Spaces and Pedagogies

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HOW DOES THE OPTION OF VIDEO ASSESSMENT IMPACT ON STUDENT CHOICE AND GRADES?

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ABSTRACT

As digital fluency is becoming an educational priority, contemporary educators are increasingly looking at innovative means of assessment to replace or supplement more traditional approaches such as written essays or tests. Learner-generated, video-based assessment allows students to express themselves in different ways, brings the real world into assessment activities, and provides an opportunity to develop new digital and communication skills.

Since 2014, The Mind Lab by Unitec has provided teachers and educators in New Zealand with a different model of professional development. Teachers and educators are able to study part time and complete a Postgraduate Certificate in Applied Practice – Digital and Collaborative Learning at a range of locations across New Zealand. Candidates can elect to work on assignments independently or collaboratively in small groups. In the first two courses candidates complete four assessments, two for each course. Assessment types for these courses include both video presentations and essays. Following anecdotal feedback from candidates about the two different assessment media, it was decided to examine what impact, if any, the medium used for assessment had on candidates' grades.

Although research indicates that video assessment is beneficial, there is minimal research into the impact of choice of media on students' assessment outcomes. Of the four initial assessments, the first is a video, the second, an essay, and for each of the two subsequent assessments students may choose to submit either a video or an essay. We sought to investigate whether the students' choice of medium impacted on their grades, and whether previous grades influenced the medium that students chose for subsequent assessment.

We collected data from assessments of about 680 students over three consecutive intakes of the programme over a period of twelve months (November 2015 to October 2016). The findings indicate that the students' choice of medium did not impact their grades. The choice of medium for the initial assessments also does not have a significant impact on the outcomes of subsequent assessments. The key finding is that students were not disadvantaged as a result of submitting video assessments. This may assist others in supporting and designing innovative means of assessment suitable for their students.

INTRODUCTION

As digital tools such as video-editing software become more user-friendly and affordable, incorporating digital videos into tertiary education settings, particularly in assessments, has become more common. Learner-generated video assessment offers an alternative to the traditional essay assessment. It offers a range of options such as demonstrating a skill or activity, showing a 'talking head' (a head and shoulders shot of a person talking), containing a screencast or narrated slides, reporting in a journalistic style, or creating stop-motion movies. Specifically it allows students who find writing difficult to express themselves more effectively, brings their future professional practice into assessment activities, and provides an opportunity to develop digital and communication skills such as using video-editing software and writing scripts.

Because we offer the option to submit assignments in essay or video format, we aimed to investigate whether there is any impact on student grades when this option is provided. The value of this research is to ensure that a) students make an informed choice when deciding between video and other assessment formats, and b) there are no negative consequences for students who choose to submit video assignments. As alternative forms of assessment, such as video, become more popular, it will be beneficial to the wider educational community to better understand their impact on student achievement. This study sought to answer the following two research questions: To what extent

does the choice of assessment medium impact on academic grades for students? To what extent do positive or negative grade outcomes impact on students' subsequent choice of medium for assessment?

LITERATURE REVIEW

The majority of literature on the subject focuses on the benefits of learner-generated video assessment in terms of skills gained and engagement with learning. Greene and Crespi (2012) found tertiary students appreciated video assessment and considered it to be relevant and entertaining. Similarly, a qualitative study of sports management students found that they enjoyed video assessment and that it promoted critical thinking and engagement with theory (Walters, Hallas, Phelps, & Ikeda, 2015). In a study of pre-service teachers, Borowczak and Burrows (2016) also found video assessment promoted critical thinking and increased engagement. Similarly, Pereira, Echeazarra, Sanz-Santamaría and Gutiérrez (2014) concluded that videos provided "a better didactic method to develop both cross-curricular competencies (intrapersonal, interpersonal and instrumental) and curricular specific competencies … than traditional methodologies" (p. 580).

According to Ryan (2013), video production provides students with authentic constructivist learning experiences, creating videos to construct their own knowledge. His research into students producing video to teach concepts to their peers found that the students appreciated the alternative method of learning, stating that they learnt more from creating the videos and "spent much more time researching their individual sections of their video than they would have done for an individual essay" (p. 6). Ryan attributed this to the active learning pedagogy that required the students to apply their knowledge, thus leading to a deeper understanding. He concludes that "motivated students will engage in higher order thinking and will autonomously research, synthesise, analyse, create, edit and ultimately 'produce' their own knowledge. … Empowered students are likely to become engaged students" (2013, pp. 10-11).

