Lecturers' perceptions and experience of integrating online videos in higher education

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Abstract

Integrating different types of media to deliver course materials to students is increasingly ubiquitous in higher education. Among these computer and Internet-based innovations, digital educational video clips have become prominent due to their capabilities for enhancing learning and teaching, providing deeper thought processes, communication and interaction among users. Video learning has become a distinct virtual learning medium for capturing and presenting information across different modes and subjects. The present study examined the video-enhanced learning experience and perceptions of tertiary lecturers from two different discipline areas in a rural and tropical university in Australia. The paper also looked at their views and challenges in implementing or creating videos in their teaching. The findings revealed distinctive similarities and differences between two disciplines in the extent of video integration, technology literacy, and types of videos that they use.

Keywords

Digital Technologies, Higher Education, ICT, Perception, Video Learning

Introduction

With increasing growth in traditional and non-traditional students' enrollment, today's higher education environment includes a diverse range of age groups. As such, a principal concern throughout the educational communities is to address the current multi-generational tertiary students' capabilities and to highlight the importance of their learning needs. Such concern must be based on a thorough understanding of five common generational cohorts, defined by Tapscott (2009), to be known as Pre Boomers, the Baby Boom Generation, Generation X, Net Generation, and Generation Next students who are attending the higher education institutes, schools or the workplace. The classification of these common generational cohorts has been made by various researchers on the basis of their birth dates. Unfortunately, there are some inconsistencies in the classifications with regards to the dates and descriptions. For instance, Oblinger and Oblinger (2005a) classified generations as Matures/greatest generation (1900-1946), Baby Boomers/Me generation (1946-1964), Generation X/Latchkey generation (1965-1982), and Net Generation/Millennials (1982-1991). Howe and Strauss (2007) classified the generations into five groups namely, GI generation (1901-1924), Silent generation (1925-1942), Boomers (1943-1960), Generation X (1961-1981) and Millennials (1982 to roughly 2005). Hence, it is important to understand some demographic information about these generational cohorts. Table 1 provides a comprehensive comparison and classification of today's generations that were described by different researchers defining their birth dates and characteristics.

Table 1: A comprehensive overview of five generations

Generation	Other Terms	Birth Date	Individual Characteristics	Group Characteristics
Pre-Boomers	Traditionalists or Traditional Generation **[1, 2]** Silent Generation **[2, 3]** Greatest generation **[2, 4]** Matures **[4]**	1925-1942 **[2, 3]** 1900-1946 **[4]**	Committed Involvement in Community affairs Conforming Dedicated Family-oriented Respectful of authority Rule-Obedient	Civically responsible Conformity Cooperative Loyal Nationalistic Respectful of authority Self-sacrificing
The Baby Boom Generation	Baby Boomers **[1-5]** Me generation **[4]**	1946-1964 **[1, 4-6]** 1943-1960 **[2, 3]**	Can-do attitude Competitive Individualistic Optimistic Responsible Self-sufficient Unease with technology Workaholic Work ethic	Competitive Individualistic Optimistic Questioning authority Return to religious values
Generation X	Baby Bust [6] Digital Immigrants **[6]** Generation X **[1, 2, 4-7]** Latchkey generation **[4]** Thirteeners **[3]**	1965-1976 **[6]** 1965-1981 **[1]** 1965–1979 **[5]** 1965–1982 **[4]** 1961-1981 **[2, 3, 7]**	Aggressive communicators Challenge authority Environmentally conscious Independent Media-cantered Multitaskers Questioning the government Self-sufficient Sceptical Slightly tech comfort Well-educated work-life balance seeker	Independent Sceptical Latchkey kids Rejecting traditional values Nihilistic

| Net Generation | Echo Baby Boomers [6, 8]

Millennials. [1-6, 9, 10]

Net Generation [1, 2, 4-7, 9-14]

Digital Natives [7, 15]

Net-Geners [5, 9]

MySpace Generation [5]

Generation M (for media) [5]

Generation Y [2, 5-7] | 1977-1997 [6]

1982-2002 [1, 3]

individuals born since 1982 [13]

1982- 2000 [7]

1978-1994 [14]

Born in the 1980s [10]

1982-Now [2]

Born in the 1980s and early 1990s [5]

1982–1991 [4, 9, 11] | Adaptive
Assertive
Attachment to parents
Contrarian
Determined
Diverse
Education oriented
Extremely curious
Fast paced
First digital age generation
First digital-media surrounded generation
Focused
globally orientated
High Self-esteem
Inpatient
Intelligent
Materialistic
Multitasking
Optimistic
Protected
Rule-followers
Selfish
Sense of entitlement
Social networkers (e.g., Facebook, MySpace, Tweeter)
Team-oriented
Tech-savvy | Achieving
Confident
Conventional
Intuitive visual communicators and gamers
Pressured
Special
Sheltered
Team-Oriented |
| Generation Next | Generation Z [6]

iGeneration, iGeners [5] | 1998-present [6]

Born in the 1990s and the new millennium [5] | First truly Tech-savvy | |

Notes:
1. Worley (2011) **2.** Junco and Mastrodicasa (2007) **3.** Coomes and DeBard (2004)
4. Oblinger and Oblinger (2005a) **5.** Tapscott (2009) **6.** Lancaster and Stillman (2002)
7. Ismail (2010) **8.** Skiba and Barton (2006) **9.** Rosen et al. (2010)
10. Yee (2015) **11.** Smith (2014) **12.** Traphagan et al. (2012)
13. Jones and Shao (2011) **14.** Barzilai-Nahona and Mason (2010) **15.** Prensky (2001)

