Instructor-Created videos as teaching aids

Masters of Public Administration

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Presented for:

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Executive Summary

Educational establishments often use videos as teaching aids to replace or supplement on campus and online lectures. Based on previous course feedback experience and a preliminary literature review conducted, the instructors of the School of Public Administration at the University of Victoria were interested in understanding the link between instructor-created videos as teaching and students’ engagement with the course material and beyond to students’ learning. The exact relationship, however, was unclear and the particulars of the impact of instructor-created (IC) videos on students’ engagement were not assessed. To address this knowledge gap, the School of Public Administration at the University of Victoria requested an analysis of the way that instructor-created videos used as teaching aids in on campus and online classes can contribute to students’ engagement and learning.

The research objective for this report was to address the following questions:

Are instructor-created videos able to impact students’ engagement and learning?

If yes:

- Under which conditions?
- What are the characteristics and purposes of IC videos that positively affect students’ engagement?
- In what kinds of learning environments are IC videos likely to positively affect students’ engagement?

Methodology

Information for this report was gathered via a literature review with a focus on assessing pedagogical capabilities of videos and how they may lead to increasing students’ engagement. Further research was conducted by a way of semi-structured interviews with 19 students who were divided into two groups. Group #1 consisted of students who had experience with instructor-created videos as teaching aids used in their graduate degree at SPA. Group #2 was made up of students who did not have such experience. The interview questions covered the following topics: the extent and nature of students’ experience with taking graduate level courses at SPA that used instructor-created videos as teaching aids, factors affecting students’ decisions to watch or not to watch such videos, as well as their expectations for these teaching aids. A complete list of interview questions is attached in the appendix.

Literature Review Findings

The findings of the literature review indicate that there are some significant gaps in the literature when it comes to examining the expectations students have for viewing instructor-created videos as teaching aids. The literature provided more of an academic background as to why videos in general, not specifically instructor-created videos, are beneficial to learning. In regards to readily available videos, the literature review showed that there is a link between using readily available videos to supplement online and on-campus lectures and an increase in students’ engagement. Interviews with

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1 20 students interviewed initially, one student withdrew after the data collection stage was completed.
SPA students were set up in order to determine whether the fact that instructors create their own videos is a teaching aid that has a significant enough effect on students’ engagement.

**Interview Findings**

Interview findings indicate that the relationship between using videos as teaching aids and potential increase in engagement with course material is more nuanced and has more variables at play than the literature suggests. Before students even decide whether the pedagogical abilities of instructor-created videos are able to increase their engagement or not, they go through a step of choosing whether to watch available instructor-created videos at all. A discussion of this step was completely absent from the reviewed literature and had to be fleshed out during the interviews.

Graduate students at SPA turned out to be career-oriented and swayed by teaching aids that were absolutely mandatory to completing an assignment or passing the course. Moreover, the mode of the course delivery, -online or on campus, - was found to have a great effect on whether students were receptive of instructor-created videos. Online students valued the increased sense of closeness and immediacy that instructor-created videos were able to bring to them, while on campus students placed little value on the authorship of videos and simply were looking for cogent, bright videos that they could use as memory triggers to recall content they had learned when it came time to apply it to new problems.

**Discussion**

Based on the analysis of students’ behavioural patterns as opposed to what students said in regards to their attitudes towards instructor-created videos, the discussion chapter has determined that given the pedagogical capabilities of the instructor-created videos, students in online courses are more likely to watch these videos and are more likely to benefit from them than students taking on campus courses.

With this understanding in mind, the discussion chapter has assessed the types of videos that instructors are able to create and determined that personalized video messages are likely to be the most useful kind of recordings for online students, while 5 minute long memory trigger videos would likely be to the greatest benefit for on campus students. Each type of video, then, was associated with its own set of recommended unique characteristics such as length, tone of voice and format.

However, the discussion determined that even if each instructor-created video followed the suggested recommendations, there is no guarantee that videos will be watched by the students. Some students choose not to engage with available instructor created videos, and a precise understanding of the reasons is yet to be achieved. Therefore, to increase the likelihood of instructor-created videos being watched, instructors are suggested to focus their efforts on creating videos for online courses and selecting pre-made videos for the on campus courses.

**Recommendations**

A primary purpose of this report was to develop recommendations for SPA instructors who are assessing whether to create IC videos and if so, for whom and what kind.

1. Recommendation 1 provides suggestions on attempting to increase an uptake among all students in regards to all kinds of videos the SPA instructor chooses to offer. It is based on what students say they want instructor-created videos to look like, not the actual rate of uptake of such videos.
2. Recommendation 2 suggests that SPA instructors focus their limited resources on creating IC videos to be used in online courses because judging by past behaviours, students in online
classes are significantly more likely to watch instructor-created videos than students in on
campus classes.

3. Recommendation 3 suggests that based on demands and behavioural patterns of students in
on campus classes, selecting readily available memory trigger videos instead of attempting to
create new ones within SPA is likely to be the most efficient way to address the needs and
expectations of on campus students.

4. Recommendation 4 suggests conducting further research on students’ attitudes towards IC
videos and whether they choose to watch them at all. Further research should be conducted to
examine the extent of capabilities of SPA instructors to create videos and whether the cost of
creating videos outweighs the benefits students can receive from them.

5. Recommendation 5 suggests providing SPA instructors with specialized training on how to
create videos that go beyond simply recording yourself using the built-in camera on the
laptop.

Conclusion

This report is a first step in attempting to determine how instructor-created videos used as teaching
aids relate to student engagement and potential learning in on campus and online courses.
Recommendations, informed by the literature review and interview findings, are given to inform SPA
instructors about students’ expectations and attitudes towards instructor-created videos. This report
has shown that there appears to be a relationship between the learning environments in which students
operate, as well as the uptake, the characteristics of videos, and the level of students’ engagement. It
may even be positively linked to the degree of students’ learning. However, further research is needed
to corroborate and reaffirm this relationship and to conduct a cost-benefit analysis of whether creating
videos within SPA is worth the effort.
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Chapter 1: Introduction

Instructors at the School of Public Administration (hereafter SPA) at the University of Victoria are interested in creating videos that are able to facilitate students’ engagement\(^2\) with the classroom material. However, SPA instructors quickly realised that given the abundance of different styles and types of videos that can be created, the amount of time and effort required for creating such visual aids is substantial. SPA instructors also felt that they have a limited understanding of the rate of uptake of instructor-created videos (hereafter IC videos\(^3\)) by graduate students. Even the extent of the ability of IC videos to contribute to students’ engagement and influence learning\(^4\) was not clear.

SPA instructors realized that further research was needed to determine whether the benefits of IC videos are justified by the costs and time of creating them. The following research questions were formulated:

Are instructor-created videos able to impact students’ engagement and learning?
If yes:
- Under which conditions?
- What are the characteristics and purposes of IC videos that positively affect students’ engagement?
- In what kinds of learning environments are IC videos likely to positively affect students’ engagement?

As evident from the research questions, the focus of this report is to determine the benefits (if any) and expectations towards instructor-created videos as informed by literature and seen by graduate students at SPA. Discussion about the benefits of video-teaching aids as opposed to other types of teaching aids is outside the scope of this project.

For the purpose of this report, “IC videos” refer to videos that are created by the instructor (alone or with the help of an editing team) who will then be using these videos as teaching aids. This report examines how does the fact that the videos are created by the instructor that will be teaching a particular course, as opposed to an unknown person or a company, effects students’ engagement, comfort and willingness to learn in an online or on campus classroom. There is a variety of different videos that an instructor can create. IC videos can range from simple recordings that an instructor would create using a camera built into the laptop and some type of common software such as Windows Move Maker, to very expensive productions that require a team of professionals and a large budget. A large continuum of instructor-created videos can feature (a) an instructor speaking into the camera visible to the students the entire time, (b) visual of the instructor speaking into the camera alternated with a power point slide with bullet points, (c) only power point slides narrated by the instructor, or (d) sophisticated, likely more expensive productions such as a short film or a TV series type episodes where acting, editing and sound producing is involved. The last type of videos often

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\(^2\) Student engagement is defined as an individual student’s mindset and overall approach towards learning (Kuh, 2001a, Kuh 2001b). Increased engagement results in students being more motivated to discover new material and learn.

\(^3\) For the purpose of this report, IC video is defined as a “designed video, where the author of a video decides on its components and features beforehand” (Schwartz & Hartman, 2007, p.2).

\(^4\) Learning is defined as “ability to retain and transfer knowledge to be able to solve new problems” (Mayer, 2009, p.32).
does not feature the instructor but has actors or looks like a documentary or a cartoon. The report examines which types of these videos are recommended to be created within SPA.

This research offers a preliminary understanding of students’ perception as well as concerns regarding effectiveness of using IC videos as teaching aids and provides an assessment of how these factors may affect student engagement in an on-campus or online learning environment. The report will proceed with a short history of the research topic (Chapter 2), an overview of the methodology (Chapter 3), followed by Chapter 4, where a review of existing literature on IC videos contribution to student engagement is presented and its connection to student learning is discussed. Interview findings are outlined in Chapter 5, a discussion of these and literature review findings takes place in Chapter 6 and Chapter 7 presents recommendations to SPA instructors looking to create videos.
Chapter 2: Background

This chapter introduces the client for this report and provides an overview of the discussions that took place prior to this research question officially becoming a Master’s Project. Through formal and informal feedback and course evaluations, master’s students indicated that they were receptive to the use of IC videos as a complement to text-based methods of information delivery in both online and in class lectures. Unfortunately, because these evaluations were submitted anonymously, SPA had little information on the exact nature of ways in which these videos benefit students’ learning and engagement. As a result, these evaluations gave little direction for the instructors in regards to the kind of videos they should continue creating and the kinds of characteristics these videos should have.

More importantly, there were no indicators of whether students choose to actually watch IC videos available to them. Understanding of students’ expectations towards IC videos, - whether they expect them at all and if so, what purpose IC videos are to serve, - was very limited among SPA instructors. Overall, it was not clear whether the time and effort of creating IC videos was worth the instructor’s while because no baseline of uptake of such videos was available. Lack of empirical evidence of students’ attitudes towards using videos as teaching aids as well as IC videos’ ability to affect student engagement with classroom material was precluding SPA instructors from being at ease with dedicating their time and efforts to creating IC videos.

During the summer of 2013, the researcher was hired to begin conducting a preliminary literature scan in order to gain perspective on the academic conversation on the topic. Such cursory overview showed that for an instructor looking for guidance on the effect or the characteristics of IC videos, little prior research is available for consultation. Because the extent of the findings presented through the short RA contract was far from conclusive, SPA indicated a need for much larger research to be undertaken.

This research, presented in the way of a Master’s Project, will provide SPA instructors with greater knowledge of the impact of IC videos on student engagement. Students enrolled in online and on campus graduate programs at SPA are the focus of this research. Dr. Thea Vakil, Associate Professor and Associate Director of SPA, is the client for this project. This report will present a synthesis of students’ expectations for IC videos and, where reasonable, give direction on how to fulfill these expectations. Guided by the recommendations provided in Chapter 7 of this report, SPA instructors may choose to make changes to their current practices of creating videos to further encourage student engagement and learning in the online and on campus classroom. Alternatively, SPA instructors may choose to not make certain types of videos at all should they determine that the costs are greater than benefits.
Chapter 3: Methodology

A multi-method approach was adopted for the methodology of this study. Information for this report was gathered via a literature review and interviews with students who are enrolled in various Masters Programs at SPA. The researcher’s experience – as a student – with taking courses where instructor-created videos were used as teaching aids was also incorporated.

3.1 Literature Review

The purpose of the literature review was to understand the opinions regarding the effect of IC videos on student engagement and students’ expectations of IC videos. The literature was consulted to see if the rate of uptake of IC videos as well as the cost-benefit analysis of creating such videos has been measured previously. The literature review was conducted by accessing a variety of databases available to the researcher as a student at UVIC. The researcher consulted peer-reviewed scholarly works and various online newspaper articles.

3.2 Interview Rationale

Upon having conducted the literature review to assess the impact of IC videos as teaching aids on students’ engagement, it became apparent that little practical information on instructor-created videos is available within the published body of literature. Interviews with students at SPA were conducted to glean an understanding of their learning experiences with the way instructor-created videos were used at SPA.

Interviews were conducted in a relatively informal manner to allow students to build rapport with the researcher and feel comfortable in sharing both their positive and negative experiences (Sociology Central, n.d.; Zorn, n.d.). Students had access to the core questions before the actual interview took place. The researcher went beyond the pre-determined points of discussion and further probed interesting responses, due to the research methods literature suggesting this technique as favourable to getting more well-rounded answers (Corbetta, 2003; Babbie & Benaquisto, 2002).

Interviews focused on the following areas: extent of uptake of IC videos, expectations for IC videos and reasons for choosing not to engage with IC videos if they were available. Regarding those IC videos that were watched, interviews focused on perceived impact of IC videos on engagement and learning, - increased, decreased, or no effect. In situations where students perceived IC videos as beneficial to increasing their engagement, interviews focused on benefits of IC videos and learning environments in which IC videos appear to be most beneficial. In situations where IC videos decreased students’ engagement or had no effect on it, interviews focused on exploring reasons of ineffectiveness of IC videos and searching for tips that may be recommended for editing IC videos or changing the way they are being delivered. Interviews with students who did not have experience with IC videos as teaching aids focused on perceived missed opportunities of not using such a tool. A complete list of interview questions is attached in the appendix.