There is a gap in the literature about video assessments for educational purposes; little research has been conducted that compares assessment outcomes when students have the *option* to choose to use multimedia resources. Furthermore, there are also considerations and challenges associated with video assessment. Greene and Crespi (2012) report negative feedback from students who were not skilled in using video-editing software. Understandably, challenges or frustration with the tools, which reduce focus on the content, are likely to make the experience less enjoyable for students. According to Kearney and Schuck (2006), it is not only technical issues that students find challenging. In some cases, students indicated that they did not like filming or editing, while others indicated that they did not want "to 'act' in the video" (p. 197).

METHODOLOGY

Background to the study

The students who enrolled in the programme (Postgraduate Certificate in Applied Practice – Digital and Collaborative Learning) were working full time as teachers or supporting staff at New Zealand primary and secondary schools, communities of learning, and tertiary institutions. The programme consists of four courses: the first two are delivered in classes; the second two courses, which use a blended learning approach, include online activities such as webinars, online forum, and face-to-face workshops. This paper will focus on the first two courses.

The first two courses, which run in parallel, are Digital and Collaborative Learning in Context (Digital) and Leadership in Digital and Collaborative Learning (Leadership) There are two assessments in each of the courses, which will be referred to in this document as Digital 1, Digital 2, Leadership 1 and Leadership 2.

The students are required to submit the Digital 1 assessment in video format and Leadership 1 as an essay. Subsequent assessments (Digital 2 and Leadership 2) can be submitted as either video or essay (see Table 1).

Assessment name	Type of assessment format
Digital 1	Video (compulsory)
Leadership 1	Essay (compulsory)
Digital 2	Video or essay
Leadership 2	Video or essay

Table 1: Types of assessment format.

DATA COLLECTION AND ANALYSIS METHODS

In this research, quantitative data is drawn from student grades across the four assessments. We looked at the grades of about 680 students from the three intakes, namely November 2015, March 2016 and July 2016. This would help us to find out the impact of the assessments on the total number of students we admitted in a one-year period (November 2015 to October 2016). The quantitative analysis uses simple statistical values such as mean/median averages and histograms and is focused on the aforementioned research questions. The trends of data are visually examined based on the bar graphs and histograms, and inferential statistics analysis is not carried out in this paper.

RESULTS

The average grades and overall grade distribution (histogram) for each assessment of all the three intakes mentioned above are shown in Figures 1a to 1e. Figure 1a shows the average grades of the video and essay assessment from the four assignments that students must complete in the first 16 weeks. Figures 1b to 1e show the histogram of the grades in each assessment.

The average grades of all the assessments are not significantly different when examined visually. For the Digital 1 and Leadership 1 submissions, the average grades for each choice of media (video, essay) are also similar. The distributions of the grades in each assessment are not significantly different when examined visually, as can be seen in the histograms.
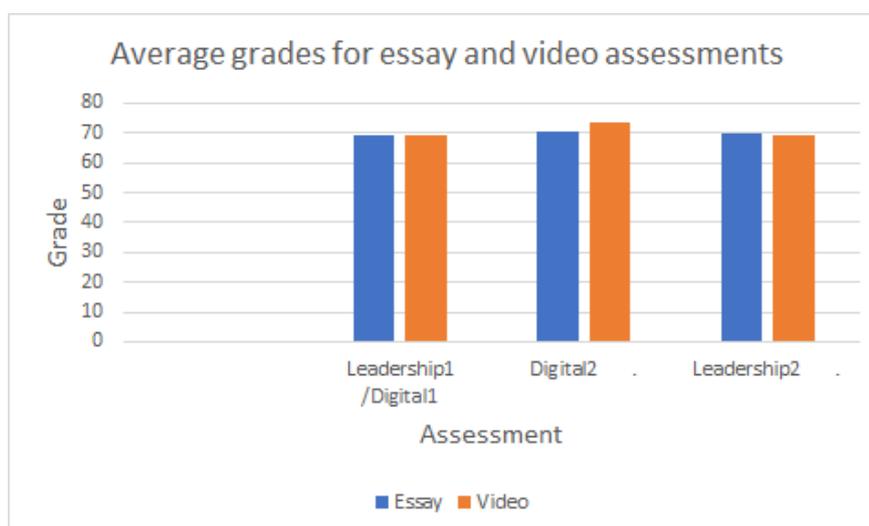