As noted in Table 1, there is an overlap in years and generational terms of classifications among researchers. Thus, it is important to follow and discuss generations based on a definite classification in order to understand the interactions among them, keeping in mind the inevitable diversity within these groups. The present study considers Tapscott's (2009) classification and terms. He has identified four generations from 1946 to the present as a) the Baby Boom Generation (Jan 1946-Dec 1964), b) Generation X, also known as the Baby Bust (Jan 1965-Dec 1976), c) Net Generation, also called the Millennials or Generation Y (Jan1977-Dec 1997), and d) Generation Next or so-called Generation Z (Jan 1998 to present). Accordingly, the majority of today's tertiary students fall within the Net Generation category, whereas the average educators belong to the Baby Boom Generation. Worley (2011) and Oblinger (2003) claim that because of the significant difference between students and educators in accordance with their expectations, experiences, and technology skills, educators have not fully integrated new ways of providing effective use of technology in their teaching. For instance, Oblinger (2003) posits that,

> Current higher education administrators, as well as many faculty and staff, represent a different generation from the majority of the student population. With an average faculty age of over fifty, many decision-makers in higher education graduated in the 1970s. The experiences of a 1970s generation of students are likely to be quite different from those of the current student body. (p. 38)

These multi-generational learners bring different characteristics, experiences, and expectations in the classroom. They have different interests, needs, and intelligences (Worley, 2011). For example, challenges among these multi-generational learners and their educators may consist of tech-literacy, proficiency and dependency. Treating multi-generational students as having similar characteristics based on their technology use and literacy is challenging (Lai & Hong, 2015). As such, educators are challenged in finding their students' generational similarities, differences and preferences so as to motivate and engage them in their learning goals. Furthermore, they are confronted with implementing the most effective teaching practices to meet students' individual needs. According to Rotellar and Cain (2016), changes in student demographics, and web-based technologies have made the educational settings different from the past. As such, higher education institutes and educators need to examine and apply newer instructional models to capture students' individual needs and improve their learning (Rotellar & Cain, 2016; Worley, 2011). Furthermore, Pletka (2007) argues that using instructional technologies enable educators to potentially address students' dropout and disengagement issues and enhance students' participation. One readily available solution to meet various generations is to use videos through services such as YouTube to bridge the gap between academics and multi-generational students. According to Oblinger and Oblinger (2005a), tertiary students are more visually literate compared with the previous generations and they need more integration of images and visual presentations in their subjects. Thus, it is important to ensure that teaching methods are capturing such aspects and student needs. Moreover an explanation of both teachers' and students' perceptions of learning experiences and understanding is required. Accordingly, Oblinger and Oblinger (2005a) state that,

> Whether the Net Generation is a purely generational phenomenon or whether it is associated with technology use, there are a number of implications for colleges and universities. Most stem from the dichotomy between a Net Gen mindset and that of most faculty, staff, and administrators. (p. 2.10).

Although the students are from different generations, they still come to universities to interact with academics and their peers. Considering the importance of their interaction with academics and peers, they also need a supportive learning environment to accommodate their needs as they have different preferences in accessing information and contents. According to Prensky (2005) "our students have changed radically. Today's students are no longer the people our educational system was designed to teach" (p. 29). As such, there is a big difference between educators from earlier generations and current students based on their experiences, expectations, and technological expertise. Such setting has put more pressure on educators because of students' request to adopt, use and capitalize on emerging technology affordances and online resources (Kennedy et al., 2009; C. J. Miller, 2014). Thus, a number of studies have suggested that academics must be aware of these differences and adjust their teaching based on students' diverse needs and expectations to enhance students' learning (Kennedy et al., 2009; Oblinger & Oblinger, 2005b; Worley, 2011).

Ever since the introduction of analogue videos in the early 1960s, it/the video has played an important role in education and has proven its effective role as a learning medium in capturing and presenting information and enhancing understanding (Brophy, 2008; June, Yaacob, & Kheng, 2014; Mayer, 2009, 2011; Ritzhaupt, Pastore, & Davis, 2015). Given the availability of the internet, the advent of Web 2.0, and social media technologies and apps such as YouTube, they have provided more user access opportunities to a wide audience worldwide. This study focuses on the lecturers' perceptions of different video types and purposes that they utilize in their teaching. The following interview question was formulated: *What are the different modes and purposes for online videos?*

Method

Participants

The qualitative study involved 13 Australian lecturers in a rural and tropical university. All participants were from two different disciplines, namely, Educational Sciences (*N*=10), and Behavioural Sciences (*N*=3). According to Tapscott's (2009) classification, six of the participants were baby boomers, and the remainder belonged to Generation X. Among the baby boomers, there were five females and one male. Generation X included three females and four males. They were aged 35 and over. The group's educational rankings ranged from a lecturer to a professor.

Rationale for interview participants

Because of the depth and the extent of the information sought in qualitative studies, qualitative samples are usually small as there is no common rule for the required participants in a qualitative study. According to Ary et al. (2014) "practical considerations such as time, money, and availability of participants influence the size of the sample" (pp. 456-457). Seidman (2013) defines two criteria for the sample size number including sufficiency and saturation. Additionally, he states that,

I would be reluctant to establish such a number. "Enough" is an interactive reflection of every step of the interview process and different for each study and each researcher. The criteria of sufficiency and saturation are useful, but practical exigencies of time, money, and other resources also play a role. (p. 58)

However, the primary sample size criterion considered in the present study was data saturation to terminate interview data collection when no new information was forthcoming. A number of writers (e.g., Creswell, 2012; Heigham & Croker, 2009; Maykut & Morehouse, 2005; Seidman, 2013) have discussed the point at which no new information could be obtained from the interviewees. According to Creswell (2012) "when you reach this point is a subjective assessment, but most qualitative researchers realize when it occurs" (p. 251). However, as stated by Seidman (2013), even if researchers use "a purposeful sampling technique designed to gain maximum variation and then add to their sample through a snowballing process, they must know when they have interviewed enough participants" (p. 58).

