

Technology Review for CTL 1606

Using YouTube for teaching college / university courses

"Technology helps communication??? It has been splendid at getting the message out, but communication is two way - people have been using communication technology for talking (sending out the message), and not listening and communication cannot happen unless people listen"

W.T.G. Richardson 2005

This June 2011 paper is a "re-work" of my Dec 2010 paper about YouTube

<http://www.witiger.com/YouTube/CTL1608-paper-using-YouTube-for-teaching.pdf>

as it is used in teaching and learning at the post-secondary level.

This re-work is aimed strictly at the questions asked by Prof. McKinnon, and is therefore intended as a "contribution" and "resource" for the other participants in the course who might not have had as much time to be familiar with using YouTube in the classroom as the author of this paper.

What prompted this recycling is a particular technical functionality that, in my opinion, made YouTube a truly useful communicative tool in the context of the introductory quote to this paper – namely, "comments".

What is the primary purpose of this technology? – answer, sharing

Sharing implies that the other person with whom you are communicating also has a chance to contribute to the conversation / communication and in order to discuss this in the context of YouTube we need to first discuss some aspects of the technology.

What is the purpose of discussing the technology of YouTube? - by having the ability to make text comments and video comments on YouTube videos, it is much more likely that real 2-way communication can be achieved between the author and reader/viewer, and in my case, between the professor and student, or peer-2-peer among students.

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The second prompt for revisiting my earlier paper on YouTube came from reading a 2010 paper by Marc Pinsky (www.marcpinsky.com) titled “Why You Tube Matters: Why it is so important, why we should all be using it, and why blocking it hurts our kids’ education”.

Pinsky says

Perhaps the thing about You Tube that is least understood by people who do not use it regularly is that it is not just one way, or one-to-many, communication; it is designed to be, and very much is, two-way.

Canada’s east coast internet guru Stephen Downes (2008) argues the case for YouTube in teaching more simply by saying “The educational use of a site like YouTube should be apparent”.

Before delving in to the discussion on sharing videos and the consequences of being able to make comments – particularly as this feature leads to a teaching opportunity which was not possible previously, it is necessary to discuss some of the circumstances that brought this situation about.

In business and marketing courses we discuss the two fundamental influences on customers and companies, the 4Ps (Product, Price, Promotion, Place) and the 6Es. The 6Es are the six influencing environments and are named

- Competitive Environment
- Social-Cultural Environment
- Political-Legal-Regulatory Environment
- Economic Environment
- Technological Environment
- Geographic Environment

Competitive Environment

Business competitors are:

- Other organizations offering the **same product or service now**
- Other organizations offering **similar** products or services now
- Other organizations offering **a variation** on a product or service, **that you cannot**
- Organizations that **could** offer the same or similar products or services **in the future**

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- Organizations that ***could remove the need*** for a product or service we sell

YouTube suffers competition in all five areas noted above, in particular, competition from the dozens of “- - - Tube” knock-offs such as www.blinkx.com, which bills itself as the “World's largest video search engine” boasting more than 35 million hours of content. YouTube videos are on YouTube servers, based on uploading from contributors. Blinkx.com, and other such sites have references and links to the millions of videos on the web outside of the YouTube structure.

An academically oriented competitor to YouTube is TeacherTube

Some YouTube / TeacherTube facts

YouTube was launched in Dec 2005

- 2 billion videos a day are watched on YouTube
- YouTube has “adult content” settings of “strict”, “moderate” and “off”

TeacherTube was launched in March 2007

- In Oct 2010, TeacherTube has 200,000 educational videos and 1 million page views per month
- TeacherTube has no “adult content”

Social – Cultural Environment

Some of the attractive reasons why teachers are using TeacherTube have been narrated by K. Walsh who says “TeacherTube positions itself as a safe alternative to YouTube, focused solely on educational applications....uploaded videos must address specific learning objectives and/or provide professional development for educators.”

It is the opinion of the author of this paper that TeacherTube’s limited growth in popularity in the United States is a reflection of the social-cultural environment where school boards operate in parts of the U.S. that are heavily regulated by the strong concerns expressed by right-wing and religious organizations about “particular content”. TeacherTube allows for a safe way for content to be created and shared in those school districts where social media such as Twitter, FaceBook and YouTube are technically blocked from the computers and WiFi in particular schools.

