The Evolving Landscape of Instruction in the Era of Web2.0

As the educational needs of learners continues to rapidly evolve, instructors must be on the forefront of integrating creative and innovative technologies into the learning environment. The Web2.0 era in which library instruction firmly resides presents educators with a wide array of previously unimaginable technological opportunities. The creation of social media platforms such as Facebook, Twitter, and YouTube have drastically altered the digital landscape and the ways in which people interact with the internet; ultimately, shifting the focus away from content consumption and towards content production. In 2005, YouTube was launched as a video-sharing website. Promoted as a means of allowing users to upload, share, view, and comment on videos, YouTube quickly became one of the hallmarks of the Web2.0 era. The increasing availability of user-generated content on YouTube, combined with the rise of open education resources, has gifted instructors with a unique opportunity to access a wide array of videos and embed them directly into the course. The focus of this paper is to highlight learning theories that support visual/auditory methods of learning, review three cases studies, and discuss best practices for embedding online video content.

Literature Review: Learning Theories

Are YouTube Videos Appropriate for Instruction?

Before exploring this question in further detail, take a minute to think of a movie or television program that you previously watched. Hopefully, your memory is currently being flooded with emotions tied to that specific memory. When I was ten years old, I went to see “Honey I Shrunk the Kids” with my parents. Although I have not viewed this movie since (or much less thought about it), I still remember the emotions (e.g. sadness) that I felt when one of the main characters was killed. Furthermore, I can still recall the sense of excitement that I felt on the car ride to the movie theater. According to Berk (2009), this is because “emotions are often triggered or heightened by the mood created by specific visual scenes, the actors, and/or the background music” (p. 2). Therefore, introducing a video clip during class will serve to cement knowledge retention by creating emotional bridges between memory and information. The increasing availability of multimedia content on YouTube will enable instructors to effortlessly embed videos into instruction—strengthening knowledge creation and retention within learners. As explained by Berk (2009), online video content can “grab students’ attention, focus student concentration, energize or relax students for learning exercise, draw on students’ imagination, stimulate the flow of ideas, and create memorable visual images” (p. 2).

Core Intelligences and Multimedia Learning Theory
Research into the role that visual learning has in the classroom has been explored by theorists for the better part of three decades. Within the last ten years, YouTube has changed the way visual learning is being embedded into classroom instruction. In this section, I will create contentions between online video content and learning theories.

**Core Intelligences.** In 1983, noted psychologist Howard Gardner published his groundbreaking work on the theory of multiple intelligences. In his book “Frames of the Mind: Theories of Multiple Intelligences”, Gardner outlined 8.5 intelligences, three of which are directly applicable to the role that online video content has inside the classroom: (1) verbal/linguistic, (2) visual/spatial, and (3) musical/rhythmic. Online video content can stimulate all three core intelligences to strengthen the learning experience. For example, an online video of the play “Fences” (an important portrayal of African American life and race relations in the 20th century) by playwright August Wilson can engage all three intelligences by allowing learners to hear the words being spoken, see the body language of the actors speaking the dialogue, and hearing the rhythmic expression of the score that accompanies the play. By combining online video content (e.g. a video of “Fences” on YouTube) and required readings (e.g. the 1983 novel “Fences”) instructors can encourage learning in both hemispheres of the brain. As noted in Berk (2009), “a video clip engages both hemispheres. The left side processes the dialogue, plot, rhythm, and lyrics; the right side processes the visual images, relationships, sound effects, melodies, and harmonic relationships” (p. 3). Furthermore, online visual content has positive benefits for the brain wave frequencies of learners. As opposed to Delta and Theta brain waves, Beta and Alpha brain waves are active in the formation of knowledge. A short YouTube video will serve to awaken Alpha waves (located in the right hemisphere) by relaxing learners and enabling them to transition information from short-term to long-term memory. The Beta Wave, located in left hemisphere, can be thought of as the multitasking wave. For instance, showing a video in the middle of class can serve to snap learners to attention, reorient them to the learning environment, and improve concentration.

**Multimedia Learning Theory.** Advancing on the work of prior learning theories and theorists, Multimedia Learning Theory examines the intersection between auditory/verbal and visual/pictorial modalities of learning. In Berk (2009), the author cites Mayer’s seminal work on the cognitive theory of learning; “… learning is activated through five steps: (a) selecting relevant words for processing in verbal working memory, (b) selecting relevant images for processing in visual working memory, (c) organizing selected words into a verbal mental model, (d) organizing selected images into a visual mental model, and (e) integrating verbal and visual representations as well as prior knowledge” (p. 4). Therefore, online video content that incorporates elements of narration and storytelling are effective for creating knowledge bridges between learned experiences and new knowledge. For instance, an instructor teaching a class on wildlife preservation might find that learning outcomes are more readily attainable by incorporating clips from Discovery Channel’s “Plant Earth” documentary (i.e. because of the blend of narration and visual/pictorial modalities) than simply lecturing from the textbook.