Figure 1a: The average grades of video and essay submissions across four different assessments (video and essay are compulsory for Digital 1 and Leadership 1 respectively).
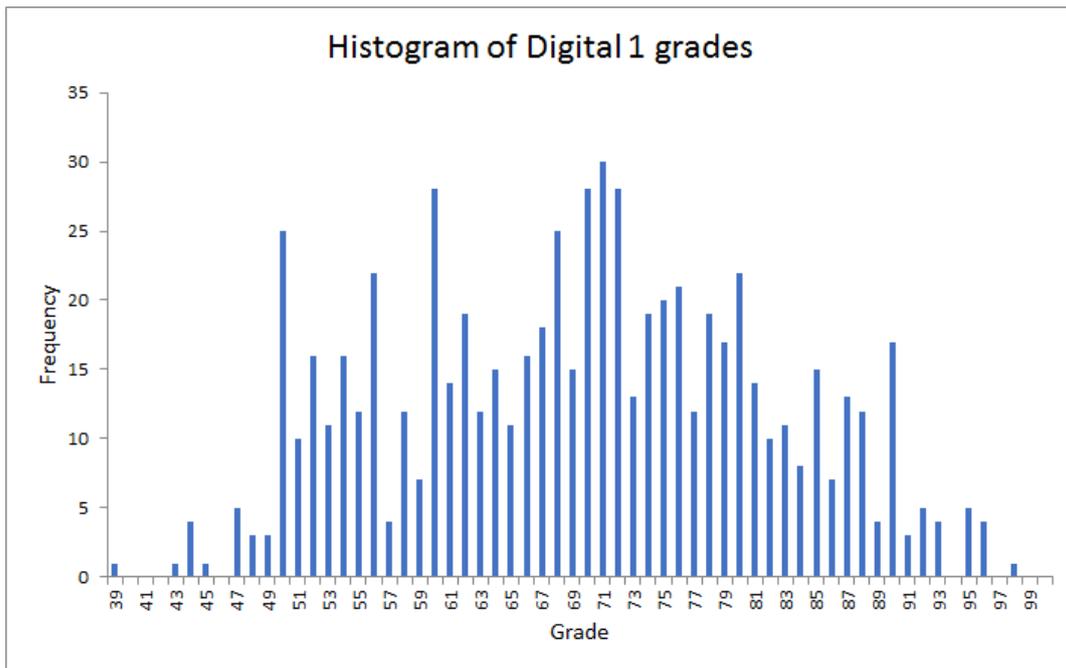
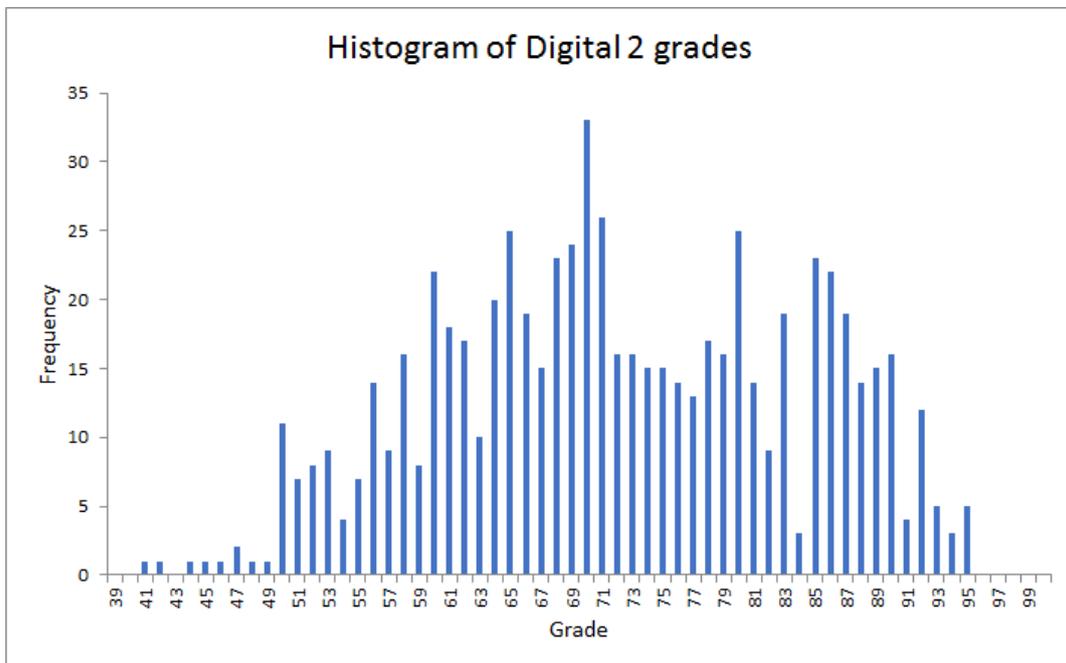Figure 1b: Histogram of the grades of Digital 1 (the frequency for each value of grade).