Political – Legal Regulatory Environment

The political environment within particular nations states, and the corporate goals of global enterprises serve to influence laws and regulations that are promulgated effecting YouTube.

An example of a regulation from a nation state, that effects YouTube users, is the requirement (experienced by the author in November 2010) in South Korea that persons uploading files to

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YouTube must be identified through a South Korean email address verified by a South Korea ISP. Titled the “Act on the Promotion of Information and Communications Network Utilization and User Protection”, this South Korean government regulation went in to effect in April 2010 and was intended to allow the South Korean government to be able to identify any person or persons posting content about activities, for which the government might wish to know more details. Google, who owns YouTube, and who’s co-CEO’s regularly have press coverage of their snubbing of the “Great Chinese Firewall”, responded to the Korean government’s actions by shutting down the uploading functions of www.kr.youtube.com – leaving Koreans with an option to upload using www.youtube.com ⁽¹⁾ – however most ISPs block access to the main YouTube site as they bend to the South Korean government’s dictums.

An example of how a global enterprise uses laws and regulations to protect its interests, can be seen in the legal jousting between Warner Music and YouTube. Warner Music, “reportedly unhappy with the amount of money it was receiving from YouTube” ⁽²⁾ has arranged for videos that carry sound segments from music copyrighted by Warner’s artists, to be blocked. People who create and post such videos have an option to submit “a dispute” claiming “fair use”, but the process is not well known and most people simply withdraw their upload. Ironically, while Warner and other labels complain about YouTube’s contributors using segments, unauthorized, in compilations of videos, these same music label conglomerates pay YouTube substantial amounts of money to profile new artists and buy information about downloads to allow them to better refine their target market segments. YouTube provides the music labels with an important new channel to market to the web-based segment, as much as it causes problems with issues of piracy and copyright infringement.

Economic Environment

Economically, the price of the web infrastructure, within which one posts content to YouTube, has declined – meaning the cost of things have declined and are available at a price point which removes cost as a barrier to contributing video files.

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Pictured to the left is a Nikon D90 digital SLR camera (owned by the author of this paper). When this camera became widely marketed in 2009, it was the first digital SLR camera in the world that included video mode (which means you could produce good quality video clips for posting on YouTube), and sold at prices just over \$1,000 CDN. In 2010 Nikon announced other DSLR cameras with video modes, as did other major camera brands. The price of a D90 dropped to the \$800 range by Q4 2010 and in Q2 2011 the D90 can be bought in many places for a price in the low \$700's.

The reason for spending some time discussing the drop in the price of cameras that produced good quality video, is due to the fact that when YouTube was launched in Q1 2005, the video capabilities of popular digital cameras were poor. By 2007, a number of popular brands such as Canon and Nikon had cameras in the \$300 - \$500 range that could produce video, but these were not DSLR cameras and the pixel quality was still low since many of the “shots” of events and activities were handheld, the quality of these videos appeared poorly on YouTube. Poor quality of YouTube videos in 2006-2008 led to the opinions of many that the site might be just used for casual humorous circumstances.

Technological Environment

2009 saw two technological developments that facilitated a massive increase in uploads to YouTube. Firstly, in 2009 when cameras such as the Nikon D90 became widely available, allowing for more professional videos to be created at a reasonable cost, this encouraged a wide variety of uses – such as small companies creating videos of their products for posting online. Secondly, the cellphone manufacturers were launching second-generation cameras that had pixel quality higher than traditional digital cameras in 2007.

By Q1 2011, several cellphone manufacturers are advertising the forthcoming launch of digital camera technology above 10 megapixels.

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In October 2010 Sony announced future plans for a 16 megapixel cell phone camera ⁽³⁾ Sony's joint venture with Ericsson has a 12 megapixel camera in their “Saito” phone, which is presently (June 2011) available and sells on amazon.com for prices in the high \$400 range. HTC out of Taiwan is marketing a 16 megapixel camera for its HTC Bresson (shown to the left) which is rumoured to be available in Q3 2011 (around September).

The consequence of such high quality camera capability in cellphones is expected to lead to an explosion in 2-way communication on YouTube – namely video responses.