Material

Initially, a large pool of research questions drawn from the online video literature was compiled. These were later instrumental in arriving at the final semi-structured interview questions that met the study objectives. To address the issue of construct validity, Ary et al. (2014) suggest that colleagues familiar with the purpose of the study can help with the vetting process. Five experienced lecturers in the field and acquainted with the study objectives reviewed the proposed instrument. More revisions and modifications were made to the interview questions in accordance with the expert reviewer's recommendations. To this end, both face and construct validity were considered to be present.

Procedure

After obtaining ethical clearance for the study, it was promoted and advertised. Lecturers willing to participate were identified and given a time and place where the interviews could be held. For the qualitative data collection, a semi-structured interview was conducted with each participant to provide concrete and in-depth data about the video usage. The interview sessions were digitally recorded and later transcribed by the first author who is in line with what Seidman (2013) holds. He postulates that "[T]he primary method of creating text from interviews is to tape-record the interviews and to transcribe them" (p. 117). During each interview session, participants were assured that all information gathered for the purpose of the research would be treated confidentially and their identity would not be revealed. They were also informed that they would be identified in the interview data collection process by codes and pseudonyms. Additionally, lecturers were asked to sign Informed Consent Forms in the same session. Consequently, the interviews' analysis was conducted via several steps including trimming the recordings, transcribing the interviews and developing a coding system and finally checking the reliability of the coding scheme.

While interviewing, extra care was taken to ensure interviewees felt at ease and the researcher's personal opinions did not affect the subjects (Ritchie, Lewis, Nicholls, & Ormston, 2013). In helping researchers to deal with these types of challenges in interview sessions, Ritchie et al. (2013) recommend a number of strategies presented below that were considered carefully for this study.

- Spending more time on the opening subjects to give the participant an opportunity to feel more at ease.
- Focusing more on factual, concrete and descriptive topics before exploring feelings and emotions in depth. Intangible or conceptual questions should also be left until the participant seems more at ease.

- Helping the interviewee to get used to talking, particularly in the early stages of the interview, by offering a range of prompts such as 'How did you feel about that? For example, did you feel excited, nervous, interested-?'
- Speaking clearly and calmly, ensuring that questions are clear and straightforward.
- Showing interest and attention and giving plenty of positive reinforcement by maintaining eye contact, nodding and smiling encouragement.
- Stressing that the researcher is interested in everything they have to say, even if it is something the interviewee has not thought about before or they think is not interesting or important.
- Acknowledging that other people have sometimes found this a difficult topic to talk about. (pp. 204-205)

Results

The case study method employed in this study included an illustrative technique which is 'descriptive in character and intended to add realism and in-depth examples' (Baškarada, 2013, p. 3). For the purposes of this paper, the examples were further distilled to a manageable length but retain the important illustrative character to enable educators to understand the diversity in lecturers' mindsets and the challenges they face in using digital video. The findings presented below are based on the lecturers' individual teaching experience and their interview excerpts. Pseudonyms are used, and any reported excerpts are copied verbatim from their transcripts.

Adam, an expert educator, uses three main types of videos including the weekly overviews/introductory, instructional, and content-supplementary videos. He uploads videos every single week of the course and videos are a part of the core materials that students need to look at. The introductory videos are short YouTube videos of him speaking about the week's work in general, some of the important things that students need to look at, and also a means of transferring important messages. He produces these videos using an iPad and uploads them to his YouTube site. To him, approaching students via video messages is superior to contacting them through either email or putting the message in the discussion board or on the subject site. He believes that students just need to listen to the message and remember it while other types (i.e., emails, discussion boards) require the message to be read. Adam has also received positive feedback from students regarding this approach.

The second type of videos is instructional videos which show students how to use a particular software. For instance, as he is teaching subjects dealing with digital technologies, students need to use web design software to create a website. As such, his created videos instruct students through a step-by-step process demonstrating what needs to be done.

The third type of videos is those supporting students' content for that week. As an example, it may be regarding their learning about the use of interactive whiteboards. Adam believes that a lecturer can't always give students the practical experience, but through videos, they can see how things are happening. Thus, the video might be showing how interactive whiteboards are

used in a real school setting, or it might be a video about a particular learning theory that is being talked about.

Comparing his previous work on creating an online subject using a trial website, he talks about the technology experience that has facilitated the creation of the video in an easy way. For instance, he states that,

> *with my iPad, I can just put it above my monitor, have some notes on the screen that I can see as prompts and then I can just produce the video, press Dub on the record and then just press the upload. Within a couple of minutes it's on the YouTube, and then because YouTube has its own editing suite online, you can just go in and fix it up and then make it available to the students. So it's all very fast, very easy*

Besides the videos that he creates, Adam uses videos from YouTube and TED talk. However, he suggests that,

> *You have to get it across to the students, so it's not just entertainment; you don't pick out videos just to get students interested and entertained. They have to really... the link to what you're trying to teach them in that subject, so they have to be well into the content. Sometimes students don't see that link. They might think I just showed this video for something to do, filling a bit of time, so you have to make it very clear to the students so that it is part of the content and how it links to the content.*

Jacob, a lecturer in Education, uses Camtasia to create and record his flipped classroom video materials generally a week or at least three days before class. Those videos are used with the third and fourth-year subjects. Sometimes, Jacob uses video clips from other sources (e.g., YouTube) as part of the videos of the lecture that he provides. He believes that,

> *Probably 95% of the videos would have been my lectures, and five or less than 5% were other videos.*

Jacob utilizes videos for his science subject. Inferring from the students' feedback, he states that they have found these subjects very heavy going and very difficult to keep up with the material as presented in a lecture. In short, the face-to-face lecture provides students one shot at the material.

