

[Research Article]

Platform Preferences for Video Content in a Flipped Classroom: Students' Perceptions of YouTube as a Platform for Learning

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Abstract

This paper details the use of the flipped classroom paradigm with teacher-created videos in a new mandatory English debate class at a Japanese university. It investigates the perceptions of the students with regards to the use of video instruction as well as their perceptions and preferences with regards to the platform used for sharing the videos. Three surveys were distributed asking students about their perceptions of using YouTube for learning with videos and compared their views on YouTube versus compared to the Blackboard learning management system common in their university classes. Students were found to have positive views of the flipped classroom, and the videos were considered useful for preparation and review in the context of this course. Their perceptions of YouTube as a platform for learning were also generally positive and became more positive after being provided with videos for the class. By the end of the course, it was clear that most students had a preferred platform for the videos, and while YouTube was more popular than Blackboard, there was a sizable group that preferred Blackboard. The researcher concludes that YouTube is a valid choice for distributing video instruction in a flipped classroom, but that providing multiple platforms could be beneficial in meeting the needs of all students in a given course.

Keywords: *Flipped Classroom, YouTube, Student Perceptions*

INTRODUCTION

In the Fall 2020 semester, Rikkyo University introduced English Debate as a new mandatory class for all first-year students. The continuing coronavirus pandemic necessitated that the class was conducted entirely online, and the course had to be modified from the expected plan to accommodate these online lessons. The course design included introducing different stages of a debate to students as “debate skills” combined with practice activities for each skill and frequent group debates. Teachers generally were expected to teach the lessons using Zoom for live video lessons but were encouraged to consider making adjustments to the lesson plan to include offline or asynchronous components in order to reduce the consecutive screen time required of the students. Making use of both face-to-face class time and separate online activities is referred to as blended learning (Fabbian et al. 2017), and while the entire class was taught online, splitting between a live video call and other asynchronous activities is certainly a similar style of teaching. From there, the researcher decided to make use of the flipped classroom, the practice of introducing new material to students prior to their class time through the use of technology (Wu et al. 2017), so that the traditional classroom/homework concept is flipped (Overmeyer, 2012).

Flipped classrooms often use videos for students to learn or review content independently outside of class (Lin and Huang, 2018), and they often rely on teacher created videos (Overmeyer, 2012). The time in class is then generally more focused on activities and interaction with the teacher to reinforce the content learned prior to the lesson (Overmeyer, 2012; Basal, 2015; Moravec et al, 2010; Lin and Huang, 2018). Blended learning and the flipped classroom design have been supported as effective methods of instruction in the current body of research. Benefits of the flipped classroom

and blended learning include increased motivation (Hsieh et al, 2017), improved teacher-student feedback and interaction (Fabbian et al. 2017), increased study time (Hung, 2015), increased engagement with the material (Jamaludin, 2014), and increased learner autonomy (Han, 2015). Fabian et al. (2017) noted that it increases the flexibility for students, and Basal (2015) explained that the flipped classroom allows for students to learn at their own pace and that the ability for students to prepare in advance can help to overcome time limitations in the classroom and increase student participation during class time. The general format of a flipped classroom and its benefits seemed particularly relevant to the new English Debate class as it was expected that students would vary in the amount of time necessary to grasp the concepts that would be presented. The increased flexibility and potential for students to work at their own pace during the introduction of new content could be expected to allow for better participation and interaction, as well as more advanced learning during the live video lessons without the need for extended instruction during a video lesson, which would be useful to some but unnecessary for others. Wu et al. (2017) supported this idea, noting that the flipped classroom allows for more advanced learning during class time.

Flipped classrooms and blended approaches have also been found to improve learner outcomes. Wu et al. (2017) found improved oral proficiency and increased ability to use what was learned among the students who had learned with a flipped classroom. Hsieh et al (2017) found flipped instruction increased students' knowledge and oral ability with idioms. Moravec et al (2010) observed that moving presentation of new material to pre-class assignments combined with activities in class resulted in significant student learning gains. Ahmad (2016) saw improvements to listening comprehension with flipped learning. Bhagat et al (2016) found video instruction to outperform in class instruction. In general, the research suggests that video lessons and the flipped classroom have a positive effect on student learning and the ability to use what they have learned.

Flipped classrooms have also been found to be generally well received in terms of student perceptions. Sweeney (2010) noted that many students already use technology to find information for school or for their own interests. Other studies have found that students respond well to using technology in their lessons. Lin and Huang (2018) found that the students in their study accepted and were motivated by mobile learning. Goertler (2009) reported that students were engaged and entertained by computer-mediated communication and that it had a positive effect on their attitudes. Gaughan (2014) noted that students stated that videos before class helped them prepare. Hsieh et al. (2017) claimed that flipped instruction with online interaction motivated students.