**Multimedia Content as Anchors and Enders**

Online video sharing affords instructors with the freedom to create Macrocontext (i.e. a learning spaces that can be replayed over an extended period of time and creates a richer discussion
between learners) and provide students with continuous knowledge reinforcement. In “YouTube Anchors and Enders: The Use of Shared Online Video Content as a Macrocontext for Learning”, Bonk (2008) introduces readers to the learning theory of Dual Coding. As a learning resource, YouTube enables educators to present content through visual, auditory, and textual mediums of verbal and non-verbal communication (e.g. Dual Coding). Linking YouTube videos with required course readings and lectures creates an immense learning environment in which learners can retain and recall information through verbal and episodic memory channels. According to Bonk (2008), knowledge become less inert when it is presented in the context of a story. Therefore instructors should incorporate YouTube videos that integrate elements of humor, drama, adventure, action, realism, and sadness, and reflect the world in which learners currently reside.

While it is important to utilize multimedia content that is engaging, in order to create knowledge bridges, instructors must set the stage and know when and where to incorporate videos within the instruction. As noted in Bonk (2008), “when effectively embedded in instruction, shared online videos serve as an advance organizer and learning anchor while provoking students interest in a topic” (p. 5). The concepts of Anchors and Enders are not new to seasoned instructors, but can be reimagined within the context of online video sharing. Situated prior to or during instruction, Anchors prime learners and serve to connect new concepts with previous knowledge. For instance, a short YouTube video explaining the fundamental tenants of Creationism would build a scaffold between knowledge and new information while allowing instructors to save valuable instruction time. Similar to Anchors, Enders are located at the end of instruction and function as a point of reflection and discussion between-group and within-group.

Learning through Multimedia: 3 Case Studies

In the previous section, I touched upon the ways in which learning theories support the case for embedding online video content into classroom instruction. In this section, I have presented three case studies that detail the challenges and benefits of embedding online video content into classroom instruction. The studies presented are a mixture of two personal/reflective experiences from the perspective of educators and one research studies carried out by professionals outside of the course.

Case Study 1

In “YouTube: Educational Potentials and Pitfalls”, Cuthrell and Jones (2011) explores YouTube as an instructional aid in teaching and planning. While the authors focused on multimedia content and how it relates to instruction in Social Studies, the principles disseminated in their article can be applied to a wide array of disciplines. The following section will be split into two subsections: (1) Using YouTube for instruction and (2) Multimedia selection.

Using YouTube for instruction. Although YouTube has become an immense resource for learners, the value that YouTube has as a resource for instructors is often overlooked. Viewed within the context of the teacher-as-a-learner framework, YouTube is an increasingly invaluable resource for instructors that experience difficulty in creating instruction materials from simply attending professional development seminars and reading lesson plan guides. As noted in
Curthrell and Jones (2011), “In such cases, the video can serve as a model for classroom activities or discussion” (p. 79). For instance, YouTube videos that were aimed at teaching one demographic (e.g. a high school history class) can be altered and adapted to fit the specific needs of most instruction sessions. Furthermore, YouTube has value as an open education resource—enabling instructors to locate lesson plans and share effective lesson plans with other users. Lastly, using YouTube’s “comment” feature, instructors can connect with professions in the field and receive feedback on lesson plans. The benefits of YouTube for instructors are boundless and is applicable to a range of topics in classroom instruction.

Selecting multimedia videos. In Curthrell and Jones (2011), the authors briefly describe techniques for selecting appropriate videos; I will present a more in-depth guide to selection in best practices section of this paper. The universal availability of YouTube videos is both a benefit and pitfall to instructors—beware fool’s gold. As emphasized in Cuthrell and Jones (2011), “… YouTube is also a vast wasteland of garbage and social parody that add nothing to the learning process” (p. 81). To highlight their point, Cuthrell and Jones (2011) presented the case between Conjunction Junction on ABC’s School House Rock and the parody on Mad TV. While the instructor may be able to recognize the dissimilarities between these two portrayals, the issue arises when learners are unable to distinguish between original source material and parody; thus, creating knowledge founded on falsities and misinformation. Similar parallels can be drawn between authentic news articles that appear in the New York Times and sponsored content (i.e. content that is paid for by an organization or business) on BuzzFeed. In order to avoid creating confusion amongst learners, instructors must carefully examine the accuracy of the content covered in the video, the credibility of the creator (i.e. what information is available of their YouTube profile page), and the objectivity of the video (e.g. is there an obvious bias?).