By putting the lectures onto a video, he doesn't need to repeat the whole lecture if students do not understand it. Jacob also adds that students could use the videos for revision for their examinations. They have the opportunity to review the video multiple times. He states that students would use the videos,

> *for consolidation, repeating material, going back over it again, checking what's happening, maybe the key points of the week.*

To him, the main reason for using videos is to give students flexibility in how they access and engage with the lecture material and hopefully be more motivated to learn the content. He enjoys the idea of integrating a video into his teaching in order to give the students experience of something that couldn't be made easily in a face-to-face setting.

As a psychology lecturer, Amanda mainly uses three types of videos. These include the publishers' supply, YouTube video clips, and movies. While the former includes short, traditional video clips of popular past experiments, the second, YouTube clips, are quite short, two or three minutes. They are basically used to provide students with an alternate explanation or example of what she has been discussing in the lecture or what they have been reading in their textbooks. Accordingly, she believes that,

> *Part of being critical thinkers is to be able to apply the knowledge to different situations, and so if they can be exposed to different examples, I think that's the start of that process.*

She may bring a movie to the classroom for discussion and reflection. The students might watch two movie clips, followed by discussion questions based on aspects of the movie. Part of the discussion may be to see how the theory they have been exposed to in class can be applied to the movie situation. Although she doesn't create videos, she believes that integrating videos, regardless of the type, can help provide authenticity for the students. Videos can provide interest in breaking up the lecture as well as providing different examples to clarify the concepts, particularly in Statistics. In this regard, she posits that,

> *there's a lot of Stats video clips out there and so if they haven't understood a particular concept maybe by going to the video clip and seeing it worked from first principles might actually make more sense, and often times it might be that it's really important to have several people presenting the derivation or whatever of a particular technique because we all sort of say things in slightly different ways and it might be that this clip actually clicks for somebody whereas, you know, what I've said maybe hasn't.*

Tracy, another expert in Education, uses two different types of videos in her subjects. The first one is an overview/introductory video that she makes every week using Photo Booth. As her students are online students, her videos remind students what they need to do and provide them with some task information. Even though the content is already on Blackboard, she believes that seeing her talking about it makes a difference to the students. She also picks a lot of videos relevant to the lecture topic from the YouTube site. She generally picks short clips as she doesn't know how to edit them and she admits that she suffers from a lack of technology literacy. Tracy selects a lot of YouTube videos that have student input. Discussion boards can help students feel that their opinions are valued. Although she cannot find everything that she is looking for in YouTube, Tracy can often find things that take the concept and show students how it works in real life. Referring to her previous experience with the Booth videos**,** she usually asks her online students in their face-to-face appointments to allow her to record the session to post on Blackboard when they have questions and problems about assignments. She then drags it onto her desktop from Photo Booth and attaches it to Blackboard.

YouTube videos are the only type of video that Rose, a lecturer in Psychology, uses to support her teaching. She doesn't create videos, but she uses a lot of YouTube videos to illustrate a particular point that she has just reached and to make the content more relevant. For her, the video integration depends on its relevance to the point she is making is more salient to the students. In other words, to provide students with an extension of the particular point. For instance, she provides an example of her recent video use for a first-year lecture. The three-

minute video was on consciousness where people begin to develop a sense of self. She showed them a video about babies who had a red mark on their forehead. Some of the babies, before a certain age, were not aware of the red mark on their forehead when they were looking in the mirror. They tended to look in all the other places except where the red mark was placed. However, once children had developed a sense of self-awareness, they recognised that the red mark was on them and that it was them that they were looking at in the mirror. So, they recognised themselves in the mirror. It might look like a simple short video, but it has been used to illustrate that point. This expanded the information about the topic that she had presented. Then she returns to the lecture and talks about some of the implications that have arisen from the video.

Emma**,** a Psychology academic, is keen to use two types of videos namely, YouTube and the psychology textbook publishers' videos clips that come on the disk with the books. Regardless of the type of video, she uses a two-to-five minute clip to facilitate understanding of illness. For instance, in the Early Childhood Disorders where she talks about Aspergers, Autism, and intellectual disability, she often uses one movie and four three-minute clips in total. She uses videos as it is not possible to access mental institutions for student placements. Even though there is a psychiatric ward in the hospital, undergraduate students don't go on placement there. Students just read about the mental illnesses in the abstract. However, to make it concrete and real for students who may have never interacted with a schizophrenic or someone who has paranoid delusions or other disorders, she uses the available YouTube video clips by googling the term or the publisher's short movie clips. In this way, students are familiarized with aspects of the disorder. By using the publisher's videos, she aims to show students how the mental illness would manifest itself in real life without it necessarily being in real life.