3.2.1 Selection of Participants

To understand how the findings of the literature review apply, if at all, in the University of Victoria setting, twenty students at SPA were interviewed. The researcher, with the help of the SPA administration distributed a call out for interviews among those who subscribe to the listserv of three Master’s programs within PSA. Online and on campus students from Masters of Public Administration (MPA), Masters of Dispute Resolution (MADR) and Masters of Community

5 One person asked to withdraw after the interview was conducted
Development (MACD) programs from various years at various stages of completion of their programs formed the interviewed cohort. Thirty two students were interested in participating, of whom twenty students were interviewed: ten had experience with IC videos in their graduate education at SPA and ten did not. One student from the second group asked to withdraw after the interviews were completed. While there were no particular quotas set aside for each program, the researcher wanted to have sufficient representation of students from both the online and on campus delivery methods as well as from different graduate programs within SPA.

The researcher was unable to attain completely equal representation of students from all available graduate programs. At least seven students who initially replied were no longer interested in participating after the researcher spoke to them about the length of interviews and the need to sign a consent form. The remaining students were reviewed to ensure that as many non-MPA students as were available took part in the cohort. As a result, five interested MPA students had to be turned away (on first come – first serve basis). As the interviewed students came from a non-probability sample as they were drawn from the part of the population that was the easiest to access, any findings obtained from this sample may not be applicable to the wider student population at SPA, UVIC or other universities.

Selected students were split into two groups according to the range of experience with using IC videos as teaching aids in graduate classes at SPA.

- Group #1 was formed by the six on campus students (five MPA students: two from 2013 cohort and three from 2012 cohort, and one MADR student from 2012 cohort) as well as three online MPA students (two from 2012 cohort and one from 2013 cohort) and one Community development student from 2012 cohort.
- Group #2 included students with no IC video experience in graduate SPA courses: five MPA students from 2012 cohort, three students from MPA 2013 (2 on campus and 1 online student) cohort and two students from the MADR 2012 cohort.

<table>
<thead>
<tr>
<th>Table 1: Interviewed students</th>
<th>All</th>
<th>Group 1: on campus</th>
<th>Group 1: online</th>
<th>Group 2: on campus</th>
<th>Group 2: online</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students interviewed</td>
<td>20</td>
<td>6</td>
<td>4</td>
<td>10*</td>
<td>0</td>
</tr>
<tr>
<td># of courses with IC videos</td>
<td>0-6</td>
<td>1-3; 60% in online classes</td>
<td>4-6; 100% in online classes</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*One student withdrew after interview finished

After the initial conversation with Group #2 participants the researcher became slightly concerned about the quality of the recruitment process of the students in the second group. Given the relatively small pool of candidates to select from due to limited number of graduate students at SPA and the fact that most of the on campus programs within SPA are delivered in a similar way and, theoretically, tend to draw on comparable tools, the researcher doubts the accuracy of the self-reporting process for students in Group #2. While students confirmed that to the best of their knowledge watching IC videos was not a mandatory requirement in any classes they have taken at SPA to date, when probed further, many of these students could not guarantee or could not remember that IC videos were not offered as recommended resources that they have chosen to disregard.

The reader should be cautioned about this potential weakness in the sample selection. Some of the students who were under the impression that they have not been in a class where instructor-created videos were used, may have simply chosen to ignore those videos when they were available to them, thus there is a risk that their answers may be affecting the findings. If students who volunteered to participate in Group #2 did, in fact, have experience with instructor-created videos, but chose not to
watch them and, as a result, forgot about them, the analysis of their experience may be better suited in
the discussion about reasons why students chose not to engage with available instructor-created
videos. When reviewing the findings of this report, the researcher suggests treating this understanding
as a known unknown and being cautious of its potential influence on the overall assessment.

3.2.2 Data Collection
Core interview questions were attached to the email that went out via listserve in the initial
recruitment stage. A decision to send the questions before the interview was deliberate. The
researcher realized that some of the questions may touch on experiences that students had many
months or even years ago. For those with experience using IC videos, the researcher wanted to allow
students the opportunity to reflect on their perception of what is it about watching IC videos that may
have contributed to increasing their engagement and facilitation of their learning. For the sake of
keeping interviews short, the researcher felt questions that required longer time to accurately
remember are best disseminated sometime before the interview took place. During the interview,
additional questions were asked and core themes were further developed.

The interviews took place during January and February of 2014. The in-person interviews were
conducted with students who were located in Ottawa (place of residence of the researcher). Students
located in other areas were interviewed by phone or via Skype. Interviews ranged in length from
twenty to forty-five minutes, with the average interview lasting just under twenty-five minutes.

3.2.3 Analysis of Interview Results
To facilitate analysis, interviews were recorded, transcribed and compiled with any handwritten and
typed out notes. As a number of behaviour patterns became apparent, they were grouped into themes
and analyzed on the basis of these topics. Some of these themes were expected and thought out by the
researcher, while other parallels unexpectedly emerged once the overall data was entered into a
spreadsheet and analyzed.

Interview process was not without its challenges. The open-ended nature of questions allowed
students to go off on tangents; many students took interviews as an opportunity to express their
frustrations with the program overall. The transcription of interviews was significantly complicated
by filtering for pieces of information that were truly relevant to the research questions.

Asking the right questions to really explore the differences in opinions of online and on campus
students was an ongoing challenge. Having conducted the first round of interviews and written the
first draft of the interview findings, the need for more input from online students became apparent.
The researcher had to re-interview the online students to seek additional input to be factored into
existing analysis dominated by the opinions of on campus students.

3.3 Weaknesses of the Methodology
The writer of this report is fully aware of the fact that the chosen methodology likely has a number of
weaknesses. First and foremost, the researcher’s lack of previous experience in formulating accurate
interview questions or conducting large-scale interviews may have affected the quality of the answers
that were received (Babbie & Benaquisto, 2002). To remedy this weakness in the best way possible,
the researcher consulted a number of articles on research methods in social sciences that were
uploaded on the MPA 598 Moodle website. Additionally, the researcher reviewed course material on
research methodologies from a required course the researcher has taken as part of her on campus
MPA degree.

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6 Group # 2 was added at the request of the client of this project. Initially, it was intended as a form of comparison to test whether watching IC videos resulted in increased engagement or learning. However, given the fact that in reality many students in Group 2 couldn’t remember if they even had videos in their class, this situation became a finding, rather than a point of comparison.
The problematic nature of self-reporting, mentioned in the Participant Selection section above, is applicable to the analysis of all interview findings in this report. Interviewees were not requested to watch their behaviour and their reactions to learning from IC videos over an extended period of time; they were simply asked to assess what they thought about their experience now. Consequentially, students’ impressions may not necessarily be representative of the actual benefits that they drew from watching instructor-created videos at the time of taking the course. Both, students’ answers and researcher’s interpretation of the answers are subject to bias that may potentially skew the findings in this report. As a result, on numerous occasions throughout this report, the researcher points out that these findings may not be applicable outside of the interviewed cohort. Further research may be necessary to produce more generalizable assessments.

3.4 Limitation to Findings
Providing students with clarity on definitions and ensuring that each interviewee understood them in the same way as they were intended to be used in the report was a significant challenge. A significant effort was made to explain what is meant by “engagement”, how it is different from “learning” and how “instructor-created videos” differ from other types of videos. Moreover, throughout the interview sessions in became evident that some students interpreted criteria differently than other students. For example, some students felt like narrated power point were not considered videos, while others thought they were. The researcher feels that despite ensuring each interview began with a clarification of the terms of discussion, there may still be a disconnect between the way the literature defined key terms and the way students interpreted them in their answers.

3.5 Ethical Approval
The project received ethical approval from the Research Ethics Board at the University of Victoria on December 20, 2013. Interviewees were guaranteed confidentiality, and were informed that their names or identifying information would not appear in the final report. Interviewees were emailed a consent form prior to the interview date, and were asked to verbally agree to this consent form at the outset of their recorded interview. Up until April 2014 interviewees had an opportunity to withdraw and not have their answers factored into the findings of this study. Only one person chose to exercise this option.

3.6 Conclusion
The research for this report was undertaken via a literature review and interviews (in person or via Skype and phone) with students enrolled in various Masters’ programs at SPA. The analysis was used to determine how, if at all, the findings fit within the context of SPA. The assessments made were used to form recommendations presented in this report. All the necessary steps to guarantee students’ privacy as well as to minimise the weaknesses of methodology were taken to the best of researcher’s ability.
Chapter 4: Literature Review

This chapter discusses a rather limited amount of available literature on instructor-created videos and how they affect student engagement and facilitation of learning within on campus and online environments. The majority of available literature focuses on the benefits of videos as opposed to other forms of teaching aids, not on the value-added of instructor-created videos versus recordings produced elsewhere. The limited literature that does focus on IC videos (Seels, Fullerton, Berry, & Horn, 2004; Schwartz & Harman, 2007) does not explore students’ expectations, rate of uptake and cost-benefit analysis of producing IC videos. The link between IC videos, student engagement and learning is not fully clear and the need for further research is evident.

This chapter begins with an assessment of the relationship between IC videos, student engagement, and student learning. Next, learning in online and on campus classroom is explained, and pedagogical capabilities of IC videos are discussed in light of the way students are reported to perceive engagement based on the mode of the course delivery. The literature limitations section discusses numerous gaps in available literature as well as points out lack of a direct link between IC videos and a positive impact on learning.

4.1 Student Engagement and Instructor-Created Videos

For the purpose of this report, student engagement has been defined as student’s emotional approach to course work and desire to consult further material (Kuh, 2001a, Kuh 2001b). Changes in students’ engagement refer to an increase or decrease of students’ motivation to further look into additional course material, speak to classmates, or the instructor; all of which may have an effect on changing the amount of students’ knowledge on the subject (Fiedler, 1975; Koenigs, Fiedler, & deCharms, 1977; Wellborn, 1991). Engagement can be affected by the extent of students’ emotional involvement in a particular task (Reeve at al. 2004, p.1; Connell, 1990; Connell & Wellborn, 1991).

An increase in students’ engagement / emotional motivation are positively linked with an increase in the extent of students’ learning (Conaway et al., 2005; Chen et al., 2008). It is also associated with higher grades, increased participation and increased satisfaction in both on campus and online courses. While students are largely responsible for motivating themselves to stay engaged in a class they signed up to complete, instructors do have a considerable role in providing students with a comfortable atmosphere or stimulating teaching aids that can help pique and maintain students’ interest (Chen, Gonyea & Kuh, 2008; Conaway, Easton & Schmidt, 2005). The following sections describe what, according to the reviewed literature, students feel facilitates their engagement.

4.1.1 Instructor social presence and learning

Literature seems to suggest that social presence is one of the most important factors linked to increased engagement in online and on campus classes. Social presence, for the purpose of this report, is defined as “the degree of awareness of another person in an interaction and the consequent appreciation of an interpersonal relationship” (Tu & McIsaac, 2002, p. 133). Social presence is made up of two components: intimacy and immediacy. Intimacy results from the presence of eye contact, non-verbal cues, and ability to judge the mood of the conversation by listening to the tone of voice (Tu, 2002b). Immediacy is referred to the psychological closeness between the student and the instructor: both conversation partners do not have to be closely located in the geographical sense of the word, but can still have a psychological connection (Conaway et al., 2005; Tu, 2002b).

To achieve social presence, students in on campus courses are able to visit their instructors in office hours, ask questions during lectures or engage in real-time, off line conversations with their peers (Borko, et al., 2006). For online students, this process is more challenging, as written format is often
the only way to communicate with their instructors or classmates. For online students, lack of intimacy, immediacy and overall absence of social presence translates into an increased feeling of isolation (Tu & McIsaac, 2002; Tu 2002b). Written communication often causes misunderstandings between the instructor and the student: tone of voice and the extent of “care” about students’ accomplishments are much harder to gage from written than verbal feedback (Anderson, et al., 2001; Dagli, 2003; Ginns & Ellis, 2007). Social presence, therefore, has been directly correlated with student engagement. The higher the degree of comfort within the student-instructor interactions, the more likely the student is to become and remain interested in the course he/she is enrolled in (Ginns & Ellis, 2007; Hentea, et al., 2003).

This linkage between social presence and student engagement is summarized in Figure 1 below:

![Figure 1 Linkage between social presence and student engagement](image)

For instructors looking to create teaching aids to increase the extent of social presence, it is important to realize that social presence is not a yes or no factor, but rather the subjective feeling of each individual student (Tu, 2002b; Anderson et al, 2001). Depending on the students’ personal relationship with an instructor, one student may feel that he/she is experiencing more social presence than another student in the same course (Tu, 2002b). While instructors cannot ensure the teaching aids they are creating entirely increase social presence, more personalized messages are likely to have a bigger impact on increasing social engagement (Hentea et al, 2003; Borko et al., 2006).

IC videos are capable at creating immediacy by showing the instructor give personalized feedback, smiling, laughing, making eye-contact with the student, even if only through the camera. Providing students recorded feedback or commentary on their assignments is much more likely to contribute to fostering immediacy and intimacy than providing written feedback which may appear as harsh and dismissive (White et al., 2000). IC videos that are able to provide students with immediacy and intimacy are likely to contribute to creating a safer psychological environment that allows students to engage with classroom material effectively even if quality of IC videos production is lacking (Richardson & Swan, 2003; Schwartz & Hartman,2007, p. 2). The following section explores the linkages between student engagement and learning.

### 4.2 Social Presence, Student Engagement, and Learning

Reviewed literature seems to point to a fairly strong link between an increased level of students’ engagement and the amount of student’s learning (Kuh, 2001a; Kuh 2001b). The level of students’ learning is correlated with the level of students’ interaction with course material as well as the level of engagement with classmates and the comfort of communicating with their instructor (Conaway et al., 2005; p. 27, Graham & Scarborough, 2001). Therefore, there is not only a relationship between student engagement and learning, but there is a positive relationship between social presence and learning (Muielenburg & Berge, 2005). A higher level of learning tends to be reported by those students who were more comfortable with their courses, had a closer relationship with their instructor, and reported a higher level of social presence (Arbaugh, 2000; Carini et al., 2006; Yang et al., 2006).
The relationship between all of the variables described in the literature is outlined in Figure 2 above. From this, an examination of the pedagogical capabilities of IC videos will follow.