Case Study 2

While YouTube has numerous benefits to instructors, it is worth noting that not all instructors are sold on YouTube as an open education resource. In “Learning the Five Lessons of YouTube: After Trying to Teach There, I Don’t Believe the Hype”, Juhasz (2009) is less optimistic about the prospects of embedding YouTube into class instruction. Some clarity is in order, by including the Juhasz article, I do not intend to discourage readers, but only to present cautionary tales that can serve to better prepare instructors to embed online video content. In addition, since lesson one and lesson five (i.e. YouTube shuns niche markets) are similar in scope, I have decided to only include lessons one through four.

Lesson 1. As noted by Juhasz (2009), YouTube’s user interface has been designed to support popular videos. The less popular videos, deemed to be outside the mainstream, fall by the wayside and are often invisible to users. A video on the importance that proximity searching has in research would be more difficult to locate. This is because research processes are considered a specialized subject, and therefore, would not be able generate more advertising revenue for YouTube (i.e. YouTube would not aggressively promote videos that do not benefit the bottom line). A point that was not touched on in the article, was the importance of developing professional networks on YouTube to neutralize the invisibility of non-mainstream content. For instance, library instruction is a close-knit community where communicate and sharing of resources are the norm. Thusly, it would be beneficial for instructors just coming to YouTube to
subscribe to users that share a similar instruction focus and have more experience locating open
education resources.

Lesson 2. Juhasz (2009) assumed that YouTube discourages interconnectivity and limits the
expression of content. The YouTube interface serves to connect users to similar videos produced
by likeminded individuals, providing nothing new in the process of forming knowledge.
YouTube excels in the accessibility of easily recognizable knowledge and encrusted information.
While it is true that YouTube does little to improve accessibility to videos that encourage
creative thinking, YouTube does enable users to locate videos through a recommended if you
like (RIYL) feature. For instance, once a user subscribes to a channel, they will be introduced to
similar channels and videos.

Lesson 3. YouTube upholds the vox populi and discriminates against low quality videos. By
stigmatizing low quality videos and reinforcing the perceptions about high resolution videos,
YouTube places a premium on the bottom-line. According to Juhasz (2009), the “top down”
approach of dissemination minimizes the visibility of stories of real people. For instance, a cell
phone video from an activist protesting in Flint Michigan might receive less promotion than a
news clip from CNN. Users often conflate the connection between trustworthiness and quality,
and simply overlook the most important aspect to judging a video, bias. Instructors should take
special care to evaluate each video not based on quality, but on content.

Lesson 4. YouTube’s advertisement model is built on principles of generating revenue by
moving users from “point A to point Z” as quickly as possible. As mentioned in Juhasz (2009),
the advertisement model stands opposite to the deep reflection and critical thinking embedded
instruction aims to generate. For instance, making matters worse, YouTube lacks discussion
hallmarks, such as a dedicated bulletin board or private discussion feeds. In this aspect, I am in
agreement with the author about YouTube’s ability to create a safe space for users to
communicate. Furthermore, YouTube’s comment feeds are marked by racism, sexism, threats of
violence, ageism, and hate speech against the LGBTQIA community. Admittedly, there is little
instructors can do to change the structural of YouTube directly; however, all is not lost. By
embedding online video content into platforms such as Blackboard, Canvas, and Padlet,
instructors can create discussion boards that are independent of YouTube.

Case Study 3

While one may certainly see the rationale in Juhasz (2009), the far reaching benefits of YouTube
outweigh the shortcoming of an imperfect platform. In “Open education videos in the classroom:
exploring the opportunities and barriers to the use of YouTube in teaching introductory
sociology”, Tan and Pearce (2011) explore the applications of open education videos in core
college classes. In their study, Tan and Pearce, embedded YouTube videos directly into the
lecture, along with a permanent playlist for students to access at their leisure. The results of the
study revealed a number of positive elements to embedding online content in classroom
instruction. The data suggested that students who took part in the course supported integration
because YouTube videos added an extra layer of reinforcement and furthered their understanding
of course materials. The results of the study strength the argument for embedding YouTube
videos into instruction, and provide weight to case for viewing online video content within the
context of Multimedia Learning Theories. Furthermore, students noted that one the key benefits of embedded videos was that it encouraged and facilitated group discussion. The study reinforces the belief amongst instructors that YouTube can be used as a resource to improve dialectic learning or critical thinking through conversation. Lastly, the survey revealed that there was a positive attitude amongst students about having access to online videos that presented a wide range of differing opinions. Once again, the study revealed that there is a strong correlation between YouTube as a mean of providing students access to a variety of opinions and critical thinking and engagement.