Barbara, a lecturer in Education uses two different types of videos. This year she introduced the flipped video for the first year subject. She made the videos using Camtasia. The second type of video is from YouTube, ACARA resource bank, and any other useful site. The videos that she makes are about seven to thirteen minutes, and she uploads two per week. She uses YouTube videos to provide a different way of explaining something. For instance, she uses YouTube videos to deconstruct a concept such as behaviour management. As such, she might show a short video of a scenario in a classroom, and then they talk about how it was managed. It acts as a scenario-building tool. Students might read about a particular concept which will be discussed at a later time. She might get students to do an activity around it, followed by a short YouTube clip. In order to find the appropriate videos to upload, she uses the ACARA resource bank as well as searching on the net. She goes onto YouTube and other listed sites on her browser and searches for videos that she is looking for. While she edits the videos she has created, she just cuts out the advertisement from the others she has downloaded before posting. She integrates videos into her teaching for a number of reasons. These include strategies such as presenting concepts in another way in order to help students understand them and enhancing their learning by visualising what it might look like (e.g., learning about molecules' behaviour), and as a way of deconstructing, (e.g., a pedagogical situation). Furthermore, she states that,

> *I just like to adopt different approaches to teach a concept. Secondly, because it breaks up a two-hour lecture, you know, so it gives a bit of variety and different stimulus to go on and discuss something.*

In making her own Camtasia videos, she does it slide for slide separately, and when she has them all, she joins them together and puts transitions in. She does them separately as she might need to change or add a slide next year. In this way, she can change a slide and not the whole

thing. Utilizing a focus group with her students, she found that the videos that she creates have been found to be useful for their examinations. Furthermore, they could stop the video at any time to make sure they understood the concept that she was trying to get them to understand. Although she admits that some lecturers make overview/introductory videos, she doesn't make any. She also believes that by doing the videos, students are developing knowledge and comprehension of the subject area.

Noah, a lecturer in Education, uses three types of videos in his lectures, including the weekly overviews, instructional, and content-supplementary videos. Noah records the first two types of videos namely, weekly overviews and the lecture tutorials using Camtasia. The overview recordings are short, five to ten minutes, summarising what's happening that week. The focus of these videos is not only on the scientific concepts but also on the readings and other aspects of the topic for the week. They also introduce some sort of virtual manipulatives and help students to have an idea of what is happening that week.

Noah also uploads slides and records short tutorial activities on the main concepts so as "*to connect the dots*" on that concept. He admits that his video recordings may not be very professional. He uses them for his students' knowledge, and he doesn't see the necessity to make them perfect and professional. He also uses professionally-made videos from a website to demonstrate a concept of how to plot a graph. For every major concept, he uploads a professional video that he draws from the bank, alongside his short Camtasia video that pulls together the main ideas and connects them to that topic. Before and after using a video, he assesses the video from his practical perspective to ensure that it properly conveys and adds to students' understanding, problem-solving, and reasoning. Noah believes that with the use of videos, there is a basis to start a robust discussion with students. In addition, he states that "*videos work like a stimulus to engage and motivate students*". He also adds that,

> *They stimulate, they introduce the concept in a sort of less, or in a more friendly way and they motivate a lot of students, but on their own, I don't think, it stands alone.*

Presenting the whole or part of the lectures through videos helps students with their understanding. They can easily watch the videos several times for their revision and understanding of the concept, and they can go back to them at any time. From his experience with videos, he also refers to the positive learning experiences for students. He states that,

> *I haven't met any student who had that negative experience with videos, no, because, like I said, it's a much friendlier way to introduce, and you can go over and over and over again if you don't understand the concept.*

Wendy**,** a professional educator, uses only short and accessible YouTube videos in her teaching. She incorporates different kinds of YouTube videos onto the Facebook pages, along with the five minute summaries of the weekly units of work for first and second year subjects but particularly the first year subjects. She believes that students' attention span tends to come in 15-minute slots, hence the 15 minute turnaround time. If there is some conceptual knowledge that she wants to impact, she often introduces that conceptual knowledge with some sort of popular media idea. For students to gain an idea of what discourse is, she might show students a parody clip such as "*Summer Heights High*". Students can relate to it because it's part of popular culture and it's funny, and they are able to engage with it in order to understand the concept. She spends a lot of time looking for appropriate YouTube clips of something topical

that the students would be familiar with in order to lead them into the concept that she wants to teach them. Sometimes the clips might be a bit longer than usual. Even with YouTube videos, she is grappling with whether to do it through Google Sites or something else in order to be able to embed it. She states that,

> *All of those sort of preliminary things about how to, I have been to professional development about how to do videos here and compress them and all that sort of stuff. YouTube does it on freeware anyway, so that's much better so for me, quite a lot of that professional development which would have happened a couple of years ago is, kind of, obsolete now.*

Wendy uses online videos for two main purposes. One objective is to try and connect what the students already know to something new that she wants them to know. Second, to engage students who are visual and auditory learners, and give them synopses of what they're about to do by using short YouTube video clips. As such, she uses digital technologies a lot to get students to engage with concepts in another way than trying to read it in a book. To make the theory more accessible for students, she takes them from something that's familiar towards the new knowledge. In short, she feels that technology is really advantageous for that.

In order to give students a little bit of a wrap-up each week, Wendy has created some videos by using Camtasia. However, she doesn't do these personally anymore as she believes that sometimes the technology is a little bit beyond her. More recently, her tutor created the five-minute overviews of the week's work. To Wendy, the overview videos are the easiest way to connect what students might already know with what she wants them to know. She assumes that for different kinds of learners, particularly the wholly online learners, they like the weekly overview videos as well as the introductory videos. Further, she believes that those overviews give students a little-condensed version of what to expect in practice.