While the decline in the unit cost of portable communication and computing wireless devices has contributed greatly to the capability for creating and uploading web content, such as videos, another characteristic in the changing economic environment is that the cost of wireless bandwidth has declined as more telecommunication companies feel the pressure of national and international competition and drop their rates further, allowing it to be cheaper and cheaper to upload video files through wireless handheld devices such as iPhones and Blackberries.

Bandwidth which is available at a high speed and reasonable cost has been critical to the success of YouTube. The success has depended on contributors being able to upload content in a way which is not too time consuming (read costly on their cellphones) and for viewers to see content, mostly on portable devices such as iPhones, Blackberries and tablets. To give the readers of this paper some perspective, a widely quoted statistic is that by 2007 the people uploading to YouTube, and the people watching videos on YouTube, were consuming a quantity of bandwidth which was approximately equal to the entire internet as recently as 2000 (Carter 2008) ⁽⁴⁾.

Now that we have covered some of the economic and technological circumstances that have facilitated an explosion in the volume of YouTube content, and a “visible” increase in the quality of that content (which has legitimized it as a global forum for sharing, let us now turn to discussing how faculty can use these developments for augmenting traditional course content creation, and delivery.

External Forces influencing adoption of technologies like YouTube

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Prof. Bill Ashraf of the University of Sussex in a 2009 paper titled "Teaching the Google-eyed YouTube generation" discussed how the Universities in the UK are dealing with enormous challenges as they deal with the concept of education as a "consumer product" and face an intense competitive environment. In talking about how faculty use Web 2.0 technologies such as YouTube, Ashraf (2009) explains that universities "are facing enormous challenges to establish competitive advantages whilst attending to customer need and focus". One aspect of the "enormous challenges" faced by universities in the UK, and I would submit Canada, the U.S. and many other regions, is an increasingly cultural diverse student population that employs IT and communication technology on the most up-to-date devices. Asraf's paper not only explores the usefulness of integrating YouTube into teaching and learning as we move through the Web 2.0 age, but also discusses how YouTube and other social media can be incorporated in giving voice to students from a diverse range of ethnic and linguistic backgrounds. Keeping in mind however that although YouTube is seen by many (the author of this paper included) to have academic possibilities, it was launched and spread primarily "as a public video-sharing website where people can experience varying degrees of engagement with videos, ranging from casual viewing to sharing videos in order to maintain social relationships" (Lange 2008)

"User-centred web phenomenon such as Web 2.0 such as blogging, social video sharing, (exemplified by YouTube) and collective editing (wikis or Wikipedia as an example) are disrupting traditional ideas about how students interact online and how content is generated, shared, and distributed." (Duffy 2007)

YouTube used by faculty to deliver course content

My professional experience with posting videos on YouTube, to deliver course content, is as follows. From April 2008 to present (June 2011) I have posted 140+ videos on my YouTube channel for teaching and more than a dozen videos on my OISE PhD Student YouTube channel for sharing with other students in the PhD Flex-time program.

The videos that I have created and posted to YouTube could be divided into four main categories.

1. Course admin / info
2. Screen capture narratives
3. Lecture segments
4. Professor-Student, Student, Student-Student segments

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1. A small number of the videos discuss teacher administration topics such as information about a particular assignment for a course, how class participation marks are calculated, requirements for a group presentation and other similar purposes. These videos have not only been useful for communication essential information, but they have also become popular with other faculty – for example the videos on earning class participation and the videos dealing with preparation for tests and quizzes.
2. Another portion of the videos were created by using a screen capture software program (Camtasia Studio V 6.0) and having an audio recording of my voice conducting a narrative as the mouse scrolled down the page of a website that was part of one of the Learning Objects in my online course content. These videos are often used for purposes such as showing a student the proper steps for using some particular software by showing the sequence and where to click. Having a graphical representation of a sequence of actions that is awkward to explain my words alone, has been very helpful, especially with students who struggle with ESL challenges.
3. The majority of the videos are segments of me talking live in the classroom as I lecture on a specific topic – usually in conjunction with the Learning Object for that topic being shown on the screen at the front of the class. In 2009 these videos had a low degree of granulaization but as I continued to create more and more videos in 2010, the topics became more sub-divided into smaller, more precise units and it was noted that the degree of granulaization became higher. An example will serve to explain – in 2009 I was filmed talking in one video at length about the ten different components of SEO – Search Engine Optimization. In 2010 I created a video about Domain Names and divided it into six different segments breaking the topic up into more “bite sized chunks” such as Domain Name Registration, Domain Name Hosting, Domain Name Hacking etc.
4. The remainder of the videos, which is a number growing in proportion, are clips of me interacting with the students either in the form of a question and answer series about a teaching topic, or using the Socratic method in class with one or more students to flesh out a point in the lecture.