Figure 1c: Histogram of the grades of Digital 2 for both assessments (the frequency for each value of grade).
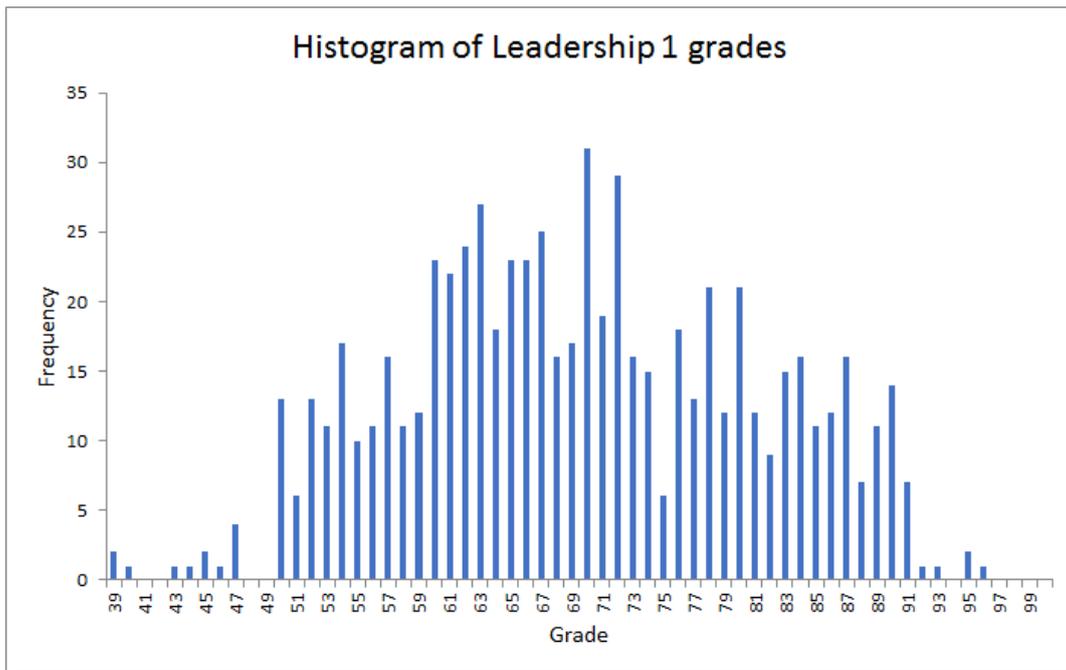
Figure 1d: Histogram of the grades of Leadership 1 (the frequency for each value of grade).
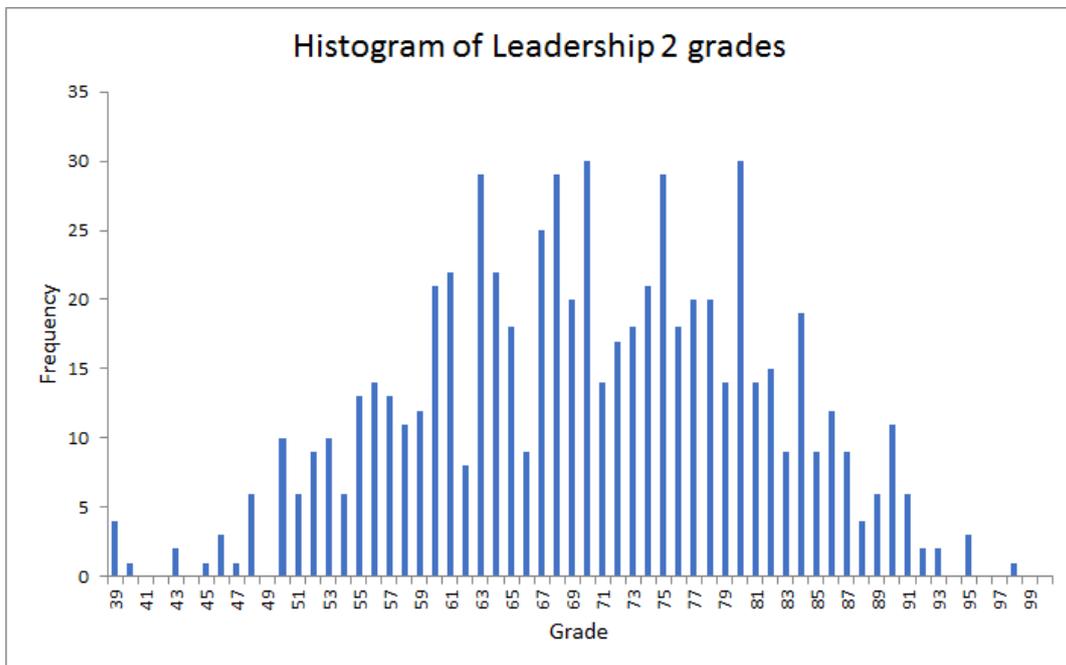
Figure 1e: Histogram of the grades of Leadership 2 for both assessments
(the frequency for each value of grade).