In recalling her past experience with discourse topics, she used to take pictures from magazines and workshop those with students by imagining the kinds of language that they would use. For instance, the language that would be used by a person dressed in spiky, leather gear. Now, with a video, lecturers can take a clip of something and say: let's think about what kinds of things they said? What kinds of words did they say? Videos have helped make the classroom setting more realistic than before. She believes that using videos is much more engaging than just using a fairly boring picture. She also admits that,

> *So, you know, there's some really good sites with short video clips like Teachers TV, the UK site. Great stuff that we can just pull off and that's very good because we often struggle with resources that are copyrighted, for example, and so using YouTube videos or those sort of sites is really good because we don't have to worry about the copyright stuff. It's public already.*

Videos that Julia, an expert in Education, makes tend to be particular to the week-to-week activities replacing the traditional lecture mode that lecturers might use. As such, she does a Camtasia recording; a video of herself placed in the bottom corner of the screen as she speaks to the content of the material on the slides. She always tries to ensure that videos do not go over 15 minutes as some would say 7 minutes is sufficient. However, she has encountered a dilemma about knowing the preferred type and length of videos. The videos she makes give a summary, while some of her students want the traditional 2-hour lecture recorded in an audio or video format. Currently, she is unsure which works better, that is, keeping with her quick

15-minute maximum type summaries or providing a total recording of her teaching that appears boring to her. To her, the main reason for using videos is to provide some type of social contact or presence for the students.

In addition, she has also created videos on health sciences. She has got videos of primary school students with printed permission doing physical activities. For example, she has filmed someone doing an obstacle course or someone playing a game of soccer, and she uses those as created videos in the teaching of the subject. In these videos, she has purposely decided, and approached a teacher in a school in order to create some authentic videos to use snippets from them to support her teaching. Besides the videos that she creates, Julia grabs videos from YouTube and PE Geek which is a technology site with a variety of technologically adapted bits that can be added into her teaching.

She adds to the authenticity of the experiential/practical subject by getting students to mentally engage in health science activities. Consequently, she needs to provide some way for students to engage with that concept in an online way. She wishes that she could get them to do an actual activity that would get them to put their bodies into it. However, she needs to look for videos that help authenticate it. As such, she believes that video clips,

> *can throw them into being a teacher in that and making observations as to what that play pedagogy means, so it adds, I think it's adding to their experience, their learning experience.*

She usually creates her online vodcasts to last for 15 minutes. Occasionally, when she's got a really in-depth topic to present, the videos are longer, about 20 minutes.

The type of videos that Michael, a lecturer in Education, uses could be categorised into either video that he makes which are instructional or videos from YouTube and TED talk. For instance, if students are unable to create a website, he would create a short one-to-two minute instructional video explaining how they would do it by providing it on YouTube. He also makes the YouTube available through the Blackboard system. He also adds that the length of instructional videos may differ based on the context or question. For instance, when students have questions about how to create something on the web, or they want to know how to add a different page to a Google site, then videos are one-to-two minutes in length. But when they're going through the content of the lecture notes, then videos go from 10 to 20 minutes, as they are replacing a one or two-hour lecture that would require him to contextualise things. The instructional videos are contextual so students can have a better understanding as to the purpose of them. Other ways of using videos will be if he thinks there is a value in an online YouTube or TED talk or a resource that's available through the library system. In those circumstances, he would make them available on Blackboard. While students have the reading materials and the lecture notes, Michael gives them a video to watch, be it a TED talk or a highly charged type of video for them to watch before coming to class. The videos are contextual and provide them with information that isn't really part of the subject in terms of assessable content. They can discuss it and also have a sense of what the content would be. Hence, he uses the videos and asks students to participate by either proposing a question that they have after watching it. To him, dealing with students' questions and their week's activities and assessment through videos is superior to trying to just make a post on Facebook or sending an email out to all students. It assures him that he has addressed questions during the video and all students are expected to watch the video before they come to class. Accordingly, he states that,

> *I do a lot of before reading, before watching, while watching, while reading, and after reading, after watching, kind of prompting to ensure that they're aware of what they should be doing while they're engaging with any form of text, be it visual or copy based.*

To him, some of these topics are huge and as,

> *We're dealing with students who come from all levels of understanding and knowledge about technology or about indigenous education, providing those other video tools in addition to readings and text they can access as well, provides them with a better understanding of what they can actually learn about the topic that we can't cover in a lecture because of their time constraints.*

Michael is also aware of the Learning Management System having either an approach that can be used to ask students to watch the video, answer questions and then come to class; or ask the class if there is a question about a topic, then find a relevant video to make available in that week's content. If it's a bigger topic, he can talk about it during a lecture, and address the video verbally as,

> *Look, I've got a great video that I think would help you understand some of the context of indigenous education or what's happened in a particular community. So watch that if you're interested, so it's not a must-do, it's if you need to in order to understand it further, and I say that it's not part of the curriculum, and it won't be on the test, but it's made available so you can understand the context a bit better.*

He also creates videos using Camtasia as well as e-lecture recordings of his lectures that are part of the university system. However, he states that he is using those e-lectures less and less even though he has had good feedback from the students who have found them useful. As a reason, he states that,

> *I can do a Camtasia recording in my office and send that out to students. And it's actually faster because I can do a Camtasia and it's available in two hours whereas if I do an e-lecture recording of my lecture, then it's available in three or four days.*

Michael has also been able to implement the videos and his technology literacy effectively in order to motivate and engage students in this video-assisted mode of learning that caters to student needs. For instance, Michael uses Animoto, to show students how they can make very short videos. He has captured a lot of his tutorial activities and then has put them into Animoto movies which can each be 1 minute long. It means that they can easily be created on their iPad or on their phone. In addition, he either records videos using Quick Time Screen Capture or any of the other short-term kind of screen recording tools or just uploads as one shoot. In further meeting students' needs, he also provides an audio podcast as well as a video recording as additional methods of getting content for those who would love to be in a face-to-face setting, but they've got family or work commitments.