4.3 Instructor-Created Videos and Positive Effect on Engagement

A significant challenge in choosing to create videos to be used as teaching aids in an online or on campus environment is making the decision regarding the purpose of the video. Instructors creating videos must recognize that there is a multitude of ways that IC videos can add value to the lesson (Schwartz & Hartman, 2007, p.6). Some students may be looking for a video to remind them of a particular term. In a different instance, a student may be looking for a tool to help them catch up on a lecture they have missed. In other words, asking a general question of what videos students like best first requires the instructor to provide clarity on the learning outcome a video is aiming to achieve as each different type of a video is likely to have its own characteristics.

The upcoming discussion of pedagogical abilities of IC videos is based on a map of learning outcomes created by Schwartz & Hartman (2007, p.6) that can be found in the appendix. The diagram is split into four broad categories of learning outcomes: Engaging7, Seeing, Doing and Saying8. The first ring provides a list of steps to be taken for a specific learning outcome to be achieved. The next ring indicates the types of behaviors people will exhibit if they have achieved those learning outcomes. Finally, the outer ring names the types of videos that are likely to assist students in achieving each outcome. A discussion of each category that follows below provides examples of in-class uses of IC videos that are positively linked to increasing student’s engagement with course material.

4.3.1 Stimulating curiosity, introducing subsequent material

To positively influence students’ engagement, IC videos can be used to turn students’ attention to a topic and keep them interested enough to have a desire to conduct further research (Bennett & Maniar, 2007; Benney, 2001). Videos can help increase students’ engagement by developing students’ interest so they are more likely to take steps to learn (Brecht & Ogilby, 2008; Choi & Johnson, 2005).

Examples of such IC videos include trailer-like videos of an average of five minutes that provide an overview of a course or a unit students are about to take. This type of video itself does not contain information students need to know to pass the course. Instead, it provides them with an exciting preview of what it is that they can expect to learn should they choose to take this course (Schwartz & Hartman, 2007, p.10). Interested students, after watching this videos, are more likely to spend time

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7 Schwartz & Hartman (2007) use the term “engagement” as a synonym to “piquing interest” of a student. For the purpose of this report, however, “engagement” is viewed as a synonym to “motivation”. It encompasses all four of the learning outcomes discussed by Schwartz & Hartman. Increasing interest, seeing yourself from a spectator’s point of view, learning how to do new activities as a result of watching IC videos would all be regarded as having positive effect on engagement for the purpose of the definition used in this report.

8 “Saying” quadrant is discussed along with the “seeing” quadrant as the end result of these learning outcomes is roughly the same when applied to the learning outcomes desired within SPA: students are able to better understand and acquire facts and skills.
researching information about the course or paying attention to the upcoming units in the course if they choose to sign up for it. Introductory videos are known to have a positive effect on students’ engagement because they show students what is coming up in the course, but leave it up to them to pursue further research to really become familiar with the material previewed in the trailer (Oishi, 2007; White et al., 2000).

4.3.2 Making course material relevant to students’ lives outside the classroom

Similarly, IC videos are known to serve as a trigger to set the stage for subsequent discussion or help students recall what they have learned in the past (Schwartz & Harman, 2007, Oishi, 2007). Instructors can create videos to serve as a case study or a visual of a situation students are to discuss during the class (Roskos-Ewoldsen and B. Roskos-Ewoldse, 2001). Instead of setting the stage for discussion by describing the situation in words, instructors can give students a chance to see something that is hard to witness in real life. This type of teaching aid is known to be able to stimulate a dialogue on the relevant topic (Hoover, 2006; Benney, 2001).

The least technologically demanding way for instructors looking to create such videos is to film themselves as an anchor presenting a set of real-life problems to be solved using the material that is being learned in class. Screen captures of the instructor speaking into the camera can be interchanged with images or videos relevant to the problem at hand. This method is likely to increase students’ engagement as it is one of the only ways the instructor can contextualize what is being taught without relying on written text (Roskos-Ewoldsen and B. Roskos-Ewoldse, 2001). By creating such videos instructors can make the concepts relevant to students’ lives by showing them situations where the material would apply in a world outside of the classroom (Schwartz & Harman, 2007, Oishi, 2007). Explaining to students why something is important to be learned as opposed to simply telling them to memorize the material is said to be beneficial to students’ engagement (Hoover, 2006; Benney, 2001).

The Adventures of Jasper Woodbury video narratives are 20 minute-long IC videos that offer students a number of real-life problems to be solved by applying various mathematical formulas (Cognition and Technology Group, 1997). For example, students are asked to calculate an estimated time of arrival of a flight travelling between two American cities. Students are shown the plane taking off and explained that in this particular circumstance their calculation would be needed to inform the pickup services when to come to the airport. The goal is to have students apply available information using mathematical formulas they have learned in class while understanding when in real life this formula may become relevant and important to remember.

Similarly, the science show Nova provides another example of where an instructor not only shows scientific concepts, but also explains facts that the students are seeing. This particular IC video takes a regular in-class lecture to the next level: students are given a full explanation of the concept for an average of 30 minutes. However, instead of giving a lecture in a classroom or using bullet points on power point slides, students view a video of a real life situation that requires knowledge of the material they are learning (Rena, 2013; Van Der Molen & Van Der Voor, 2000). IC videos that provide a commentary to go along with a visual representation of facts are used to show students that what is being taught to them in the classroom has direct applicability to very important situations in everyday life (Roskos-Ewoldsen, 2001; Morin, 2000; Luh, & Liu, 2006). The unique ability of IC videos to present students with situations that are hard to enact in real life is discussed in section 4.3.3 below.

9 Please see appendix for screen shots and links to examples of all IC videos referred to in this chapter.
4.3.3 Visualizing situations that can hardly be seen in real life

Schwartz & Hartman’s diagram begins with a discussion of videos facilitating the “seeing” outcomes. A video teaching aid is able to achieve these outcomes by introducing students to something that would be much harder to see in real life (Luh & Liu, 2006; Rena, 2013). Instructors are able to use IC videos to capture events, lectures or discussions that would give students a preview into a type of knowledge or information they can hardly see elsewhere (Van Der Molen & Van Der Voor, 2000). For example, engineering students can view and analyze a bridge crash as many times as necessary by watching a video without having to live through such an event taking place in real life (Roskos-Ewoldsen, 2001). Similarly, travel videos can show a student what landing on the beach in Somalia would look like without physically needing to visit this dangerous country (Liedtka, 2001, p. 411; Joint Information Systems Committee, 2002).

The other half of the “seeing” outcome is referring to the ability of an IC video to show students something they are likely to have missed when watching an event in real-time (Roskos-Ewoldsen, 2001). Recording videos during surgeries is such an example. When in real-life operations happen quickly and the patient’s life is a priority, IC videos give students a chance to view the operation in a much slower manner while paying attention to every detail of the process without putting anyone’s life in danger10 (Luh & Liu, 2006). Similarly, in educational environments where a student is required to perform or present, IC videos provide a unique opportunity to review your own performance. An instructor can tape a student who is practicing giving a presentation and allow the student to review his own performance (Luh & Liu, 2006). By observing how public speaking affects gestures, posture and movement, a student is able to correct and further improve his/her skills. The abilities to stop, rewind, fast forward or play a video in slow motion are viewed as characteristics that set videos far apart from any other teaching aid an instructor can create. Being able to control the pace of learning, rewind any required number of times, as well as see oneself from the side to prepare for a more stressful situation are all known to contribute to the creation of a comfortable psychological environment for students to study in (White et al., 2000). Increased comfort, in turn, is linked with increased motivation, engagement and learning (He et al, 2000; Shephard, 2003).

4.3.4 Acquisition of facts and new skills

The “doing” portions of Schwartz & Harman’s (2007) diagram refer to the ways in which IC videos can help students acquire, understand, recall and apply what was learned by providing a memorable association that links to a concept presented in class. Instructors can create videos that are short, funny and unique (consult the appendix for an example of Surgery 101 podcast where puppets are used to explain medical concepts) in order to give students a catchy visual that will be able to trigger their memory when it comes time to recall and apply dense material that was learned in class (DeLeng et al, 2007).

Similarly, in lessons where students’ success depends on mimicking a correct version of a behavior or an action, IC videos that are able to offer demonstrations are known to be positively linked to increased engagement and learning (Brecht & Ogilby, 2008; Doerksen et al., 2000). Instructors creating these types of videos may provide step-by-step instructions on how to behave in a particular situation. Instructors can choose to slow down the video to highlight certain aspects such as unnecessary hand gestures used by a student who is nervous about giving a presentation. Instructors can then take this opportunity to explain why a particular set of behaviors should be paid attention to, or why it should be done one way and not the other (Benney, 2001). Instructors are strongly suggested to explain all of these key points in order to avoid giving students a teaching aid that forces

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10 Please refer to the appendix for a case study on Surgery 101 podcasts that use puppets to teach best surgery practices. Podcasts use recordings of actual surgeries and some of the images may be graphic.
them to memorize content or behaviors without really understanding why they are doing something a certain way (He et al., 2000; Borko et al., 2006, p.417 – 430).

Comprehending, rather than memorizing, material is positively linked with increased engagement and learning (Ginns & Ellis, 2007; Hentea et al., 2003). Students spending time imitating the correct way to behave as presented in the IC videos as well as following the narrated instructions and explanations are both positively linked with increased engagement (He et al., 2000; Benney, 2001). Increased amount of time and effort (increased engagement) is likely to eventually translate into increased learning (Brecht & Ogilby, 2008; Doerksen et al., 2000). A student who engages with the IC videos in order to mimic a presented behavior may eventually succeed at performing it correctly when faced with a similar but new problem outside of the learning environment (Borko et al., 2006, p.417-430; Harwood & McMahon, 1997).

4.3.5 Measuring IC videos’ contribution to engagement

Sometimes after IC videos have been disseminated and used, instructors are interested in assessing the impact that their videos have on students’ engagement. Of course, a precise assessment may be very challenging to complete as multiple other factors may have influenced students’ rate of engagement. Moreover, just because a student was able to explain a concept or a procedure that was learned within the classroom environment, it does not necessarily mean that what was said will be followed when the student has to apply this skill or this knowledge to a new problem at some point in the future (Schwartz & Hartman, 2007, p. 12-14; Bransford & Schwartz, 1999).

With this understanding, instructors are nonetheless encouraged to observe their students to determine whether preferences those students have towards a topic or a subject being taught have changed after IC videos were viewed (Bransford & Schwartz, 1999). For example, do students choose to continue talking about the subject after the video was over? Do students carry on conversations regarding the subject being taught in the video as they exit the class after the lecture has ended? Do students in online classes refer back to the videos they watched while writing up a discussion for their weekly posts? If any of these questions can be responded to in a positive manner, it is likely that the pedagogical capabilities of watched IC videos can be, at least in part, linked with an increase in students’ engagement and motivation to learn further (Schwartz & Hartman, 2007, p. 12-14).

4.4 IC videos and negative effect on engagement

While the majority of the reviewed literature focused on what pedagogical capabilities of IC videos can do to increase students’ engagement, a fair number of authors highlighted some aspects of IC videos as well as ways in which IC videos are delivered to students as having a negative effect on engagement and potentially on learning (Bell et al., 2001; Bennett & Maniar, 2007; He et al, 2000; Klass, 2003).

4.4.1 Issues

Decrease in attendance (on campus courses) as well as reduced instances of engagement with other course material as a result of watching IC videos is linked to a negative impact on engagement (Bell et al., 2001; Bennett & Maniar, 2007). There seems to be enough of a trend highlighted in the literature to suggest that students who have access to IC videos that provide them with enough relevant information to complete an assignment may choose not to consult further course material. As a result, these students get a very limited exposure to the unit they are studying, inadvertently shutting themselves out from fulsome learning that may be available to them, should they have consulted all of the disseminated material (He et al, 2000; Klass, 2003).

Another potential negative impact of IC videos on students’ engagement comes from the static nature that is inherent to pre-recorded teaching aids. Essentially, IC videos offer students a monologue
teaching aid. Students who depend on IC videos as one of the most important teaching aids to facilitate their learning, such as online students or students that have missed an on campus lecture, may miss out on an opportunity to brainstorm or validate their ideas against those of others as an IC video, on its own, is too linear and static to really support learning and engagement (Laurillard, 2002, p.105).

4.4.2 Proposed solution
As a way to remedy these issues, videos are suggested to supplement the unit content rather than replace it (Karppinen, 2005, p. 232; Wieling & Hofman, 2010). IC videos are supposed to stimulate students’ interest and propel them to conduct further research on their own. It is suggested that IC videos only provide enough material to give a general overview and then end on a “cliff-hanger”. This technique gives students a starting point of where to find the answers instead of providing students with the answers themselves (Bell et al., 2001, p. 117-122; Zupancic & Horz, 2002).

4.5 Student Expectations for Education and IC Videos as Teaching Aids
This section of the report summarizes the limited amount of information that the literature review was able to offer in regards to students’ reactions and expectations for their education and the role of IC videos in it.

A theme prevalent through completion of literature review, whilst largely outside the scope of this report, highlighted that learning through mobile devices is quickly becoming a learning environment of choice for many students of today (Prensky, 2001, p.1). Internet, social media platforms, smartphones and other pieces of technology that support video making and sharing have become an integral parts of students’ lives. Many students expect their instructors to explore these avenues when creating teaching aids to be used in class (Seidel, 2006, p.253; Traxler, 2007).