Figure 2: Performance of the groups with high (85%+) and low (50-60%) grades for the first video submission (Digital 1) in the following papers (Digital 2 and Leadership 2).

Figure 3: Performance of the groups with high (85%+) and low (50-60%) grades for the first essay submission (Digital 1) in the following papers (Digital 2 and Leadership 2).

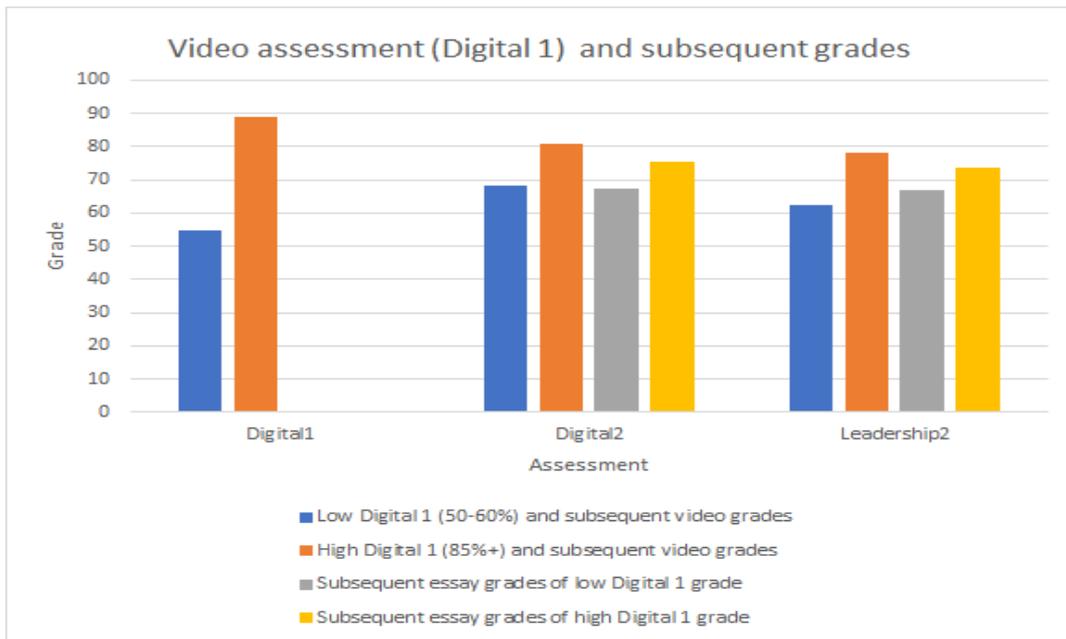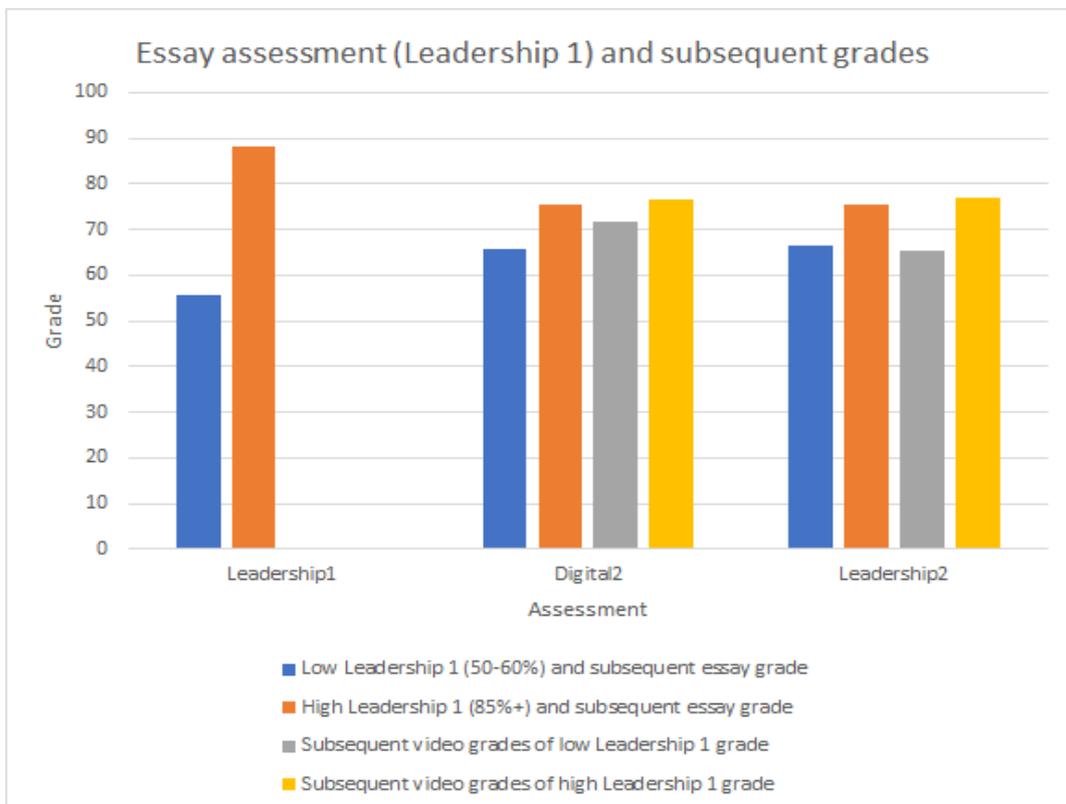Figure 2 looks at how the students with high grades (above 85%) and low grades (50-60%) for the first video submission (Digital 1), performed in their video and essay submissions for the next two assessments (Digital 2 and Leadership 2).

