our classes, critical friend activities on critique papers and final assignments, videoconferencing introductions, discussions, presentations, and celebrations, and even jointly created wikibooks. During that semester, we

each taught courses on learning and instructional design theories and decided to have our students create wikibooks related to the practice of learning theories (The POLT). At the same time, I engaged in a similar wikibook project with instructors from universities in Taiwan, China, Malaysia, and the United States.

As my colleagues and I soon discovered (Bonk, Lee, Kim, & Lin, 2008), the coordination of these wikibook efforts was not easy. Factors that needed to be considered included those related to the scheduling of the posts and interactions, feedback, grading, reward structures, and coordinating book completion. Still other factors related to mechanisms to create a sense of community within a bounded course, fostering acceptance of edits from alternative sources, following wikibook procedures and practices, and overcoming the digital divide. In these wikibook projects, students constructed meaning with students they normally would never meet physically. In effect, Wikibooks are a participatory form of learning technology wherein students reflect on their assumptions and biases, understand diverse points of view, and create new knowledge for others to read, reflect on, and tinker with.

Shared Online Video. While Wikibooks activities have been the most challenging and perhaps exciting technologies we have embarked on, in the fall of 2007, Dr. Lee and I found a simple way to embed technology in our classes while empowering and motivating students—this approach involved shared online video presentations of course concepts. Prior to the start of the fall semester, Dr. Lee and I discussed how to motivate our students in weekly lectures and discussions. One activity we incorporated into our classes was the use of a cool resource provider. Students signed up to be a cool resource provider for one week of the semester. They could have been a cool resource provider alone or with a partner. We asked the “Cool Resource Provider” to “explore the Web resources for the course, for the week, and beyond the course and present them to the class.” Such work might include online psychology tests, simulations, animations, models, videos, or audio clips, etc. as well as paper-based information. A corresponding handout was helpful but not required. The presentation took from a mere 4-5 minutes to perhaps an hour or more followed by question and answers from the class and explorations in a computer lab or at home after class. The cool resource provider(s) might also be asked to help moderate discussion for that week by introducing and briefly summarizing some of the ideas from the chapter as well as a few starter questions and controversial issues.

The majority of what students discovered and presented was online resources and ideas related to their content. Some students decided to create PowerPoint presentations, others moved the class to a computer lab for guided Web safaris of resources that they had found, and still others showed specific Web sites and online videos after which they fostered interactive small and whole group class discussions and reflections. It was not the particular format of their presentation that was important but the fact that students were empowered to be the instructors of the class. By the end of the semester, it was clear from these presentations that there are a plethora of Web portals and online resources for learning theory and instructional design.

Dr. Lee and I used the same books, assignments, agenda, and course activities. As part of these efforts, we shared with each other videos that related to each week of the course; such as behavioral theory, motivation, cognitive information processing, sociocultural theory, and instructional design. Where did we go for such videos? In the past, such courses relied on

personal movie libraries or the audio-visual department to check out videos, films, etc. In the twenty-first century times have definitely changed. Now any instructor can search YouTube, Google, or TeacherTube videos (see Appendix A) as well as other resources for current videos that might help students understand course concepts.

Using YouTube

YouTube videos were not available just a couple of years ago yet they are now pervasive in higher education. In a recent survey research project of over 1,000 participants, I have found that short videos of 1-4 minutes are ideal. Not surprisingly, those that are humorous, informative, current, interesting, and engaging are preferred by learners. While most people do not create or comment on YouTube videos, the majority of students have watched and shared them. Such viewing tends to take place at night; typically, between 6 pm and midnight. Clearly, YouTube technology is something in which students in higher education settings in the United States are highly familiar. It is a tool of the culture. And it is one that instructors from K-12 to higher education to corporate training need to begin experimenting with in their classes.

There are more educational videos available online than we first imagined. For the week on behaviorism, my students found documentaries on B. F. Skinner's life (see Appendix B). In addition, there was also one on operant conditioning wherein a rat performs a series of tasks to obtain a reward. While such information can personalize learning and make ideas come to life for students, humorous videos related to behavioral concepts are also powerful. For instance, in the popular sitcom, *The Office*, there is a YouTube video wherein Jim gives Dwight a mint every time a computer reboots and eventually Dwight holds out his hand for a mint when he hears the sound. Behaviorism is a discipline with many complex terms and principles which often confuse and overwhelm students (e.g., negative reinforcement, unconditioned stimulus, satiation, contingency contracting, etc.). Timely use of online video content related to any of these concepts can help students grasp more of the concepts and arouse interest in learning other aspects of the theory or framework.

But we did not stop with behaviorism. In the following week on cognitive theory, students discovered and shared YouTube videos on maximizing memory, artificial intelligence, and robotics. Here too we found videos created for the general public—everyone wants to learn ways to improve their memory--that again were highly appropriate for our classes. For instance, there is also a series of quite fascinating videos on Daniel Tammet who is a savant from the United Kingdom with rare mathematical and language abilities which both Dr. Lee and I used in our respective classes. Daniel had a series of seizures at age 4 which rewired his brain so that he can see, experience, and remember things that most people would believe impossible such as remembering the mathematical expression known as pi to more than 22,500 digits. Our students were amazed that Daniel can also calculate the day of the week in which someone was born. Reading about such feats is not the same as witnessing it in a video. By selecting key videoclips about Daniel's "savantism" from this British documentary, our students became highly interested in cognitive theory and the limits of human information processing. When Daniel learns one of the world's most difficult languages, Icelandic, in one week and converses with others on live television in this language, it is quite stunning. More importantly, this sets the stage for discussions about size of working memory, the limits of long term memory, and how to improve personal cognitive abilities and daily study skills.