Jennifer, a lecturer in Education, uses a lot of videos in her teaching as she believes that it is a huge subject which should be covered in a short time. Students don't get the opportunity to practice what they're learning with students in schools. Unfortunately, that is part of the way that the curriculum is run. However, as she would like to show students what children do, she

relies heavily on ideas that are mostly from the United Kingdom. Another way of using videos is by creating her own teaching materials.

Although she has created some instructional videos, she has faced ethical barriers in Australia. Hence, ethical barriers are one of the reasons why she has relied on a lot of English materials. Referring to her step-by-step instructional videos, she is trying to explain to students how they will use an object with children, start telling a story that the children help to make up. What they have to do for their assessment is to find an object like an old coin, and write it up as a script of how they would do it with children. For example, she made a video with a little boat. She needed to explain to them how she would start the process with the boat, and what she would say to the children and how she would develop the idea by asking a question such as: who owns this boat? In helping to develop the story, it would be followed by imagining questions and responses from the children.

Even though she doesn't use any overview/introductory videos, Jennifer would prefer to use something like a TED talk to provide a big picture idea, with the purpose of not giving them facts, but inspiring them to ask questions and start a debate. To her, these videos are more instructional. She has done instructional videos that were about content and instructional videos that were about tasks. Content ones provide information to back up what they're already doing, or about challenging them to ask questions, or to inspire them to see beyond the task.

To her, two main reasons for utilizing videos are to show students very innovative, high-quality, and professional productions which take students away from that idea that a play is a certain thing where people stand still and talk. In the real world, it's much more innovative than that. The second reason is about engagement, which is showing them, real children, doing the arts, whether it's a lesson on painting, or whether it's drama or dance. Using videos in teaching have also helped her to demonstrate hands-on activities, and enabled students to see what it's going to be like in a real classroom. She mentions that students always want an exemplar and they are seeking a person to tell them exactly what they have to do. However, sometimes it's really hard to explain that in words unless you make a film. Videos can also humanize the setting, and thus students can see what to expect in a real setting. The point of the video for her is to show students something that they won't see in their everyday life because nobody is doing it. As such, she believes that,

> *Videos are giving them a window into what it would look like.*

She also believes that students like variety in their learning and they don't want to just learn with words. We are in a visual world, and we are in a world of image. Further, she believes that videos have a great value in humanizing the contact as some of the students taking the subject are mothers or working people and need to feel that you are a real person. Through the online videos available on the internet, she can also show students really good quality, and inspiring videos which they can't see here. However, she states that,

> *The lecturer's job is to point them in the right direction, to something a bit more quality.*

As such, she often uses something humorous, at the beginning of the subject, because humour is such an important aspect of teaching that people don't use enough. So, she acknowledges that,

> *If it's something funny at the beginning, leads to everybody feeling relaxed.*

As a lecturer, Brian uses about a fifth of his face-to-face lectures with online videos that are not over five minutes in length. He chooses videos for two main purposes: to contextualise the theory for the week and to provoke students. For the former reason, he starts every lecture with a video. For instance, in week two of a lecture on development, students need to look at concepts like intrapersonal and interpersonal asynchrony in an educational context and see how different students will develop at different rates but they'll all be grouped in the same classroom because of the age-based structure of schooling. Thus, those asynchronies in physical development can create some interesting and difficult social dynamics that affect how children engage or disengage in learning.

For the second reason, he always shows a five-minute video at the very beginning of that lecture about a young boy called Richard Sandrak, who was a six-year-old body builder who enters these bodybuilding competitions and he's ripped with massive muscles and an eight-pack and looks very unlike on average six-year-old child. However, the feelings evoked in his students are different. Some are quite repulsed by this young boy and think that his parents are essentially abusing him by letting him spend that much time in the gym, eating those supplements, and being in that sort of social environment amongst other bodybuilders. Other students are thinking he's organised, he's got a routine, he's motivated, he's physically fit, he's strong. The video is used as an entry point into some of the key issues on physical development. He does this every week for every topic.

Instructional videos are the other type of videos that Brian uses in his teaching. These videos are short video explanations of difficult concepts, such as neuropsychology. For this, he shows students a little clip on the process of myelination of the axon. As such, he states that,

> *because it's got a lot of technical concepts, you need a visual of the neuron, you need to see the little packets of myelin and with graphics of the signals moving across to make sense of it; in the behaviourism lecture I show a little video on Pavlov's dog and classical conditioning, that gives a narration and little graphics of the neutral stimulus, the conditioned stimulus and so on, just to reinforce the verbal explanations that I've given before.*

Besides the above-mentioned two main types of videos, Brian shows one or two funny videos that get students thinking broadly about a topic. For example, he shows a little 60 seconds cartoon from a cartoon series called Pinky and the Brain. It's basically a song that reads its way through about 100 different technical brain parts. With the cartoon, he doesn't want to teach them any brain parts, but to get students having a laugh and thinking about neuropsychology.

Some of the videos that he uses in his teaching are produced by the Hunter Mental Institute of Health, and they're like five-minute video scenarios. They're very authentically made, but they come with a whole range of ancillary materials as well. For him, finding videos that already have accompanying materials are quite useful. He also uses the video illustrations that are on the AITSL websites with the seven national standards for teachers. To him, they're great because now teachers can see real teachers out there. For example, some of the videos are made by local high school teachers.

As Brian has his own private YouTube Channel, he uploads some of them there and then provides a link in the actual PowerPoints for students to go and watch them. Earlier, he tried to

keep videos under ten megabytes and uploaded them straight onto Blackboard so that students could access them on the site itself. In the actual lecture, he tends to download those videos onto the hard drive and plays them off his hard drive. In this way, he does not need to rely on the university's internet connection working.