Students of today, particularly those enrolled in online courses, can be described as constantly multitasking, always moving (both geographically and from one job to another) and, most importantly, constantly competing for resources (Taxler, 2007; Prensky, 2001, p.2). Students have to make trade-offs when it comes to time, money, grades, or their depth of knowledge on a certain subject. While trying to manage all of these expectations, students are more and more likely to exploit small amounts of time and space to engage with the course material (Hug, 2005). Students in the current and upcoming generations (may not be entirely applicable to mature students) are said to have less time and, therefore, less patience for lectures, long introductions and long-winded instructions that provide a wealth of background that is good to know, but not essential to completing the task at hand (Gassler, et al., 2004).

Students depend on their smartphones or tablets to access material on the go in order to fill any available time with “informal” studying such as listening to podcasts and watching videos (Boulos et al., 2006; Prensky, 2005). Those students who may not be able to give their undivided attention to study every aspect of the unit they were assigned may benefit from videos as teaching aids they can use to engage in “bite-size” learning during breaks in their schedule. Moreover, students, being constantly wired into various social media outlets do not just watch the video on their own: they “share” it, “tweet” it, “like” it and “tag” it. Students spread the content online, discussing it in both the offline and online environments and further increasing the rate with which they engage with course material (Kukulska-Hulme et al., 2005).

Taking this paradigm shift in learning environments into consideration, instructors looking to create videos have no other option but to ensure videos are optimised for a small screen and are able to be watched on the go (Prensky, 2005). Not only do instructors have to be concerned with the characteristics of videos in general, but they also now have to be mindful of the added costs to
students’ data plans and the memory space needed to store such videos. While this is a topic that warrants significant research in and of itself, it is important to highlight the simple fact that it is just as likely, if not more so, for students to be accessing IC videos through their smartphones and tablets on the go as it is for them to engage with IC videos on a stationary computer at home or on campus (Kukulska-Hulme et al., 2005). Therefore, it is important for instructors to realize that anything that complicates viewing IC videos on hand-held devices can instantly cause student to lose interest in the video. A loss in interest may, in turn, result in decreased engagement with course material and potentially have a negative effect on learning (Doerksen, et al., 2000). It is highly likely that students’ of today have more expectations and opinions towards the role of IC videos in their education, yet this topic was barely unpacked in the reviewed publications. This and other gaps in literature are discussed below.

### 4.6 Limitations of existing research

The literature on IC videos and student engagement is limited. It is largely overtaken by a discussion of advantages of video versus any other type of teaching aid. While there is more literature on the relationship between student engagement and learning, as well as on the link between IC videos and engagement, almost none of the reviewed literature directly focused on the dynamics between IC videos and learning. The relationship between these two variables had to be inferred from the relationship between IC videos and engagement, social presence and engagement, and finally engagement and learning.

Existing literature has barely addressed students’ expectations for IC videos. It is still not clear whether students view IC videos as more beneficial when compared to videos readily available on the web. The literature also did not determine the extent to which students watch IC videos when they are available to them. Also, if some students tend to not watch available IC videos, regardless of quality or purpose, the literature did not examine the reasons why students may be choosing not to engage with IC videos as teaching aids. Finally, the literature was not clear on whether students’ engagement and learning has actually increased as a result of IC videos or if students’ perceived their engagement has increased. Overall, the literature did not provide a conclusive answer as to whether the confidence measure of the positive relationship between IC videos and increased engagement and learning was strong enough to justify the costs of creating IC videos. A thorough discussion on costs (time, technology, skills and procurement of needed software) was largely absent from the literature as well.

### 4.7 Conclusion

The preceding literature review has discussed the available findings regarding the relationship between the three variables of this report – pedagogical potential of IC videos (if they are being watched), student engagement and student learning. It appears that the relationship between student engagement and level of learning is established within literature. The link between ability of IC videos to affect student engagement is present, although less solid than the link between engagement and learning. The following chapter, informed by the findings of the literature review, discusses what graduate students at SPA had to say about their experience with and opinions towards the link between IC videos, student engagement and learning.
Chapter 5: Interview findings

5.1 Introduction
This chapter will first look at some general themes from the interviews with online and on campus students who both did and did not have experience with IC videos. It will then examine how students perceive engagement and how they think IC videos used as teaching aids may affect it.

The feelings of students who expressed that they did not have experience with IC videos are highlighted to show how they thought IC videos could have helped motivate them to be more involved with the course content. All but one student in this group were enrolled in on campus programs, but a large majority of these students had experience with taking both the online and on campus classes. Their opinions regarding what constitutes engagement are in line with the opinions of students that did have experience with IC videos. Their opinions were factored into the overall assessment of what affects engagement in each mode of course delivery.

As a concluding point of comparison, this chapter will review the interview findings for all three groups to see whether demographics such as gender, age or type of program influence the way students' perceive or experience IC videos affecting their engagement with course material in online and on campus courses. Finally, all of the findings will be considered to determine whether it is possible to establish a link between the three main variables of this research: the pedagogical abilities of IC videos, as well as engagement and learning as perceived by SPA students.

While for the purpose of the interviews the methodology employed split the students based on the mode of delivery of their graduate program, - online or on campus, - the findings are grouped based on the mode of the course delivery students were enrolled in when they had experience with IC videos. The necessity to do so became apparent in the analysis stage (after the interviews were concluded), as some of the students enrolled in on campuses degrees had experience with IC videos in both settings: on campus during their core courses and on-line during their elective courses. Therefore, the findings in this section are laid out to present students' opinions based on the mode of delivery of a course that used IC videos and not based on the mode of delivery of students’ entire program.

All interviewed students were within the age range of 22-30 years old. Three of the nineteen students interviewed had completed a graduate degree prior to entering SPA at UVIC; sixteen others had only completed an undergraduate degree. All of the nineteen interviewed students had regular access to some kind of a smartphone and/or a tablet. Fifteen of the nineteen interviewed students used their smartphone/tablet to access various material (university-related and non-university related) more often than they used their laptops or stationary computers. Discussions with students focussed on gaining a better understanding of their attitudes, experiences and expectations of IC videos.

5.1.2 Types of students that choose SPA programs
Prior to discussing how students perceive pedagogical abilities of IC videos, students were asked to discuss why they choose to enroll in SPA programs. The researcher wanted to learn this information in order to determine whether students’ decision for their graduate degree had an effect on how they view the usefulness of IC videos or whether it had an effect on how students choose to watch IC videos or not.

All students, both online and on campus, replied that while they would generally be interested in learning particular subjects in more depth, for the purpose of their graduate education they valued
gaining a fairly quick overview of the courses they needed to know for their intended future career (Public Service, NGO or Community development). Students reported being able to read news, extracurricular material or take courses through work if they needed to know more on a particular subject. For the purpose of formal education where they have to pay per credit, the majority of students preferred to get an overview of disciplines they needed to be familiar with to be competitive within the job market rather than specialize in one particular subject.

On campus students appreciated the fact that the academic portion of the program was fairly short (two to three semesters of classes) and a co-op option was available. Moreover, 80% of interviewed on campus students mentioned that they have selected their SPA program largely because of the co-op option; the description of courses they had to take played significantly less of a factor in their decision. Online students liked the fact that they were able to maintain their jobs while getting a graduate education, which was often required to progress into the next available position within their organization. Interviewed students who already had another graduate degree before they joined SPA pointed out that they specifically selected this Master’s program because they felt like SPA programs were designed to help students bridge into a career (be it through co-op or through a promotion at a job they already maintain) without forcing students to dedicate all of their time to attending on-campus classes. Bridging into employment was not something that their first graduate degree was able to do for them. Most of the interviewed students liked the flexibility of being able to take online courses (either the entire degree or some of the electives). All of the interviewed students reported having to balance another activity with their graduate education. Students were working, doing informational interviews, networking or studying languages to become more competitive.

The majority of online and on campus students noted that their end goal for taking this program is to be employed or, as in the case of some online students, to be eligible for applying for positions of a higher level that required graduate education. The majority of interviewed students treat their graduate studies at SPA as a stepping stone to a career that they could not reach without enrolling in a Master’s program. When asked to describe their expectations for their education at SPA, all interviewed students answered something along the lines of “short”, “to the point”, “minimum I need to know to succeed” and “overview of required disciplines”.

5.2 Experiences, Behavioral Patterns and IC Videos

Now that an understanding of why interviewed students selected SPA for their graduate program has been achieved, it is time to understand how these students view pedagogical abilities of IC videos.

When asked about experience with IC videos in online or on campus courses, students grouped the recordings they had access to in three categories:

- Videos that serve to supplement a lesson or remind students about one concept. These videos usually feature a cartoon character, animation, humour and catchy music that can provide students with an association trigger to help recall a larger unit they have studied. Students were not entirely sure if these videos were created by the instructor of they were borrowed from the internet. These videos are under 5 minutes and go beyond seeing the instructor record him/herself lecturing. These videos use bright or funny characters (such as puppets) and memorable music. These videos usually deliver one piece of information per video.

- Videos that intend to replace a lecture and act as the leading source of information about an entire unit with additional materials supplementing the videos, not vice versa. These recordings last an average of 30 minutes and present multiple ideas and concepts just like a full book chapter. They can take the form of narrated power point slides or a recording of the entire lecture given in an on campus class.
• Videos that deliver a personal message, such as a Skype video mail\(^{11}\), where the instructor speaks directly into the camera to relay information that is particular to an individual student or a cohort.
  o One use of these videos is to provide a student with feedback on a completed assignment instead of submitting written comments. Alternatively, if the assignments of many students can benefit from the same feedback, one IC video was used to communicate this message to everybody instead of individual written feedback on each one of the submitted papers.
  o Another use is to introduce the course at the beginning of the year or check in with the cohort half way through the semester to provide words of encouragement, give information on assessment of strengths and weaknesses or what else is left to be taught. The length of these videos is an average of 5 minutes, but may vary depending on the amount of feedback to be given. These videos are recorded with a specific audience or audience member in mind and can rarely be reused from one cohort to the other unless the issues to be discussed appear to be the same.

In on campus courses, students recalled mostly choosing to watch videos grouped under the first bullet point. These videos were around 5 minutes long and were used to better explain a particular concept. Most of these videos were humorous, featured cartoon characters or puppets (anything that was not just the instructor speaking into the camera) and were used to show students a situation that would occur in real life and how it can be addressed with tools being taught in a relevant unit. These videos were most often used in Economics, Co-op seminars, Policy Analysis, and Diversity Studies among other courses. This group of students further recalled being offered a number of narrated power point slides to replace an on campus course when it was cancelled. As well, some students were offered lecture recordings of their face-to-face lectures. Students admitted to rarely reviewing these recordings. When they did watch them, they almost certainly did not watch them to the end nor did they dedicate their undivided attention\(^{12}\) to the parts that they did watch.

In online courses, students largely had experience with lecture-style recordings meant to be the main source of unit information. Instructors of Economics, Law, Policy, Communications and Governance courses (among others) would often appear in the videos speaking directly into the camera. Alternatively, they would narrate the entire lecture if the visuals consisted of graphs, formulas or slides and did not show the instructor. On average, these recordings were between 20 and 30 minutes in length. All of these courses have offered at least one video per unit, which amounted to over ten videos watched by each of these students within a semester. Students in online courses consulted these IC videos for almost every single one of the units. Some of the interviewed students had experience with both online and on campus students and they admitted that they were significantly more likely to watch videos offered in online courses. They were also much more likely to watch them to the end and pay them undivided attention. Students who had the habit of taking notes during an on campus lecture were much more likely to do so while watching IC videos for their online courses then for their on campus courses. Students were more likely to re-watch videos that featured visuals with graphs, pictures or other memorable visuals than videos where the instructor recorded him/herself speaking directly into the camera or offered narrated power point slides with bullet points against a one-tone background.

The following section outlines the types of IC videos that students who did have experience with IC videos were more likely to watch in the future and students who did not have experience with IC videos would like to have access to. It then analyzes the types of videos that were / would likely be

\(^{11}\) Skype users are able to leave a voice / video mail for the person they are trying to reach.

\(^{12}\) Paying full attention to the video means watching it as an only task and not as the background while doing something else.
watched and describes what about these videos that students found the most captured their attention. These findings apply to all interviewed students unless specified.

5.2.1 When are students likely to watch IC videos?
All students preferred shorter videos, - under 30 minutes for those with multiple points and around five minutes for those explaining one concept. Students in on campus courses were less likely to watch longer videos (of all types) than online students. All students were not favourable towards IC videos that had long introductions or too many points mixed together; students were more likely to watch videos that went straight to the essence of the lesson and presented an average of three ideas per video.

Content and purpose of the recording

Students in on campus courses were very unlikely to re-watch videos that were recordings of the lecture they have already attended. Further, students in on campus courses who missed a lecture or if the lecture was cancelled and replaced by recording of a lecture were not likely to watch them even if it meant they would miss out on an explanation of the material for that week. Instead, students would choose to ask their peers for a summary or attend face-to-face office hours of the instructor to get caught up on what they missed than to watch the available IC video.

Students in on campus courses were significantly less likely than students in online courses to watch video-messages recorded by the instructor to provide personalized feedback. On campus students were much less likely to fully watch these messages; they would choose to speak to the instructor in person before or after class before they would choose to take the time to understand the feedback about their assignment relayed to them in a video message. On campus students were significantly less likely than students in online courses to watch a “check-in” message recorded by instructors half way through semester. While on campus students appeared puzzled as to why their instructor would not just check in with them during class time, online students were extremely supportive of this option as they appreciated any chance they could get to see their instructor and get real-time updates on the progress of the course. Students in online courses also extremely appreciated an opportunity to hear and see their instructor giving feedback on their assignments as they often felt uncomfortable receiving such feedback in written form. This is one of the key themes from the interview findings and will be discussed in more detail in the engagement section below.