Similarly, Figure 3 shows how the students with high grades (above 85%) and low grades (50-60%) for their first essay submission (Leadership 1) performed in their video and essay submissions for the next two assessments. The average grade of the video submission from the top group in Digital 1 has reduced in the next two assessments. However, the students from this group who submit essays in the subsequent assessments, do not reveal better performance. Those from the bottom group showed improved performance in their next assessment regardless of their choice of media.

Contrary to the observation in Figure 2, students from the group with high grades in Leadership 1 who changed their choice of media from essay to video saw that their average grades were slightly higher in the Digital 2 and Leadership 2 assessments than those of the students still submitting essays, as shown in Figure 3. The same pattern as shown in Figure 2 is observed for those in the group with lower grades for the first essay assessment; their average grades in each of the next two assessments improved regardless of their choice of media.

Figure 4 shows the trend of video submissions across the assessments (Digital 1, Digital 2, and Leadership 2). The numbers are collected from the grade analysis of the three intakes. Figure 5 (below) takes a closer look at the trend among the students in the two groups who scored high (above 85%) and low (50-60%) in the first video submission (Digital 1).

Figure 4: The trend of video submission across different assessments for the three observed intakes.

Figure 5: The trend of video submission across different assessments for the two groups with top and bottom grades in Digital 1.

Figures 6 and 7 look at the trend for the video submissions in the total three intakes, and the two groups who received the top and bottom marks for their first essay (Leadership 1).

While the number of students submitting videos for Digital 2 is less than for Digital 1, (due to being given the option to choose the format), the trend continued downward for the next assessment, Leadership 2, as shown in Figure 4. This trend is also observed in Figure 5 although the reduction in video submissions is quite sharp for the group with low grades for Digital 1.