Best Practices for Multimedia Integration

The latter sections of this paper have discussed learning theories and provided overviews of case studies. The focus of this section is to apply the various learning theories and create best practices for embedding YouTube videos directly into library instruction.

Benchmarking and Content Selection

It is essential that instructors set standards that online video content must meet in order to be integrated into the classroom instruction. According to Berk (2009), three criteria for content selection are “(a) the students’ characteristics, (b) the offensiveness of the video, and (c) the video structure” (p. 7).

Learner-centered. Embedding online content should led to the creation of a learning environment that increase discussion and information literacy; therefore, instructors should exert caution when selecting videos to share—content should be inclusive not alienating. Instructors should examine the socio-demographic characteristics of learners and choose videos that reflect age, sex and gender, disabilities, ethnicity, and language barriers. In addition, content selection should not be a one way flow of information; allowing learners to share content creates an environment where everyone is encouraged to participate.

Offensive videos. Instructors should take care to notice when videos are encouraging critical thinking and when videos are reinforcing stereotypes. Once students are offended by the material selected, they will withdraw from the learning environment. As is before, instructors should identify how students relate with their culture. A pre-instruction survey might be a useful tool for understanding the cultural diversity represented within the learning environment.

Structure. Although online videos can provide students with a break from classroom lectures, if the video is too long, students will begin to lose focus. Videos should supplement the lecture, not replace it. For instance, instructors should choose videos that are short (3-4 minutes in length), do not rely heavy on jargon, and build on the lecture by explaining difficult concepts or theories.

Embedding Content into Instruction

There are numerous guidelines for embedding videos directly into instruction. Below, I have explained 5 common approaches that are present throughout most of the literature.
Prime the learner. Instructors should provide learners with an understanding of why a specific video clip or set of clips is being included in lesson plan. Priming the learner will allows the learner to begin the process of bridging learned experiences to new information.

Emphasize key concepts. Brunvard (2010) noted that “the availability of teacher commentary also enhances the ability of the viewer to notice relevant content…” (p. 5). Pausing the video after a key concept has been discussed, asking questions, and eliciting feedback is an important tool to enable learners to break from the material and reflect on content. In addition, instructors may wish to replay the clip multiple times or during an in-class exercise.

Relate the applicability of the video to learners. The education theory of Social Constructivism emphasizes the need for learners to be able to create knowledge through observation. Utilizing videos that have real world implications and relate to the world that learners reside will maximize the impact the clips have on learners.

Break the cycle. Instructors should consider where to place video content in the lecture by understanding when learners begin to drift from the conversation. For example, if the length of the instruction session is sixty minutes, instructors might find it useful to lecture for 3 cycles of 15 minutes—introducing short video clips between cycles, followed by a brief round of discussion between students.

Frame the discussion. Interaction is one of the fundamental principles of communities of practice. Allowing students the opportunity to separate themselves into groups and discuss the video clip will encourage a diverse learning environment where ideas are exchanged informally and brave minds are challenged to think differently. It is important for instructors to frame the discussion by providing learners with a set of ground rules for the discussion, supplementary questions, and the freedom to challenge or support opposing viewpoints. In Brunvard (2010), the author cited Piaget’s well known support for incorporating various perspectives and his argument “that these experiences help promote mental maturation by providing learners with new experiences and, thereby, requiring them to assimilate new information with their preexisting cognitive structures and reconcile any discrepancies that occur” (p. 6).

Conclusion

As one of the mainstays of Web2.0, YouTube can be utilized by instructors as a tool to facilitate group discussion, deepen engagement with the learning environment by providing students access to opposing opinion, and cement knowledge creation by using visual/auditory stimuli to create mental models. In order to maximize the potential benefits of YouTube, instructors should consider content, originality, creativity, and elements such as humor, honesty, and applicability to real world situations. In addition, videos should not be viewed as a replacement to discussion, but a means to allow students to break the cycle of monotony, activate brainwaves, and refocus on the information being taught.

References