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Dev Basu was a former student in the 4th yr e-commerce class at UTSC. Dev also served 2 years as the TA for the course and subsequently launched his own SEO company upon graduation. This 2009 video conveys the points of SEO Search Engine Optimization by me asking Dev for an update on current SEO techniques, as we scroll down a list of the techniques used in 2008. Students were so enthusiastic about seeing a recently graduated person become part of their learning material that many specifically commented on this in my 2009 and 2010 teacher evaluations.

<http://www.youtube.com/watch?v=iibSpHsdHf8>

YouTube used by faculty to solicit student comments and contributions further enriching and contributing to the course content.

“One way that social networks are articulated and negotiated on social network sites is through linking and viewing profiles” (Lange 2008)(Donath & Boyd 2004). Understanding that each day my students were watching hundreds of videos on YouTube, visiting dozens of pages on FaceBook and reading many posts on Twitter, and all while responding with their own videos, comments, “friending” and tweets, I endeavored to capture this sentiment by asking them to respond to my videos with comments.

After having spent several months in 2008 creating and posting videos to YouTube, I began 2009 with the intention of having the videos “carry more weight” by exploiting the comments section – namely have students make comments on the videos and use those comments, where appropriate, to further the explanation and discussion of the topic being studied. Salaway, Caruso, and Nelson (2008) caution that even though students have greater access to the web and are comfortable making and posting content to the web they are more inclined to interact with social media, such as YouTube, in a way that focuses on communication as opposed to building or constructing content for some “high order thinking”. Keeping in mind the caution of Salaway et al, I ventured on this path in the context of making my videos participatory – understanding that true communication is a two-way action, not singular.

Jenkins, Clinton, Purushotma, Robinson, and Weigel (2006) discuss four characteristics of what is termed by them “a participatory culture”.

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- “Affiliations – formal and informal memberships in virtual groups that are typically formed through specific media (MySpace™, Facebook™, discussion boards, etc.) or share interests (gaming, hobbies).
- Expressions –creative productions such as “digital sampling, skinning and modding, video, fan fiction writing, zines, mash-ups, etc”.
- Collaborative problem-solving – formal and informal teaming and competing; developing new, shared knowledge (as in posting to Wikipedia), alternative reality gaming.
- Circulations – Shaping the flow of media (podcasting, blogging)”

Collaborative shared knowledge, peer-to-peer teaching and learning, and multi-media participation were the objectives that I sought in 2009. By Q3 2009 I had achieved more than 200 comments on two dozen videos in a 3rd year international business course at the university level. The initiative to launch the collaborative comments came from an online unit discussing how different cultures around the globe require particular understandings in order to be effective in conducting business. The student comments were contributions, from their personal experience, of living in, or visiting particular regions and what people would need to know in order to be successful in that location. While having a rather modest goal of achieving student interest in the concept, I was delighted when a number of students extended their participation to a higher level by scripting, filming and uploading their own videos.



The screen capture to the left shows a popular and humorous video done by my UTSC students which illustrates some common misperceptions and mistakes in dealing with Chinese culture.

[youtube.com/watch?v=jvXCeYuMNIQ](https://www.youtube.com/watch?v=jvXCeYuMNIQ)

This particular video gathered so much interest from the class that it precipitated students making one for India, Japan and Mexico.

What are some of the benefits of these student contributions? - instead of me showing a video to the class of my comments on common misperceptions and mistakes in dealing with Chinese culture, I was able to show a video made by Chinese students, about Chinese culture. Further participatory input was created when the 2010 students made additional comments on the 2009 “Chinese Culture” video in the YouTube comments section.