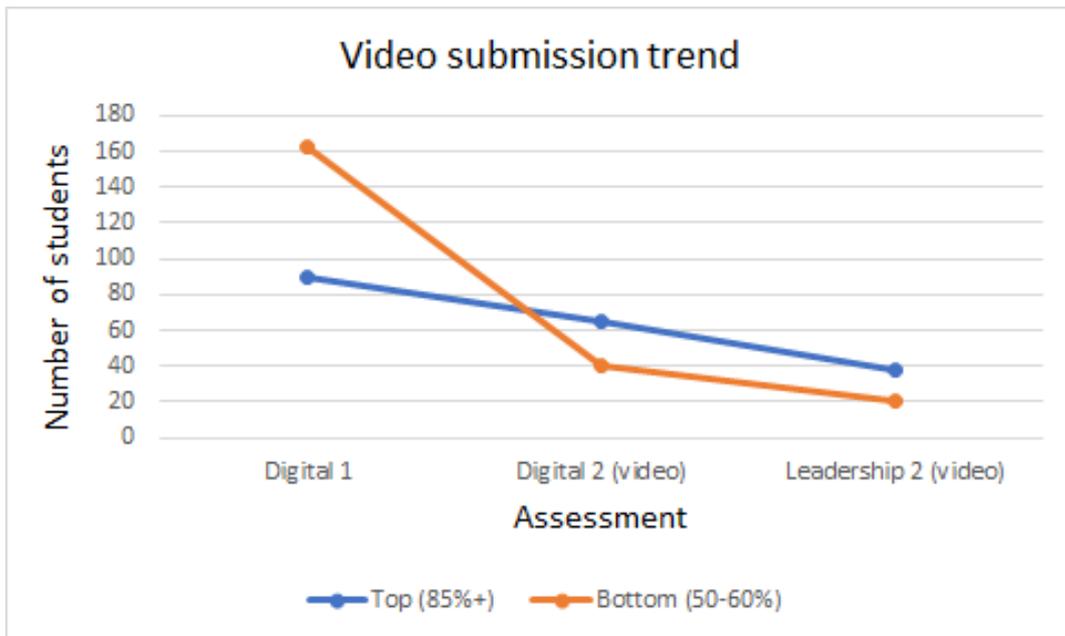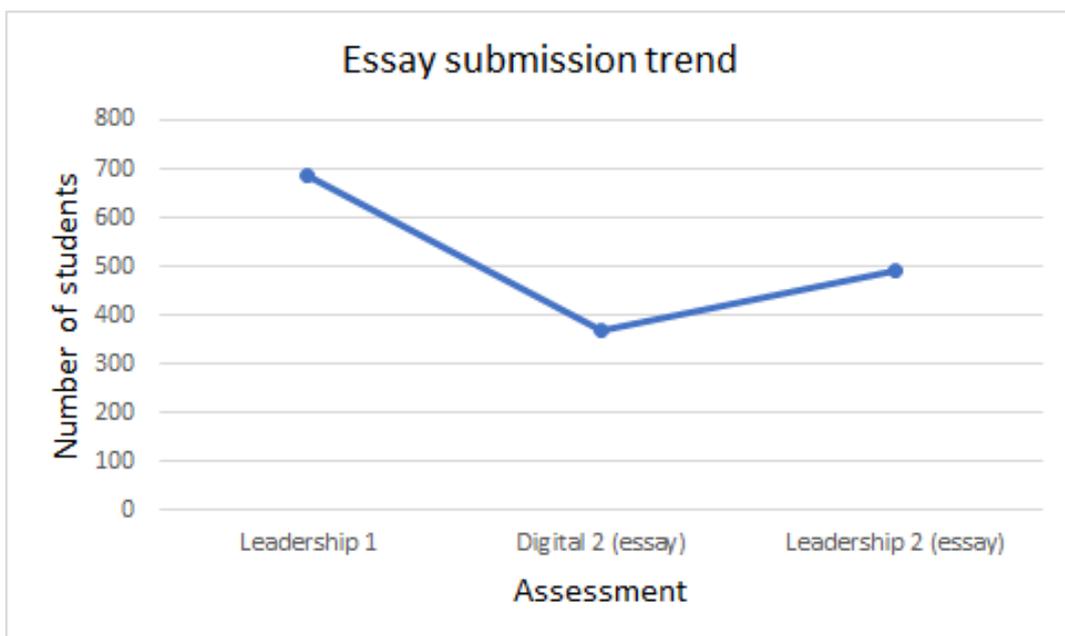Figure 6: The trend of essay submission across different assessments for the three observed intakes.
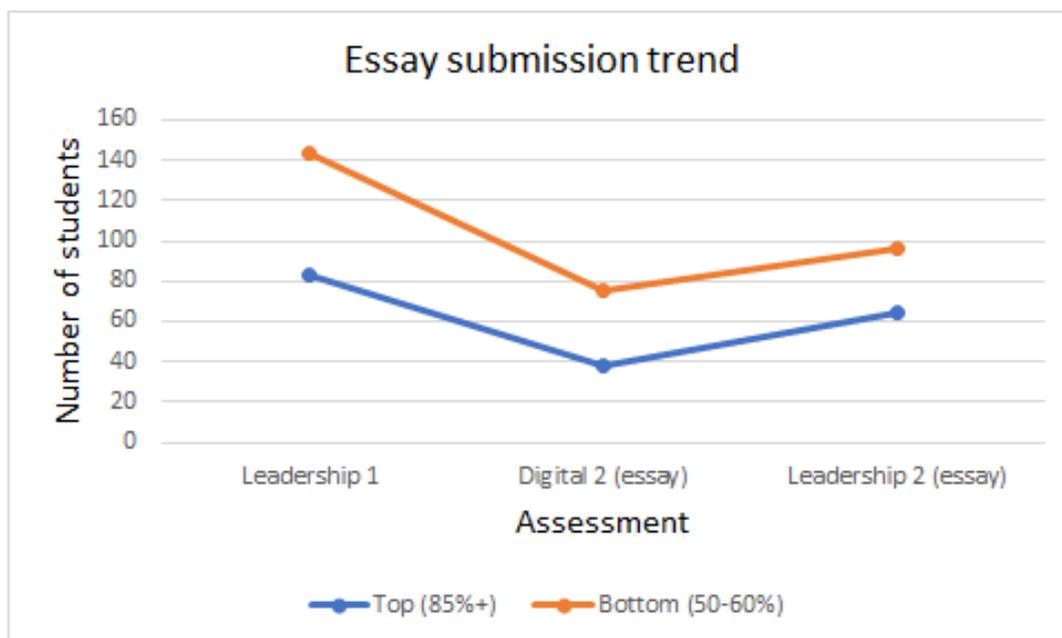
Figure 7: The trend of essay submission across different assessments for the two groups with top and bottom grades in Leadership 1.