Comparing his previous work on external students, he made a number of introductory videos over the years. He then reviewed the difficulties encountered. For example, he had to shoot the introductory videos on the studying topic from physical locations which required him to take his video camera. However, today, with the help of technology, he can stream a video and link it to his private YouTube page. He can also put a 20-megabyte video on to engage more students, and of better quality because of the internet connection. He also states that,

> *It's a different mode of communication, so it's adding visual stimulus, it's adding audio, and I think, especially with the online cohorts one of the difficulties that online students have is connecting at a personal level with their lecturer and with each other, and so I think that, for me, those videos enabled me to establish a bit of, at least a trust connection with students.*

It's important for him to humanise education and to humanise learning without just making it all about him or all about them videoing themselves. He tries to find that balance between having a human space on an online platform, and what he thinks is important. He believes that,

> *Videos need to complement other modes of learning otherwise videos would just replace the sage on the stage waffling on for two hours.*

As such, he states that videos really complement the textbook theory and the expository, verbal lecture theory. They feed into students' understanding of an assessment piece, their motivation to learn as well as their relevance to teaching.

Conclusion

Based on the lecturers' responses, there seems to be distinctive similarities and differences between the two disciplines in the extent of video integration and types of videos that they use. The most visible similarity between these participants was in terms of incorporating different kinds of short YouTube videos. As for Tech-literacy, unlike participants from the Behavioural Sciences who relied on videos from YouTube and other online resources, all participants from Educational Sciences could create their own videos by using Camtasia and not having a reliance on the available online sources.

YouTube, as part of the emerging technology and a component of an active learning strategy and the medium, has proven its capability for catering for the needs of both academics and students. As stated in some studies, YouTube provides users with an opportunity to create, upload, share, and view videos easily using any web browser, as well as the ability to comment on others' contributions (Galan, Lawley, & Clements, 2015; Logan, 2012; Miller, 2010; Ritzhaupt et al., 2015; Szeto & Cheng, 2014; Szeto, Cheng, & Hong, 2015; Tamim, 2013). Although YouTube hosts a wide variety of free access videos (Garrett, 2016; Jung & Lee, 2015; Orús et al., 2016; Rabee et al., 2015), the use of YouTube videos creates the need to sort through the platform to find good quality material (e.g., Ritzhaupt et al., 2015).

The findings of this study revealed the concerns of lecturers about their struggle with time in order to find the right videos among millions of possibilities that are uploaded on the site. For this reason, several solutions are recommended. A solution to overcome this difficulty is to create educational websites and upload and share videos for academic use (e.g., Buzzetto-More, 2015; Sherer & Shea, 2011). Another solution that has been recommended by some researchers (e.g., Orús et al., 2016; Sherer & Shea, 2011) to higher education institutes showing increased interest in the potential of YouTube videos is to have their own YouTube channels to manage video contents and their educational impacts. The findings revealed that only some of the lecturers in Educational Science could establish their own YouTube channels to upload and share their videos with their students.

Moreover, the findings revealed certain tech-literacy differences between baby boomers and Generation Xers. Although the university has provided optional teaching and learning workshops by inviting expertise from outside, it seems that lecturing staff in Behavioural Sciences included in this study, do not have the required technology literacy to make it work, or they are not sufficiently motivated to participate in these workshops. Accordingly, some researchers (Alon & Herath, 2014; Vie, 2008) argue students' exposure to technology has resulted in a technological literacy gap between students and their educators. For instance, Vie (2008) argues that the most significant challenges are "not…providing access for students surrounded by technology but rather effectively integrating technological literacy instruction into the classroom in meaningful ways" (p. 10) and the technological literacy gap between students and their educators (Alon & Herath, 2014). Thus, lecturers need to understand that today's classroom environment and students are challenging their various level of proficiency and reliance on technology. They should note that the use of any type of videos could not be implemented effectively if students and educators alike do not have the required technology literacy to make it work or if they are not motivated to participate in this mode of learning.

Alternatively, it was revealed that one of the educational science baby boomers has a high tech literacy. As an expert in the technology, he makes use of all three types of web-based material as an indispensable part of his career and interest. He prefers to make the needed videos rather than taking a ready-made one from online bases. He attempts to make both visual and auditory representations in the minds of his multi-generational students. It seems that he has been able to integrate new literacies introduced with the arrival of internet and network affordances into his classroom preparing multigenerational students with 21st century skills as recommended by some researchers (Brown, Bryan, & Brown, 2005; Cramer, 2007; Greenhill, 2010; Klopfer, Osterweil, Groff, & Haas, 2009; Speak up Project Tomorrow [SPT], 2010). He also has created his own YouTube channel to upload and share videos with his students.

In contrast, another educational science boomer participant admits that she suffers from a lack of technology literacy. Although she creates her videos using Photo Booth for her online students or picks videos relevant to the lecture from YouTube, she still needs to engage more with the university's supportive workshops. The lecturer could also be supported by a written manual guidance to overcome the possible issues concerning the technological innovation changes in an educational setting. The solution could also be solved by creating a multi-purpose online video-sharing repository platform. As such, lecturers, regardless of their generational position could easily produce, share and discuss their videos with their peers and create their own video teaching and learning communities as supported and advised by some researchers (Agazio & Buckley, 2009; Szeto & Cheng, 2014). These functions could provide academics in different disciplines with greater confidence regarding their lack of tech literacy. A key feature of virtually all the participants was that the use of digital video in their teaching is expanding

as time goes on and that the student learning benefits were obvious and increasing as competence and systems improve.

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