Tactical Suggestions for Making Better YouTube Videos

- from someone who has made mistakes in all of the following

1. Tripod - use a tripod, or hold the phone/camera very very firmly. When taking a still picture, many digital cameras have software that can handle a bit of movement, but when making a video, only very expensive cameras can compensate for an unsteady platform. A significant number of videos on YouTube are a waste of time to watch because they are blurred by movement of the camera while the video was being recorded.

2. Lighting – many cameras by Q1 2011 can compensate for dim light, but one problem that is not surmountable is the problem associated when you have lighting in the background stronger than lighting on the subject (typically this happens when you have a person back up against a brightly lit scene, and begin shooting). This circumstance puts the subject in a shadow and no amount of focus or editing can correct for this error, making such videos frustrating to watch because the viewer is straining to catch the details.

3. Microphone – while most cell phone cameras and DSLR cameras are making great progress at increasing the colour and focus quality through higher pixel values – similar advancements in microphones have not taken place. If you are making a video in which the subject talks, make sure the camera is as close as possible. Alternatively, you can use Window Movie Media Maker to later edit the movie and do a voice over repeating the missed dialogue – which is probably better anyways cause the mic on your computer is much better quality than the mic in any digital camera.

4. Use a video editor. I use Window Movie Media Maker for 2 reasons. One, the file format that my camera (Nikon D90) produces is “.avi”, which takes up more space and uploads more slowly to YouTube. When you are editing the movie in WMMM, it allows you to “save as” in different video formats – when I do this, I always change the file from “.avi” to “.wmv”. Files encoded in the “.wmv” format are smaller in size, and therefore faster for students to upload. Secondly, I use the “titles edit” feature in WMMM to add in text words overlaying some of the video in order to make points or comments for the viewer.

Conclusion

Faculty who want to keep pace with the expectations of students in a world increasingly driven by how a young demographic use information technology, may want to spend time and energy

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"catching the wave" in the beginning. Readers of this paper who teach at the college and university level will remember those of their colleagues who caught the wave of PowerPoint when it arrived in the mid-1990's, and reaped the rewards of attentive audiences, and possibly higher teacher evaluation scores; can the same be said of professors posting videos on YouTube in 2009-2011 – it remains to be seen if YouTube or any other "- - Tube" structure will prove suitable for teaching and learning.

As Stephen Downes said "a site like YouTube can provide students with the opportunity to create powerful messages, present a vision of students today, and show how the Web is using us" (Downes 2008). On the other hand, as I type this final sentence, I am mindful of the axiom that good technology can't make good teachers, and, as Christopher Conway (2006) writes, "YouTube is not necessary for good teaching, in the same way that wheeling a VCR into the classroom is not necessary, or bringing in PowerPoint slide shows with images, or audio recordings".

Predictions

Of the many points discussed in the previous pages, one particular technological development stands out, which, in the opinion of the author, will see a massive increase in comments made to YouTube videos, namely a jump in the quality of the pixel count for cell phone cameras. As I said "the consequence of such high quality camera capability in cellphones is expected to lead to an explosion in 2-way communication on YouTube – namely video responses". As more and more people find it very easy to make, and upload, high quality short videos, videos comments (rather than text comments) to YouTube postings, will increase dramatically, which will go far to allowing YouTube to be truly a 2-way communicative technology facilitating interactive teaching in the "information age".

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Notes

1. The story of Google’s reaction to YouTube being blocked in Korea was widely reported in the press in mid-2010 – one of the sites still carrying most of the details is

http://english.hani.co.kr/arti/english_edition/e_international/349076.html

2. YouTube was bought out by Google in October 2006 – less than 12 months after it was launched. One of the first things Google’s “tech heads” did was to re-configure the search ability of YouTube such that people looking for content could have a better chance of being successful, among the millions of videos that had been created.

3. Craig Bennett wrote about the SONY cell phone 16MP camera at

<http://theunlockr.com/2010/10/08/sony-introduces-16mp-8-13mp-cell-phone-cameras/>

4. When Lewis Carter wrote his April 2008 article in the London Daily Telegraph on the possibility of the web collapsing he warned that “internet traffic in America was increasing at more than 50 per cent a year, while capacity was growing at only about 40 per cent.”

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