As indicated, online videos such as YouTube videos can augment or illuminate the weekly assigned readings. These videos can anchor instruction at the beginning of class as well as help end the class meeting. As we and our students soon found out, there are hundreds and perhaps thousands of educational videos available for free for any class. In one of my classes in the fall of 2007 on the Web 2.0 and Participatory Learning, I posted a set of online videos from George Siemens at the University of Winnipeg on a new theory called “connectivism” (Siemens, 2006) to the course management system and informed the class that they were there. During class the following week, I showed each video one-by-one and then brainstormed questions or issues which were confusing from the videos. Questions were sent the following day to Dr. Siemens and he replied to the class via email. His responses were also posted the course management system we were using and then discussed.

Given such possibilities, every instructor in higher education should be thinking about incorporating short online videos at least a couple of times per course. They are free, they are available in many formats and from many sources, and they are at your fingertips. Gone are all the silly forms from an AV department as well as the associated wait time. In addition, an instructor can feel less guilty not showing the entire video. Since there is no return policy, she can always show it again later on in the semester, while students who miss the class where it was shown can access it on their own. The use of video in instruction is now on demand, highly flexible, AND can anchor most any lecture or course activity. Instructors might still lecture, rely on textbooks, hold discussions, and pass out summary handouts, but the videos spring learning to life!

Linked to Psychological and Instructional Theory

Of course, many educational researchers will say that they have heard this story before. In fact, much of what has occurred recently regarding the use of technology in education links to existing educational research. Fortunately, much of it has some freshness that is worth writing about. Back in the late 1980s, John Bransford and the Cognition and Technology Group at Vanderbilt (CTGV) (1990, 1991) were researching the use of video as a way to anchor instruction. In many of their projects, they would anchor learning in a common event such as a videoclip or movie. Short movie snippets from “Raiders of the Lost Arc” and later from the “Jasper Woodbury” series (which they produced) were used to teach complex science and math concepts in a meaningful and interactive way. From their perspective, these rich online videos situate learning in a story or learning context. When that happens, knowledge is less inert. The connections that students make within and among concepts and principles can be revisited in later sessions or units of a course. In effect, the videos provided a “macrocontext” (CTGV, 1990, p. 3) or commonly viewed experience for later learning and reflection. According to the CTGV, a macrocontext provides a learning space that can be replayed or revisited and discussed from many perspectives and over an extended period of time. Online shared video content such as that found in YouTube has the potential to anchor instruction in such rich learning contexts.

Well before the work from Vanderbilt, educational psychologists such as David Ausubel (1978) argued that knowledge was hierarchically organized. As a result, educators need to find ways for new learning concepts and ideas to be subsumed under or anchored within prior learning experiences. Ausubel suggested that new information is going to be meaningful to the extent that

it is anchored (i.e., attached or related) to what learners already know and understand. YouTube videos can help in that regard. A key part of this effort is finding ways to link prior learning experiences to new concepts and ideas. The advance organizer, here in the form of shared online video content, provides the glue or connections among the learning content that is vital for both the learning of basic facts as well as higher-order thinking skills. Advance organizers come prior to instruction to help learners organize and draw relationships among the concepts being learned. In effect, they guide learner attention to key elements or aspects of that learning. Effective advance organizers can be used as an initial priming of one's rich knowledge stores as well as scaffolding new knowledge.

In addition to the links to anchored instruction and advance organizers, the use of shared online video content is an example of dual coding theory (Paivio, 1986, 1991) in action. In effect, when a course combines verbal lectures or course readings with a few short YouTube or CNN videos, there is immense learning power. The class comes to life and ideas begin to resonate with students. And since the videos are short, instructors do not have to give up much time. Short 3 or 4 minute YouTube videos help an instructor make a key point without having to sacrifice significant time. The learning payoff is potentially immense as the learner can recall the information through both verbal and visual channels.

It is clear that the use of YouTube videos in instruction is linked to educational and psychological research conducted during the past few decades. For of all, they provide a context for learning (Brown, Collins, & Duguid, 1989). Second, they extend learning beyond text to visual or episodic memory, thereby fostering student dual coding of information (Paivio, 1986) and increase learner retention of information (Fox, 2003). Third, they provide a common experience for learners to discuss and reflect on concepts and ideas as in anchored instruction (The Cognition and Technology Group at Vanderbilt, 1990, 1991). Fourth, they can also provide an advance organizer for later class lectures, discussions, and small group activities (Ausubel, 1978). Finally, they can be created, watched, shared, or commented on; hence, they link to the emerging culture of participatory learning (Brown, 2006; Brown & Adler, 2008; Lenhart & Madden, 2005). Across these five theoretical linkages related to using shared online video in instruction is the realization that video technology will increasingly find a role in teaching and learning in this century.

When effectively embedded in instruction, shared online videos serve as an advance organizer and learning anchor while provoking student interest in a topic. As in anchored instruction, they offer a context or scenario to learn from and later reflect upon or replay. They rouse students' minds to life by showing them new insights, perspectives, and situations to learn from.

Ideas for YouTube Anchors and Enders

A multitude of technologies arose in the 1990's to foster student dialogue and collaboration (Bonk, Appelman, & Hay, 1996; Lajoie & Derry, 1993; Salomon, 1993; Soloway, 1993). Much of the focus at the time was on emerging technologies for computer conferencing and collaboration (Bonk, Medury, & Reynolds, 1994; Schrage, 1990) that brought students closer to real-world environments and abundant apprenticeship opportunities. In the current decade, the technologies of interest are still collaborative ones, but, also, those that foster student generation and visualization of knowledge. As the current wave of technology shifts to be more