On campus students were just as supportive as online students towards “ice-breaker” videos to introduce the course and the instructor at the beginning of the semester. All students felt that at the beginning of the course they have not yet developed trust and rapport with their instructor and did not know whether the course will be interesting. Seeing an introduction video would give them a good overview of what is to come. All students noted that they were more likely to watch this video to the end and be engaged with it (see discussion on students’ understanding of engagement below) particularly if the “ice-breaker” video was funny. Students’ clarification on what made the videos funny was not exhaustive and may require further research. Students noted they liked seeing

“I find it really frustrating when a professor cancels a class and tells you to learn the material on your own. We are paying for their instruction so I expect some form of actual teaching, and if it has to be through a video on occasion, then that is an appropriate substitute for an in-person lecture. If a video was not intended as a lecture substitute and was longer than 7 minutes, I lost interest.”
characters that seemed out of place in a teaching environment (puppets, Lego characters etc.) giving
the lecture as opposed to seeing their instructor reading out the slides. Comic relief was noted as
valuable tool able to pique students’ interest to remain motivated in both online and on campus
courses.

All students were more likely to watch IC videos that showed them examples of how classroom
material may be relevant to life outside of the educational establishment. When faced with a problem
of an exit-poll firm trying to perform statistical analysis to determine the likelihood of a particular
group voting in a certain way by using formula X, all students were more likely to watch an IC video
to learn about it than simply learn a formula without placing it in a real life context.

**Downloading versus streaming**

All students were much more likely to watch and re-watch IC videos that were given to them in a
downloadable format as opposed to those that required streaming. Because students were more
likely to watch IC videos on their smartphones or tablets than on their computers, many were
concerned with encountering extra costs to their mobile plans should videos use up all of their
available data. While students admitted to continuously using their data plans for other activities
such as Facebook, they were opposed to spending a portion of their plan on school-related activities as
they felt like education-related fees were high enough as it is.

**Mandatory versus optional videos**

All of the students in all groups were more likely to watch videos that were given to them as
mandatory videos instead of suggested ones. Students said they felt like they may have been in
classes where more videos than what they remember where available to them, but they are fairly
certain that they did not watch these videos because they were often optional. Students felt like they
were more likely to watch the video that the instructor called as “mandatory” even if, in essence, the
video may not have been entirely essential for succeeding in the course. Alternatively, all students
agreed that they were significantly less likely to play a video grouped under the “optional” category
even if, in reality, it did contain key pieces of information needed for the assignment (which students
subsequently would have missed by choosing not to watch this video). Those students, who did at
least sometimes watch optional IC videos, were more likely to do so more regularly at the beginning
of the semester abandoning this practice more and more as the semester progressed.

To explain this behaviour students pointed out that SPA programs are professional, and that students
are often studying while working full-time, such is the case with many online students or with on
campus students on their co-op terms. As a time management technique, students were inclined to
triage the amount of work and teaching aids that were available to them by reviewing assignments
and analyzing what needed to be done to complete the units and satisfy the requirements of the
course. Videos that appeared to be required, as opposed to optional (even if in reality they were not),
were more likely to be watched.

The effect of naming the videos as mandatory warrants a discussion regarding the makeup of Group
#2, which consisted of students who reported no experience with IC videos. Initially, all of the
students were selected for participation in this group based on their self-reporting of not having taken
any classes that offered IC videos as teaching aids. However, when probed further during the
interviews, a majority of the students explained that they regarded the researcher’s participation criteria as more like not being in a class where they used IC videos. This meant that students were unsure of whether or not such videos were offered to them, perhaps as optional videos that they chose to disregard, but what they did know is that they never once used them to facilitate their engagement with course material. While the researcher used the answers from this group to feed in discussion on students’ expectations of IC videos and whether it changes based on the extent of students’ experience with such tools, the finding of not being able to remember whether IC videos were offered in their courses is very significant for the purpose of the current discussion. Recalling that students that made up Group #2 were largely enrolled in on campus programs, their lack of attention paid to whether or not IC videos were present in their course once again corroborates that fact that in an on campus environment IC videos are awarded significantly less attention than in online environments. How students triage videos they have access to is illustrated in Figure 3 below and referred to in the Discussion chapter.

5.2.2 Conclusion to findings
All interviewed students showed greater preference towards IC videos that used examples relevant to students’ life, were humorous, featured skits or cartoon characters to describe the concepts, or were created as a remake to a popular song speaking about course content in the lyrics. All of these features reportedly have an impact on students’ decision whether or not to watch IC videos available to them. All students were much more supportive of videos that had more components than just the instructor taping him/herself, or narrating text-based slides. All students were supportive of various creative ideas being exploited: students offered examples of talking puppets or movie characters explaining

![Figure 3: How students interact with available IC videos](image-url)
concepts. All students were, however, appreciative of the fact that these types of videos were much harder to create for SPA instructors who are likely to have limited training and resources at their disposal.\(^{13}\)

While students across the entire cohort were stimulated to watch or not watch videos by relatively similar characteristics, students’ perception regarding what exactly constitutes engagement and how IC videos can have an effect on it differs greatly depending on the delivery mode of the course the student is enrolled in. An analysis of interview transcripts of students with experience in IC videos in online and on campus courses, as well as a small discussion regarding the makeup of the group that perceived themselves as having no experience with IC videos, resulted in several findings outlined below.

### 5.3 Students, Engagement and IC videos

Students were asked to discuss conditions that they perceived as positively contributing to their engagement with course material.\(^{14}\) Afterwards, students were asked to comment on their perception of the link between increased engagement and learning.\(^{15}\) These findings were then analyzed against the pedagogic capabilities of IC videos as perceived by the SPA students to determine whether they are able to assist in fostering the types of conditions that students listed as beneficial to their engagement.

While students were very vocal about factors and conditions of their learning environment that positively or negatively affect their level of engagement, they were unable to draw clear parallels between increased engagement and learning. Mostly this was due to the fact that students were unclear regarding the differences between learning and engagement (despite being provided with definitions). Many students, reportedly, have never taken the time to analyze why in some circumstances they learn better than in others. Therefore, interview findings regarding students’ perception of the relationship between engagement and learning are inconclusive.

The following section of the report synthesizes students’ feelings towards factors and conditions that have a positive or a negative effect on the level of their engagement. The findings are presented based on key themes that emerged from the interviews. The feelings of students in online courses are compared and contrasted against those in on campus courses.

#### 5.3.1 Instructor engagement: social presence and individual approach

Overall, all students indicated brainstorming, dialogue with their peers and the instructor, and the ability to participate in a conversation and have their ideas challenged as key factors that can increase their motivation to further delve into and progress in their course (on campus or online). Students in on campus courses appeared to prefer clarifying their questions with their instructor during face to face meetings instead of choosing to consult a visual aid available to them. These students appeared to expect more real time consultation with their instructor than students in online courses, who were much more likely to review a teaching aid before reaching out for real time help. Students in on campus courses reported feeling like they have made sacrifices to their time and potential full time employment in order to attend on campus courses just because the instructor’s presence was very important to them. As a result, they reported expecting off-line and face-to-face clarification from the instructor before choosing to turn to any other kind of a teaching aid that was made available to them.

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\(^{13}\) The limitations of resources and training of SPA instructors were not explored for the purpose of this project. Students’ thoughts on the matter are based on their personal opinions and observations.

\(^{14}\) For the sake of this discussion, students were given “behavioral intensity and emotional quality of a person’s active involvement during a task” (Reeve et al., 2004) as a definition of engagement.

\(^{15}\) For the sake of interviews, “learning” was defined as “ability to retain and transfer knowledge to be able to solve new problems” (Mayer, 2009, p.32).
Online students have also indicated “student to instructor” and “student to student” discussions as being the key facilitators of engagement. Having someone play the role of “devil’s advocate” to critique and push their ideas further was reported as beneficial to engagement by both online and on campus students. Unlike on campus students, however, online students had significantly less opportunity to have an off-line conversation with their instructor or fellow students in the course. Most of the communication occurred through written text (emails or forum posts) as well as most of the material was conveyed in the written form through lecture notes and book chapters. While students in online courses have the option of setting up a Skype or a phone call with their instructor, many reported feeling uncomfortable doing so and almost never choose to exercise this option. This was reported to be the case because they did not feel like they have built enough rapport with their instructor to be confident that they would be able to have a fruitful real time conversation. Therefore, due to lack of trust and comfort with their instructor many online students reported feeling “stuck” and “limited” in their understanding of the material because they were rarely able to clarify whether the way they understood the information is in fact correct.

Students’ ability to critically assess the information was also reported to have been limited because they had a harder time (than on campus students) reaching their classmates and engaging in meaningful discussions with them. This was said to be the case because online discussions require individuals to write a post and students often felt that the quality of what they put in writing has to be much higher than the quality of verbal communication. Overall, communication online was perceived as taking much more effort, therefore students were much less likely to engage in a lot of it. As a result, online students, when compared to on campus students, were much more often left with just their own understanding of the material which negatively impacted their engagement with the rest of the units in the course.

5.3.1.1 Online classes make it harder to stay on track with presented material
Similarly, because the material for the online courses was often pre-determined, uploaded at the beginning of the semester and seem to be rarely adjusted in accordance with students’ understanding (or lack of thereof) of the material, students in online classes often felt like if they fell behind, it was easier to go on maintaining the gap in their knowledge of a particular chapter, than try to reach out for clarification. Students in on campus classes reported being able to voice their concerns to the instructor and have the instructor go as slow or as fast as was necessary for them be on-board. On campus students reported feeling comfortable continuously asking questions during class time before moving ahead even if there were only few people who needed clarification and the majority of students wanted to move on.

To explain this feeling, on campus students reported a significantly larger sense of collegiality than online students. Therefore, on campus students felt like they had a much closer relationship among their peers and a much more trusting relationship with their instructor, which meant they felt like they had more influence to convince the instructor to better tailor the course delivery to suit their needs. Online students, alternatively, reported simply going along with the pre-scheduled outline because they rarely got a chance to compare (or even be aware of) their level of achievement to that of other students in the online class. Sense of collegiality among classmates and a close relationship with their professor was reported to be significantly lower than what these same students experienced while taking an on campus course. Online students often did not know what their instructor looked like, had no personal connection or direct communication with their instructor. They did not feel comfortable approaching their instructor with comments or questions to change, better explain, speed up or slow down the course even if this meant that the student’s understanding of the material or the level of interest in the course suffered as a result.
Furthermore, both online and on campus students reported their dislike towards receiving written feedback on assignments. On campus students were more comfortable with receiving written feedback than students in online courses because they were able to clarify it during face to face meetings before or after class or during office hours. Students in online courses, while in agreement that feedback is useful and essential to their development, reported feeling stressed out by it because they had limited opportunities to clarify it with their instructor in a face to face conversation. In the majority of cases, especially in situations where a lot of suggestions for improvement had to be presented, students reported experiencing a lot of difficulty trying to decipher the tone of voice that the feedback was written in. In a majority of cases students felt like written feedback would come off as “dismissive”, “too strong” or “belittling” even if it was not at all meant to sound that way by the instructor who wrote it. All students reported it significantly reduced level of interest in the said course resulting from the receipt of written feedback that upset them. Students noted that often it was not the content of the feedback that made them feel bad, but rather the way it was written: with multiple questions marks, ellipses, words like “awkward” and so on. While all students still wanted the feedback on their assignments in order to learn and improve, students in on campus courses were far more comfortable with written feedback than students in online courses because they were able to clarify it in a face to face conversation as soon as they receive it. Students in online courses did not have this opportunity and, therefore, they were very supportive of the idea of video feedback as opposed to written feedback. In the video feedback they could see the instructor and hear his/her comments as if in a face to face conversation without risking becoming offended by an interpretation of what was written.

The options for seeking further clarification for the online students that were concerned with the perceived tone of voice of the commentary they received were often limited to more written discussions which were again open for misinterpretation in regards to instructor’s feelings towards the student. As a result, online students reported, more often than not, choosing not to seek clarification even when it was needed, in order to avoid potentially exposing themselves to more written commentary that could have further contributed to them feeling bad about themselves or their work. As a result, after receiving such written feedback, the level of students’ interest and comfort with the online course they were taking was likely to decrease dramatically. Even if the student was optimistic and interested in taking the course at the outset of the semester, having what many perceived as dismissiveness on the part of the instructor due to the tone of written comments, contributed to students struggling to force themselves to not only look for additional information on the subject, but even to just do the bare minimum to complete the course.

Interestingly, students who have felt this way about a particular instructor during their online course have reported completely changing their mind about him/her if they have subsequently taken an on campus course with this instructor or if they were able to see the instructor during their face-to-face office hours. This last finding is extremely significant because it highlights the niche where IC videos are expected to be very successful to increasing students’ engagement. Interview findings seem to point out that the medium of delivering written commentary (email or comments on the paper) is often responsible for distorting the tone of the message and negatively impacting students’ engagement with the course material. Taking this notion into consideration and keeping in mind students’ desire to see and hear their instructor, IC video messages tailored to each student are likely to provide a benefit to students in online courses like no other teaching aid would be able to do.