Again, the number of essay submissions in Digital 2 is also reduced when they have the choice of media. However, unlike the observation in Figures 4 and 5, the number of essays goes up in the Leadership 2 assessment, as shown in Figures 6 and 7.

DISCUSSION

Research question: To what extent does the choice of assessment medium impact on assessment outcomes for students?

The results suggest that whether students choose to make a video or write an essay it does not make a significant difference to their grades, as shown in Figure 1a. The average grades of the first essay and first video submissions are not significantly different from the average grades of the subsequent assessments. The same pattern is also observed in each intake when the average grades for the assessments are compared. The overall grade distribution for each of the assessment is bell shaped, as shown in figures 1b to 1e. Variation of the frequency can be visually observed at a few particular grades in the histograms, however, the overall distribution is not significantly affected. The statistics are drawn from a large number of students (about 680) across the three intakes (November 2015, March 2016, July 2016) in a twelve-month period to provide a large enough sample size to validate the trends or observations.

Research question: To what extent do positive or negative grade outcomes impact on subsequent student choice of medium for assessments?

The data in Figure 2 shows that students who received a low mark (50-60%) in their first video submission increased their grade in subsequent assessments regardless of the type of media they chose. However, for students who got their top (best) mark in the their first video submission, the grades generally decreased in subsequent assessments.

It is also observed that there is a convergence of the grades (grades increasing for students with initial low marks and decreasing for students with initial high marks over the course of the programme) in the subsequent assessments, regardless of the grades the students received in their Digital 1 and the choice of medium students made for Digital

2 and Leadership 2.The same converging trend is also observed in Figure 3 for the first essay submission and the subsequent assessments (in both video and essay). Further collection of qualitative data would be needed to investigate the reason(s) for these convergences.

The number of students who chose to submit their work as a video kept reducing from the first compulsory video submission (Digital 1) to the third assessment (Leadership 2) as shown in Figure 4. While the decrease is quite linear for the group with a high mark for Digital 1, it is a sharp reduction for the group with a low grade in the respective assessment as shown in Figure 5. The trend is quite different for essay submission. The number of essays consistently increases after Digital 2 for the three groups (total number of students, students with low grades, and the ones with high grades) as shown in Figures 6 and 7.

Results suggest that positive or negative grade outcomes of earlier assessments have no significant impact on subsequent student choice of medium for assessments, or on the respective grades. The grades are consistently converging as the programme proceeds.

CONCLUSION

The results indicate that choosing to submit a video assessment does not make a difference to students' grades. Further, receiving high or low grades in the first two assessments does not have a significant impact on later grades. However, the number of students choosing to submit videos keeps decreasing after the first video submission, while essay submissions increase.

Our results can reassure students that their choice of medium does not adversely affect their grade, and may encourage more of them to continue submitting video assessments, given the various positive aspects of this type of assessment for students (as indicated in the literature review). The value of this project is two-fold: the scope of the data gathering (good sample size across several intakes in a period of twelve months); and the development of engaging new forms of assessment that allow students to enjoy the acquisition of new academic and professional skills.

Future research could also look at how demographic factors impact the choice of medium for assessments, and explore qualitative responses about the reasons for student choice. It would also be valuable to look into whether the experience of being able to select different media for assessment on the post-graduate course has altered the choices of media they provide for their own students for assessment.

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