Overall, it appears that in IC videos, students in online courses were looking for an increased sense of intimacy and immediacy. This would explain why students in online classes were much more supportive of any type of video if they featured the instructor or at least gave students an opportunity to hear the instructor’s voice narrating the power point as opposed to reading large amount of text-based material on their own. Hearing or seeing the instructor made online students feel like they were
able to build rapport with their instructor and could turn to him/her for clarification. Similarly, the majority of the students felt like they were receiving more of what they paid for: instructor’s expertise as opposed to reading a textbook which they could have done without being enrolled in a degree. While many students admitted that this feeling is not entirely founded on truth because instructor’s expertise was present in the text-based material which he/she often selected or even wrote, students perceived as if they were getting more value out of the instructor’s selection of the material if it was delivered to them through a format where they could see the instructor. This particular finding points to a psychological or an emotional impact that instructor-created videos can have on students. This, is an example where the benefits received by the student are likely to fully justify the costs of creating IC videos as this will be one of the only few types of video that cannot be supplemented by an already pre-made one readily available on YouTube as it does not feature the instructor.

5.3.2 Videos as one-stop-shop summary of content and direction for more information
All students felt that at times, all they had to rely on when reviewing concepts before the final test or in preparation for embarking on a large-scale research project was either a textbook, which was too long and too dense for a quick review, or their notes, which were also problematic for those students who did not like to take notes. It was a common sentiment among students to feel like they don’t trust their notes out of fear that they may have missed important concepts. This was particularly common for students in online classes, as students were significantly less likely to take notes to go along with the written material provided to them in an online forum.

As a solution, all students felt that if they had IC videos that encompassed all of the points to remember for a test or an assignment, they could use it as a check-list to guide their search for further material. Having this type of video would significantly reduce the amount of time students perceived as currently being needed to create an outline of what it is that they need to study. Students felt like they could have significantly benefitted from having a short (under ten minutes), concise video that would have accounted for all the necessary concepts, thereby directing students’ attention to what material they need to engage with.

5.3.3 Videos create association triggers to be used in the future
All students, particularly those in on campus courses, saw IC videos as benefitting their engagement by providing little pieces of information, visuals, or sounds that they could use to associate with the larger, more complicated concepts they are learning. For example, students who have taken Dr. Tedds’ on campus Economics course remembered the discussion on libertarianism and regulation largely because of the funny, colourful video that was shown during the lecture. The video provided a humorous explanation of what life is like without government regulation by offering viewers to take a vacation in Somalia, a country that has not had a stable government for many years (Cobb, 2009). Students that mentioned this example have completed this course almost two years ago and were largely unable to remember any of the formulas or terms that were taught in the course, but they did think of the “funny Somalia video” that taught them about the need for government regulation. This is an example of how students retain IC videos and use them to trigger their memory about concepts that they would otherwise have problems learning.

The Statistical analysis course was singled out as the one where students could have significantly benefitted from having quick, bright and memorable videos to serve as association triggers to remember formulas and better associate them to real life events where the learned formulas would have been relevant. Statistical analysis was reported to have been taught in a fairly monotone style with a chalkboard and an excel spreadsheet as teaching aids. Students who took the course felt like if lectures had used funny, memorable videos with catchy music or visuals that those students could use to associate with fairly dry and repetitive formulas and terms, they would have been more engaged
and more interested by the material and would have been willing to spend more time learning statistics.

Because the course did not use IC videos as teaching aids that could have helped them to really comprehend the concepts, students resorted to simply memorizing the formulas that had little meaning to them in order to pass the exam. At the time of the interviews only a few months had passed since a majority of the students had completed the course. Nevertheless, most of them said that they could no longer apply or even remember any of the formulas they learned, despite having spent a large amount of time trying to memorize them. Students felt that introducing IC videos would have made the subject more interesting and relevant, therefore increasing students’ motivation which was perceived as likely to have a positive relationship with learning.

5.3.4 False sense of learned material

While the majority of the interview findings seemed to point to the ability of IC videos to have a positive effect on students’ engagement, a key theme of creating a false perception of learning emerged to suggest that IC videos may have a negative effect as well. The ability to be easily distracted when playing IC videos is reported as giving students a false sense of confidence in their learning. This phenomenon is almost entirely prevalent among the students taking on campus courses that featured videos longer than 10 minutes; only a small fraction of students in online courses could relate to this behaviour. On campus students reported starting to watch these video and initially dedicating their undivided attention to them, but roughly after 5 minutes into the video they would almost always begin checking Facebook or cooking, cleaning or doing other activities while playing the video in the background. While this finding applies to all types of videos in on campus classes, short memory trigger videos were significantly less affected by students’ lack of attention.

The students commented that their behaviour was not necessarily caused by the quality of the video, the complexity of the course or their level of their interest in the topic of study. Rather, students in on campus classes felt that during an in-class lecture they were obligated to pay undivided attention to their instructor as their mark was often based on the level of participation in the course. Watching IC videos at home, regardless of the importance of the material presented, allowed students to concentrate less on the recording, as no one was there to really measure their engagement and participation. In other words, this is an example of where it is not so much the IC videos itself, but rather the environment in which a student was likely to interact with such a video had a negative impact on students’ engagement.

On campus students reported that after they concluded watching IC videos while doing other things, they felt like they were more or less aware of the information presented in the video. Over time, however, students realized that while the video did play and they did listen to it, giving their attention to other things was very distracting and they did not receive as much benefit or information from the video as they could have. As a result, on campus students felt that receiving longer IC videos for viewing outside of the formal lesson had a negative effect on their learning because the environment in which they were likely to view such videos was not conducive to increased engagement, which directly affected the level of comprehension of the reviewed material.

Online students, however, rarely experienced the environment in which they would watch IC videos as having a negative effect on their learning. Unlike the on campus students who reiterated viewing their lectures as the main source of information and often choosing to pay attention largely for the sake of receiving a higher participation grade, online students often looked to longer IC videos as an upgrade from large amounts of text-based material they had as the main conduit of in-class information. Therefore, online students were significantly more likely to watch IC videos with undivided attention and not be distracted by other tasks.
On a similar note, many on campus students mentioned using links to videos given to them through a Moodle portion of their on campus courses to circumvent homework completion monitoring if it was implemented by the instructor. Many students reported logging into Moodle and simply clicking on the video offered to them as a homework tool to make it appear as if they have completing all of the unit’s requirements. Once again, students explained their behaviour by suggesting that they very strongly expected face-to-face lectures to be main source of key information needed to pass the course. Students almost seemed to suggest that it their expectation that they were not required to engage with any more material above and beyond what is presented in class. Instead, students felt like their mainchannel of learning had to occur from face-to-face lectures as this is what they have paid for.

This type of behaviour was entirely absent among the interviewed students who had experience with IC videos in online classes. These students suggested that often IC videos would be the teaching aid that they would expect to learn the most from. Instead, online students admitted that they were more likely to not complete the assigned readings than to not watch available IC videos regardless of whether their participation and rate of homework completion factored into their final grade.

Lastly, it was found that the rate of uptake and perceived positive relationship between IC videos and students’ engagement also varied among the same group of people depending on whether the video was mandatory or suggested, whether the information contained within the IC videos could be found elsewhere, or whether it was essential for completing a particular assignment. Age, gender, number of courses taken at the time of the interview, or type of graduate program did not seem to have influenced the findings, although due to a small pool of interviewed students, any kind of relationship between these variables cannot be ruled out in subsequent research on the topic.

5.4 Engagement and Learning

The majority of the interviewed students struggled with the request to comment on their perception of the relationship between increased or decreased engagement and the extent of their learning of the course material. As mentioned at the outset of the chapter, a majority of the interviewed students (online, on campus, as well as those who have not used IC videos) struggled to differentiate between engagement and learning despite being given the definitions used for the purpose of this report.

Students were able to name a very limited amount of conditions that they perceived as being required for them to be able to remember, recall, and apply knowledge or a skill to a new problem (definition of learning for the purpose of this report). The most notable one was a requirement to really understand the concept and its relevance and application in real life as opposed to simply memorizing the terminology or the formula. All students felt like as time passes after they complete a course, the only information they are able to remember and apply is the kind that they really understood and
could teach to someone else. All the information that was simply memorized for the purpose of a written exam was quickly forgotten. Students mentioned that on a number of occasions, months after they have completed a certain course, they had a work assignment where they had to use a piece of information they knew they should have learned in that course. However, because they memorized rather than understood the material, they had a much harder time using it to solve a problem.

Students indicated that an IC video used as a teaching aid to increase their interest in the subject may propel them to do more research on the topic, hence better understand the issue as opposed to memorize it. Short memory trigger videos may help students recall key pieces of information when they go to apply them to new problems at a later date. The link that connects two variables was envisaged by students who were able to comment on the question regarding the relationship between engagement and learning and how IC videos may influence them both.

The relationship between the key research variables, as determined by the interview findings, is summarized below in Figure 4.
5.5 Conclusion to findings

Interviews showed that students taking an online course would see their engagement differently than when taking an on campus course. This difference in student engagement refers to how students participate in their course and the way in which they interact with each other, the course material, and with the instructor. Differences in engagement are largely caused by the specificity of the online communication, rather than any students’ preferences or demographic information. Personal contact is extremely limited and is largely reduced to written messages where intimacy and immediacy is lacking; tone of voice is hard to gauge and students’ ability to assess personal relationships with the instructor or with peers is significantly limited.

A cursory analysis of the relationship between the demographics of the interviewed population showed that the answers varied between students who had experience with IC videos in an on campus class versus those who used these teaching aids in an online course. The latter was found to have a greater uptake of available IC videos, more tolerance for longer, more detailed videos and a much stronger link between instructional capabilities of IC videos and perceived increased engagement with course material.

Interview findings were able to fill the literature review gap by providing analysis on students’ expectations of IC videos and how their perception of pedagogical abilities of IC videos relates to what students feel constitutes increased or decreased engagement and possibly learning. Therefore, while interview findings confirm a link between pedagogical abilities of IC videos and students’ perception of engagement, and potentially even learning, in reality the connection is more intricate than was suggested by the literature review. The following chapter will discuss how two sets of findings compliment or oppose each other in order to link all of the key pieces of information to paint a large picture of the relationship between the potential of IC videos as teaching aids, the ways in which they may have an impact on engagement, and how it may all translate into changes to the extent of students’ learning.
Chapter 6: Discussion

The discussion in this section of the report considers the themes and patterns of the interview findings in light of the findings that emerged during the literature review. As discussed at the outset of the project, the available literature focused more on the pedagogical abilities of videos (often not instructor-created videos specifically) and how videos can have an effect on engagement and a potential effect on learning. Interview findings, however, provided more of a context in regards to students’ expectations of videos (particularly IC videos) and analysed students’ reasoning as to why they would or would not choose to watch IC videos in the first place. Interview findings highlighted the nuanced nature of the relationship between the modes of course delivery and students’ views on what constitutes engagement, and how IC videos can contribute to it. Analysis of the types of students that choose to enroll in specific programs, as well as expectations that come with such choices was largely absent in literature and therefore can now be informed by the results of the interview findings. This chapter offers a discussion on the nuanced nature of assessments from both types of research that have an impact on the objective of the report which was to address the following questions:

Are instructor-created videos able to impact students’ engagement and learning?
If yes:
- Under which conditions?
- What are the characteristics and purposes of IC videos that positively affect students’ engagement?
- In what kinds of learning environments are IC videos likely to positively affect students’ engagement?

Given that the interview findings largely guide the discussion in absence of a significant amount of literature on the topic of IC videos, and remembering the limitations of the sample selection process, it may mean that the findings of this report are only pertinent to the group of Master’s students at SPA that were interviewed. These findings may not necessarily be generalizable to the broader University of Victoria context or to graduate students in other universities across Canada.

6.1 Uniqueness of SPA students

The first large theme that has an important impact on SPA instructors choosing to create IC videos has to do with realizing that the type of students they are working with may differ greatly from the students that the literature has based its research on. The report says that it “may” differ because nowhere in the reviewed literature was there discussion regarding the students’ expectations for their degree and the courses they were taking. While there certainly is literature that speaks about the fact that more and more students are pursuing their studies while remaining employed (Chen, Gonyea & Kuh, 2008; (Blair & Hoy, 2006; Chen et al., 2008) and that demographic changes are taking place and resulting in rising education costs and increasing demands for students to compete for resources, which may lead to larger reliance on technology (Frey, Faul & Yankelov, 2003), this literature was by far not the same one that spoke about pedagogic benefits of IC videos to students’ engagement.

In the interview findings, however, it became apparent that SPA students were much more driven by the professional benefits their programs can offer16, whereas in other programs students may be significantly more motivated by prospects of in-depth research or an opportunity to dedicate an extended period of time to study a certain subject. Interviewed SPA students who already had another graduate degree before they joined SPA pointed out that they specifically selected this Master’s

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16 Such as the co-op option, brief overview of multitude of disciplines such as finance, statistics and policy or exposure to instructors who were also practitioners as well as than academics, etc.
program because they wanted a very quick overview of the basic educational requirements to pursue a career, be it in government or with NGOs in community development. They highlighted the fact that in SPA their expectations differed significantly from those they had when enrolling in their first graduate degrees that were of a more academic nature. A large majority noted that their end goal of their program is to graduate as soon as possible and be employed or, as in the case of online students, to be eligible for applying for positions of a higher level that required graduate education. The majority of students interviewed treated their graduate studies at SPA as a stepping stone to a career outside the academia, not as an opportunity to specialize in a particular subject.

Consequentially, students’ expectations for their degree overall translated into similar expectations for IC videos as their teaching aids. The common theme among interviewed students that was absolutely absent in the literature review was the desire for precision, clarity and any other characteristic akin to saving students time and pointing them to exactly what they needed to know to fulfil the requirements of the course and graduate. Many students, especially those working while completing their degree, reported employing a tactic of working with the material that was absolutely essential to fulfilling requirements to complete the course. If on campus students could obtain this information during the lecture, they were extremely unlikely to look deeper into the material to see if their knowledge could be improved. While many students realized that using available teaching aids or finishing all of the assigned readings would have been to their benefit, choosing to saveee time was a trade-off that they consciously made. As long as the material they had was enough to give them a cursory understanding to pass the course, the majority of students stopped there. This understanding has then largely contributed to one of the key findings of this report: some SPA students will not watch IC videos at all, regardless of their characteristics or the way they are presented. The only tactic that may be effective in stimulating students to watch more of the available IC videos had to do with labeling the recordings as mandatory instead of optional. All SPA students were more likely to disregard any videos (without even determining what they have to offer) if those videos were presented to them under the “recommended” homework section versus the required one.

When the reviewed literature presented findings on pedagogical abilities of IC videos and how they can increase students’ engagement, it seemed the authors operated under the assumption that students were watching these videos. In the context of SPA, however, discussion of the ability of IC video to influence engagement seemed to be Step 2 in the line of issues instructors looking to create such videos needed to be concerned with. Step 1 was realizing that that not all students would watch videos at all and out of those students who would watch videos, some were more likely to watch one type of video over another. The divide between students’ preferences in watching videos and the types of videos they would prefer to watch was particularly apparent among those students who were given a video while taking an on-line class versus those enrolled in an on campus course.

6.1.1 IC videos more beneficial for online than on campus students

Interviews with 19 students from the School of Public Administration at the University of Victoria resulted in a general understanding of students choices of whether or not to watch IC videos and if so, what kind and how much attention to dedicate to each video. It also provided an overview of how IC videos (watched to different extents) may affect how motivated students are to work through the assigned material in their courses.

Interview findings suggested that students in online courses were significantly more receptive to IC videos, as the pedagogical benefits that IC videos were able to bring, as discussed in the literature, were not available to them through any other means that were available to on campus students. Th literature discussed “intimacy” and “immediacy” in the student-instructor relationship as being valuable drivers of increased engagement (Conaway et al., 2005; Tu, 2002b). In the interview findings, students described IC videos as being able to provide “immediacy” in those videos where
the instructor was visible and where recorded messages were personalized. Students in online course were reportedly nervous about not seeing the instructor and not being able to build rapport with the instructor as a result. This is something that can be mitigated by creating IC videos where the instructor is visible and students can gauge their relationship by the presence or absence of non-verbal cues such as smiles. Literature has referred to this practice as creating a “safe psychological environment” for online students (Richardson & Swan, 2003).

Given that real-life “intimacy” and “immediacy” were much harder to come by for the students in online courses, it is understandable why on campus students reported treating IC videos as the last resort for information, while online students often looked to IC videos as the main source for the content they needed to know to pass the course. This is likely the case because online students seldom had an opportunity to discuss what they had learned with their instructor in a non-written form of communication. The greater theme of this section of the report is the fact that not all students will watch IC videos for a variety of reasons. However, the online students are assessed as more likely to consult and benefit from IC videos then on campus students, therefore the cost of creating IC videos to be used in online courses is likely to be justified greater than creating IC videos for on campus courses. While this report was able to determine that IC videos seem to be more beneficial for students in online courses than for students in on campus courses, one issue seems to be outstanding: some students, regardless of the mode of course deliver, choose not to watch IC videos at all.

6.1.2 Some online and on campus students will not watch IC videos at all

The synthesis of interview findings appears to suggest that some students, both in online and on campus courses, will not watch IC videos regardless of quality or characteristics of such videos. Figure 3 featured in the Interview Findings section shows that the first step that both online and on campus students take when they are presented with an IC video is to decide whether or not they want to watch the video. If they decided that they will, then they review each video to decide whether it matches their expectations for this particular tool. The closer the video matches their expectation (length, amount of ideas, etc.), the more likely students are to watch the video to the end with undivided attention.

However, analysis of the behavioural patterns of interviewed students’ shows that while in theory many students say they think IC videos are beneficial, a small portion of interviewed students never choose to watch them. Exactly why this is the case was unclear to the researcher. Given that detailed inquiry into this phenomenon would have been outside the scope of this report, the upcoming sections of this chapter focus more on providing an assessment of learning environments in which students (online and on campus) are more likely to watch IC videos. This report provides instructors with suggestions as to what they can do to increase the likelihood of students watching available IC videos. This report is not, however, able to answer whether it is possible to ensure that all students watch IC videos. The report is also unable to determine exactly why certain students do not give IC videos a chance and refuse to even attempt to watch them when these videos are available. Further research is recommended to address this question.

6.2 Pedagogic Capabilities of IC Videos and ability to impact engagement

When it comes to the comparison between what the literature suggested regarding the ability of videos to increase students’ engagement with the material which in turn can foster learning, and what the students have said in response to the relevant questions, the majority of the findings are in accord with one another. Students in online courses have placed significantly more emphasis on using IC videos to build rapport and achieve a sense of closeness with their instructor, where on campus students were much more supportive of gaining access to IC videos that would serve as memory triggers. While the literature did discuss specific expectations of students in online courses for their teaching aids, it did not compare or contrast this against the expectations of on campus students.
Largely, students’ perception of what IC videos can do for them to foster engagement was in line with the framework offered by Schwartz & Hartman (2007). All students felt like IC videos shown at the beginning of the course were able to pique their curiosity for the content to come in the future. Students also were in favour of having IC videos at the end of each unit or as a summary of items they needed to study for a particular assignment or a test. Students also found it very beneficial to be able to see something they couldn’t otherwise visualize, or had a hard time understanding from a written description.

All of the interviewed students mentioned utilizing mobile learning as part of their routine engagement with course material. While a detailed discussion on mobile learning was largely outside the scope of this report, many students noted that it does factor into their decision whether to watch IC videos or not. Many students replied that they were far more likely to watch IC videos on their smartphones then on their computers, so if the video were not optimised for a small screen or if they were not downloadable and cost them additional money, they were less likely to watch them at all. Therefore, this interview finding largely corroborates the importance of what seemed to be one of the most prevalent topics in the education literature: the benefit of facilitating mobile learning as it allows students to exploit a small amount of time and space to engage with their course material (Prensky, 2001, p.1; Boulos, 2006; Taxler, 2007; Kukulska-Hulme et al., 2005). To be better positioned to fully understand the perception between mobile learning, student engagement and teaching aids within the SPA, further research on the topic may be needed.

Lastly, not all of the findings revolved around positive impacts of IC videos on students’ engagement. The literature spoke fairly extensively about the negative impact that videos can have on students’ engagement because they are likely to lead to decreased attendance in on campus classes or decreased consultation of other material (Traphagan et al., 2010). Within the context of SPA, however, this cause and effect relationship did not seem to be present. Students in on campus classes, quite oppositely, were almost 100% unlikely to watch the video if the same concept was explained during a face-to-face lecture. Students were more likely to skip the video, than to skip attending the lecture. Interviewed students in on campus courses had a very strong sense of entitlement to face-to-face presence of the instructor as they felt like this is what they were paying for. On the similar note, students in on campus courses reported often being side-tracked when watching IC videos. This was heard significantly less frequently from those studying online. Given the discussion about the value that online students place on IC videos versus significantly smaller appreciation for IC videos exhibited by on campus students, it can be suggested that in the context of SPA students, the literature makes a leap in logic linking IC videos to decreased engagement. The interview findings in this report seem to point out that it is not the IC video per se that causes students to be distracted, but rather it is the mismatch between the type of students / how they perceive engagement and the kinds of IC videos that are given to them in hopes of facilitating their learning. When on campus students who, according to the interview findings, are significantly unlikely to watch videos longer than 10 minutes, are given lecture-replacement recordings of 30 minutes or longer, they reportedly often choose to clean, cook or go on Facebook while playing videos in the background. This report assesses that their behaviour is much more likely a result of what happens when the instructors do not deliver on their expectations, than an example of all IC videos across the board negatively impacting students’ engagement.

A literature review finding that videos propel students to reduce the extent of their consultation with other course material resonated with interviewed students to a certain extent. They did agree that if they could find all of the minimal requirements to complete an assignment in a video they were presented with, they would likely not be consulting any other available material. On the surface this seems to be on par with the literature review findings, but the cause and effect relationship is still questionable. SPA students mentioned that their approach to studying overall is based on ceasing to
search for additional information after the bare minimum to complete the assignment is found. Therefore, it is more accurate to conclude that it is not the IC video that causes students to not engage with other material, but rather this is their studying tactic regardless of the presence of any type of a teaching aid, including an IC video. Moreover, choosing to stop consulting further material after the answer is found may not be anything more than a time management tactic that is absolutely necessary given the requirement to multitask while dealing with shifting priorities that today’s students face.

While all of the pedagogical capabilities of IC videos as perceived by SPA students are in line with what the literature had to offer, all of those findings were only relevant in so far as students choose to watch these videos. This is where the nature of the relationship between IC videos and engagement becomes nuanced: literature assumed that students watch videos if given to them. SPA students, however, offered up a list of criteria that were necessary for them to choose to watch a video. Provided that IC videos are being watched, however, findings in this report seemed to suggest that they do have the capability to increase students’ engagement. In fact, SPA students reported that in instances where they did watch IC videos in both online and on campus courses, the videos increased their interest and motivation to seek further information on the topic, but only in those cases where the videos were watched with undivided attention.

Therefore, to answer the first portion of the research question of whether IC videos have the capability to influence student’s engagement, the answer is positive. IC videos in and of themselves have the characteristics that students and the literature view as capable of having an impact on their engagement. Answering the sub-questions of how to get to the point where IC videos that have those characteristics are actually being used in a way that is most likely to influence, engagement becomes more nuanced. While this report provides an overview of the conditions, expectations and learning environments that are likely to stimulate students to watch IC videos to increase their engagement, the findings struggle to guarantee that every watched IC video would translate into a positive impact on students’ engagement. While it is clear that the link between uptake, capabilities of IC videos, and engagement exists, assessment of the strength of this link is rather limited and may be in need of further research.

6.3 Link between engagement and learning

When it comes to solidifying a relationship between IC video capabilities and engagement, a link, whilst questionable, can be established through the synthesis of literature review and interview findings. However, the relationship between IC video capabilities and learning, is fairly uncertain at this point.

The literature review seems to point to a high level of student engagement and interaction in courses being positively associated with a high level of perceived and actual learning (Arbaugh, 2000; Carini, Kuh & Klein, 2006; Conaway et al., 2005; 27 Graham & Scarborough, 2001). The level of student learning is correlated with a student’s interaction with course material, fellow students, and the instructor (Kuh, 2001a; Yang et al., 2006). Therefore, if increased engagement is positively correlated with increased learning, and pedagogical capabilities of carefully watched IC videos have a positive impact on students’ engagement; it is logical to suggest that carefully watched IC videos are linked to increases in students’ learning (Kuh 2001b; Muilenburg & Berge, 2005).

At this point, there is little information from both types of research that is able to corroborate whether IC videos are in fact linked to learning. Further research with a specific focus on IC videos and learning may be required in order to better understand this relationship, if it is at all present. This report, therefore, should be treated as an examination informing SPA instructors represented by Thea Vakil, of the context in which students choose to turn their attention to IC videos. It provides a
preliminary assessment of how those videos may increase their engagement and possibly, although by far not certainly, may have an effect on their learning.

6.4 Conclusion

As found in the literature review, student engagement in online and on campus classes can benefit from more interactive, more personal, and more intimate videos of no more than 30 minutes used as teaching aids. However, interview findings indicate that concise IC videos offering mandatory content may not be enough to maximize student engagement, as some students may still continue to choose not to watch IC videos. When students do not watch IC videos, they are not exposing themselves to any pedagogical capabilities that IC videos have to offer; therefore whether the instructor has created a video that is beneficial becomes irrelevant. Students’ uptake cannot be totally controlled, yet instructors looking to create IC videos can channel their energy towards a target audience that is more likely to benefit from IC videos should they choose to watch them. Students enrolled in online classes form such a target audience.

For on campus students at SPA, the expectation and a sense of entitlement to receive most of their key information from the instructor is highly unlikely to differ as a result of any changes done to IC videos. Even personalized recordings, while better than nothing, were not received with much pleasure by on campus students, who felt that they made sacrifices in their life in order to learn from off-line, face-to-face lectures. While not opposed to IC videos in theory and recognizing the benefits these videos may bring, the analysis of past behaviour as a predictor of future tendencies of on campus students shows that they are likely to continue treating these videos as a last resort for finding information. It is likely that they would continue to try to exhaust all options of seeing their instructor or consulting their peers in real time before they would choose to turn to an IC video, regardless of its quality. Given this understanding, and taking into consideration the limited amount of resources available to the SPA instructors looking to create IC videos, this report suggests focusing the efforts on creating IC videos to be used in online classes. This and other recommendations are provided in the concluding chapter of this report.
Chapter 7: Recommendations and Conclusion

A primary purpose of this report was to develop recommendations to SPA instructors who are assessing whether to create IC videos and if so, what kind and for whom. As indicated by the findings in the context of SPA, the mode of the course delivery and the learning environment have an effect on whether or not all students choose to watch IC videos available to them, and how much attention they are willing to dedicate to such videos. If students go on to watch these videos and expose themselves to the pedagogical abilities they are able to bring, the characteristics of each individual video become important in ensuring that student engagement is increased. While much more research is needed to achieve precision in an understanding of the relationship between IC videos, engagement and learning, Chapter 7 of this report focuses on providing recommendations that are able to orient an SPA instructor looking to create videos. This chapter explains where the instructor’s efforts are best focused in order to increase the likelihood of creating videos that will be watched for the benefit of increased engagement from the students. The focus is, therefore, not on giving SPA instructors details of how to create videos from a technical perspective, but on sharing relevant information on students’ preferences and expectations of videos that are palatable to them in a particular circumstance.

All of the recommendations must be read with an understanding of the limitations and challenges of the sample selection process for the cohort of interviewed students, as described in the methodology and the interview section of this report. Therefore, it must be noted that the findings and recommendations resulting from this research – the literature review and interviews – are limited to the particular groups of SPA students interviewed. Furthermore, the findings have not been compared against the capabilities of SPA instructors to actually create IC videos; therefore it is unclear to what degree they may be able to effectively implement the upcoming recommendations. These recommendations were written under an assumption that the video making resources within SPA are limited.

7.1 Recommendation 1: Provide conditions to increase video uptake

The research in this report indicated that all students, regardless of the mode of delivery of the course they are enrolled in or the extent of their experience with watching IC videos at SPA, indicated being significantly more likely to watch IC videos if they were presented to them as mandatory, instead of recommended. Therefore, this report concludes that all students are likely to choose to at least begin watching an IC video if they are advised that doing so is necessary for the completion of the unit, or in preparation to a particular assignment.

While labelling the video as mandatory is assessed to be enough to increase the likelihood of students choosing to open IC videos, it may not be enough to keep them watching the video to the end, or to force them to dedicate their undivided attention to watching the video. The research pointed out that students were much more likely to continue watching the opened IC video while paying undivided attention if the IC video was, in fact, the only source of the information it was providing. If the information in the video could be found elsewhere in the course material, especially during the face-to-face lecture in the case of on campus students, the likelihood of carefully watching the video to the end decreased significantly. For example, providing students with feedback on their assignments in a form of a video-message gives students information that cannot found on YouTube, in their homework assignments or during the face-to-face lecture they attended. While this method is still unable to guarantee that every student will watch the feedback video at all or to the full extent, it is
much more likely that a student looking for an explanation about a grade he/she has received would be inclined to watch this type of video as there is no other way to receive instructor’s commentary.

A theme of IC videos negatively impacting students’ engagement with other course material was developed in both the literature review and the interview findings. This report acknowledges such a possibility and suggests countering this by leaving each IC video on a “cliff-hanger” and then directing students to a particular piece of information they have to investigate for themselves, instead of providing them with the full answer to their question. This way, students may treat IC videos as the only source of information that would, in a clear, concise and exhaustive manner, tell them where they can find further information they need to succeed in the course. For example, interviewed students pointed out being in favour of a recording that provided them with a check list of items to study with directions on where they could find the material they had to review. This way students felt like they would not miss anything in preparation for their test or an assignment, yet they also felt like they had to watch this IC video as the only way to find out what exactly is required of them.

The recommended length of the videos differed depending on the purpose of the video. Short memory trigger videos are more likely to be watched if they were around five minutes, and longer lecture-replacement videos are suggested being no longer than 30 minutes. Overall, all videos are recommended to feature funny, creative and bright images or catchy music, as monotone narrated power point slides with text bullet points against a coloured background are significantly less likely to be watched with undivided attention.

The first recommendation provided the SPA instructors with a compilation of tips that the literature and the interview findings seemed to suggest as smart practices to follow to increase the likelihood of videos being watched. However, throughout the research for this report it became apparent that even if all of the suggested characteristics are present in the IC videos, some students will choose not to watch them anyway, and this report is not in the position to advise what can be done to counter this decision. In order to provide advice on the type of audience that is likely to benefit the most from using IC videos as teaching aids, please consult recommendations 2 and 3 below.

7.2 Recommendation 2: Focus on creating IC videos for online courses

This report strongly recommends focusing the instructors’ attention on creating IC videos to be featured in online courses. The research has shown that students in online courses are looking for more ways to be exposed to more immediate and intimate social presence of their instructor. It also has shown that students in online courses would look to IC videos as the first resort of obtaining necessary information, where students in on campus courses would do so only if all other options have been exhausted. Therefore, offering online students videos where the instructor is not only heard, like in the case of narrated power points, but also seen, is assessed to be able to deliver on the expectations of online students to obtain the kind of teaching aids that can “humanize” their online learning experience and achieve a sense of closeness with their instructor while obtaining information that cannot be found anywhere else in the course material.

There are a variety of videos that SPA instructors are able to create for their online students while resting assured that the uptake and, therefore, the benefit is likely to be higher than if the videos were distributed to on campus students. Online students are likely to be receptive of all kinds of IC videos that make the instructor visible to them. These videos can range from those that simply provide a recording of the key points of the lecture and give students a starting point of where to look for further material, to memory trigger short clips, to personalized messages regarding completed assignments. Hearing any of these types of information from the instructor (preferably while seeing the instructor) is assessed to be valued by online students significantly more than reading the same material from a medium that is entirely print-based, such as a textbook.
If the capacity of SPA instructors to record videos is in fact limited, this report recommends focusing the efforts on creating videos with personalized feedback on assignments or general comments about students’ achievements in the course before choosing to create any other type of video. This report recommends disseminating these videos to students in online courses. The research has shown that students in online classes long for a more personalized approach, and a desire to receive more one-on-one attention from their instructor. It has also shown that many online students reported struggling to communicate with their instructor through a written form, as it was often perceived as demeaning. Online students reported looking for greater verbal and visual contact in order to avoid misunderstandings and unnecessary stress that written feedback seemed to cause them.

Instructors can begin addressing these issues by creating personalized video messages that are an average of 5 minutes in length. Each video message would provide an online student with a personally tailored teaching aid that offers a visual sense of closeness and exposes students to non-verbal cues such as a smile. A personalized video message is likely to increase students’ engagement by creating a more comfortable psychological environment conducive to being more motivated to study. It is also likely to facilitate building a rapport between the student and the instructor and avoid misunderstandings regarding the tone of voice that the message may have been conveyed in.

Lastly, SPA instructors who already use IC videos to provide students with longer video lectures that offer multiple ideas per videos and know students like those videos should continue to do so. These instructors can then focus on creating personal feedback messages to supplement, not replace, the teaching aids that they are already using.

7.3 Recommendation 3: Select, do not create videos for on campus courses

While the overarching recommendation in this report is that the SPA instructors focus on creating IC videos for their online courses, on campus courses can nonetheless benefit from the use of videos as teaching aids. However, these videos do not necessarily have to be instructor-created, but rather they should be instructor-selected.

Interviewed on campus students who both did and did not have experience with IC videos seemed to suggest that while they view their instructor and their peers as the primary source of information and would likely turn to available videos only as the last resort, the kinds of videos that they would be most receptive to are videos that provide them with association triggers. On campus students reported using these types of videos to help themselves recall a concept they have learned, while needing to apply it outside of the learning environment. Very few other teaching aids were reported to be as effective as quick, cogent, bright, funny videos that students would recall as a way to trigger their memory to think of the much denser concepts and formulas they have learned.

Given that on campus students had a significantly easier time accessing their instructor for offline, face-to-face conversations, they have placed next to no value in seeing or hearing their instructor in their videos. To fulfill their requirement for a sense of closeness, on campus students were much more likely to visit their instructor in office hours than to watch a video the instructor has recorded. Simply put, on campus students expect bright, memorable videos as teaching aids, but they do not seem to place a large emphasis on who creates these videos as long as they carry these characteristics and help them recall hard concepts. Authorship of the video is assessed to rarely be a factor that would sway the degree to which a video is able to influence students’ rate of engagement with course material in an on campus course.

SPA instructors are encouraged to continue offering videos as teaching aids to their on campus students. However, they are strongly advised to consider browsing through a legion of readily available memory-trigger videos, instead of choosing to create such videos themselves. Videos available on YouTube, among many other platforms, are likely to be of significantly higher
professional quality that can be produced by SPA instructors, who are unlikely to be specialists in the video-editing field. While selecting pre-made videos, SPA instructors can review the amount of “likes” and “recommendations” each video received on YouTube, thereby making an assessment of whether each particular video was appealing to the majority of people who have watched it to date. A video with a higher amount of “likes” can be assessed as well-received by those who watched it already; thus there is a higher chance that on campus students at SPA would also find this video useful and memorable. Selecting such a video instead of making it anew can just as well benefit on campus students by providing them with memory triggers they are looking for.

7.4 Recommendation 4: Conduct further research
A general lack of understanding about the technological capabilities of SPA instructors is the greatest limitation in assessing whether provided recommendations on creating and effectively disseminating videos that can be used as teaching aids in order to increase students’ engagement with course material are feasible and implementable. Without information on technological capabilities at SPA it is challenging to fully assess how much investment (time and money) would be required from each instructor looking to follow the recommendations provided within this report. Currently, it is hard to draw a conclusion regarding whether the students’ benefits from the instructor-created videos will justify the costs to the instructors. Further research on this topic is recommended to better understand the cost-benefit ratio.

Also, the research conducted for the purpose of this report highlighted the need for further examination of a number of factors that affect students’ decision to watch or not to watch videos offered to them as teaching aids. Additional discussion on topics of mobile learning may also be beneficial. Similarly, it became apparent that further research into students’ perception on what exactly constitutes learning and what can contribute to it is necessary. Continued examination can be useful in order to determine what exactly students feel encourages them to learn, whether their perception of increased learning is on par with the factors that actually make them learn and whether IC videos are even the right medium to be selected as a teaching aid to facilitate students’ learning. At this point it is clear that there is a link between using IC videos and increasing students’ engagement, but it is not entirely understood whether this relationship in fact leads to increased learning.

7.5 Recommendation 5: Provide IC video creation training for instructors
If, as suggested in Recommendation 4, further research regarding video-making capabilities of SPA instructors shows that their knowledge of the technological aspects of video-making is rather limited, providing instructors with additional training is recommended. Information in this report has given SPA instructors a starting ground to determine what students in online and on campus courses are looking for in IC videos used as teaching aids. For example, while more instructors are likely to be aware of how to use a computer and record videos where they are visible, fewer instructors may be aware of what kind of software is best to use for feedback video messages. Even fewer instructors are likely to be comfortable with creating quality videos that feature cartoon characters, puppets or add popular music in the background. Instructors are likely to benefit from specialized training that would teach them how to accomplish and deliver what students expect of their videos from a technological point of view.

7.6 Conclusion
This report is a first step in attempting to determine how IC videos used as teaching aids relate to students’ engagement. This report has shown that there does seem to be a relationship between the learning environments in which students operate, the characteristics of videos, the level of students’ engagement, and potentially the degree of learning in their courses. The report pointed out that
ensuring the purpose of the video corresponds to students’ expectations is one of the most important factors in creating videos that are able to increase students’ engagement.

The research conducted for the purpose of this report determined that IC videos are able to facilitate engagement much more successfully when used in online classes as opposed to those delivered on campus. While the use of videos makes content more interesting and motivating regardless of the mode of delivery, the instructor-created videos were found to make a bigger impact in an online environment. The examination of the behaviour of online students pointed out that there is a significant amount of factors, such as feelings of isolation, that tend to negatively affect students’ level of engagement. Offering online students personalized IC videos where the instructor is visible, is assessed to be a way to begin to address these issues.

Reviewed literature largely focused on the pedagogical capabilities of videos, not necessarily instructor-created videos, and a discussion of students’ expectations and learning environments was absent. This was remedied by referring to the key findings of the interview sessions. This report compared literature to interview findings, assessed and analyzed inherent contradictions, and put together a conceptual framework to visualize the assessments. Finally, the report outlined where further research is needed, provided recommendations on how to assess whether creating new videos within SPA is a worthwhile initiative, and listed smart practices of creating videos once the purpose they are intending to serve and the audience they are intending to reach is established.
Reference List


Appendix 1: List of Interview Questions for Ethics Application

Group #1:
- Does your instructor(s) use video/recordings within the online course? Or as a supplement to an on campus course?
- Does this include videos/recordings of themselves? Did they primarily talk into the camera? Narrate presentation slides? Video themselves?
- How long was the typical video?
- How does the instructor use these videos? To introduce course topics? To provide assignment feedback? To provide assignment instructions? Other ways?
- Do you watch these videos? For what purpose? How did they support your learning goals? How many times would you watch the typical video?
- Do these videos help you understand and engage more deeply with the course material? In what ways? What more could be done to create further engagement with course material and the instructor?
- On what device did you view these videos? Computer/laptop? Smart phone? Tablet? Other?
- Do you have any advice for instructors in the creation and/or use of these videos?
- Do you have any advice for students in ways to best use these videos?

Group #2:
- If your instructors have not used these videos, how do you think that they might be useful in the online course?
- Would you recommend that more instructors use video in this way? For what reasons?
- Do you feel like using instructor-created videos might have caused you to pay more attention to the disseminated material? Would you have been more interested to learn the subject if instructor-created videos were used?
- Do you have any advice/suggestions for instructors to consider if they are thinking about creating videos?
Appendix 2: List of Figures and Tables

**Figure 1**: Linkage between social presence and student engagement

**Figure 5**: Relationship between variables as presented in literature

**Figure 6**: How students interact with available IC videos

**Table 1**: Interviewed students
Appendix 3: Framework of Pedagogical Abilities of IC videos
Appendix 4: Surgery 101 podcasts

Dr. White’s video-study aids for his surgical students (Surgery 101 podcasts) is an illustration of the benefits and the popularity of the online tutorials, which collectively have been downloaded more than 1.2 million times in 175 countries. A world-wide audience has complimented Surgery 101 podcasts on given the viewers a memorable tool that is able to retain their interest in the subject as well as give them an easily-accessed teaching aid that points them to key issues they have to research further. The podcasts are narratives and storytelling. They are informative and immersive. The podcasts stand out because Muppets bring a unique angle that those who watch the podcasts can use to recall the more complex surgical issues. Podcasts constantly give viewers something new and unique to remember: Star Trek, Lego and Zombie, Muppets or a drill sergeant dismissed from a field hospital in Iraq.

Surgery 101 podcasts are available on the website or through Itunes: http://surgery101.libsyn.com/
Appendix 5: Nova Science Instructor-Created TV Show
http://www.pbs.org/wgbh/nova/