However, not all research into flipped classrooms and blended learning is positive. Wilcox (2009) noted that not all students have a positive view of video instruction and that students' beliefs about their own role and what counts as language learning could influence the effectiveness of video learning. Bartholomew and Reeve (2018) found a disconnect between how students expected to use mobile devices for learning and their actual use and noted student concerns about distraction. Fabbian et al. (2017) found that students expressed concern about reduced interaction with the teacher and that not all students saw the connection between the two modes of instruction. Delozier (2017) looked at effectiveness of video lectures and did not find any difference between instruction through videos and in person lectures and suggested that any difference was the result of freeing up class time. This could suggest that studies that found video lectures to outperform in class lectures may have done what Fabbian et al (2017) cautioned against and simply added extra work to the course instead of replacing in-class instruction with computer-mediated instruction. The specific technology being used in the classroom can also be important in designing a flipped classroom. Levy (2009) noted that the users' ability to understand and use a platform is more important than the

actual capabilities of the platform in a flipped classroom. Rubin et al. (2013) stated that students' satisfaction with the learning management system they used predicted course satisfaction. This can cause problems if teachers are not careful. Fabbian et al. (2017) highlighted that not all students in their study were easily able to make effective use of the technology provided for a flipped class.

Overall, it seems that the research indicates that if appropriate attention is paid to students' abilities and perceptions with regards to the learning platforms that are used, a flipped classroom could be an effective tool for introducing new content to the English Debate class when combined with live video call lessons for more advanced practice of the learned concepts. In this study, students were provided with videos created by the researcher to introduce and review the concepts they were expected to learn for the course. The videos were provided on two platforms: Blackboard, a learning management system which students were familiar with due to its use by the university for online courses in the previous semester, and YouTube, with the expectation that the majority of students would be familiar with due to personal use. With the importance of students' ability to use a platform (Levy, 2009) and their satisfaction with a learning management system being important for course satisfaction (Rubin et al. 2013), students were surveyed three times throughout their semester about their perceptions of YouTube as a platform for video lectures. In the third survey, they were additionally surveyed about their preferences and perceptions of YouTube compared to Blackboard and their general perceptions about the use of video instruction in a flipped classroom in the context of this online English Debate course.

RESEARCH DESIGN

A total of 17 videos were created by the researcher for the course. These videos were used both for introducing new concepts, such as constructing arguments or making a rebuttal for a debate, and for reviewing the concepts later in the semester. Videos were shared with students following most classes, and students were asked to complete a simple assignment on Blackboard to test their understanding of the concepts being taught with the videos. As the videos were intended to replace in class instruction, students were asked to watch the videos and complete the online assignment in their own time prior to the next class, but the live video lessons were shortened to account for new content being introduced outside of class time. All videos were provided on two separate platforms. They were available for download through the Blackboard learning management system, and they were also available on YouTube. The YouTube links were provided at the same time as the files were uploaded to Blackboard. Students could be expected to be familiar with Blackboard as they would have used it in the previous semester of online courses, and the researcher expected that most students would be familiar with YouTube due to personal use. The videos were uploaded and shared each week following the live Zoom class, and students were directed to them through both an announcement on Blackboard and a simultaneous email. Students were told that they could watch the videos on either platform and there was no instruction to suggest that either option was better or preferred.

Five classes consisting of a total of 95 students participated in these classes, and all of them were asked to complete three surveys. The first survey was shared after the second lesson, the second survey after the 6th lesson, and the final survey after the 13th lesson. Of those 95 students, 70 consented to having their answers used for research and completed all three of the surveys. The surveys were shared on Blackboard and were given as homework assignments. Data from students who did not give their consent but still filled out surveys and data from students who did not complete

all three surveys were removed prior to downloading and analyzing the results. The first survey asked students about their familiarity and experience with YouTube as well as their perceptions of YouTube as a platform for learning. It also asked them to share their perceptions both prior to starting the course and their current perceptions after having watched two sets of videos. The second survey asked only for their current perceptions after the 6th lesson. The third survey again asked for their current perceptions, but also asked for their actual use of the videos and their thoughts about YouTube and Blackboard as platforms for sharing and watching the video lectures. The questions and answers for the three surveys can be seen in Appendices A, B, and C at the end of this paper. As the students were not native English speakers, the surveys were all shared with a Japanese translation to improve the chances that students could understand and accurately answer the questions.

DATA

First Survey

In the first survey students were asked about their familiarity with YouTube as a platform as well as their perceptions of it as a platform for learning. They were asked to give their perceptions from before starting the class as well as their current thoughts after watching two sets of videos for the course. The full list of questions for the first survey can be found in Appendix A. Out of 70 respondents 62 said they were familiar with YouTube as a platform, 7 said they were not, and 1 student did not answer. Furthermore, 38 said they had used YouTube for a class before with 32 saying they had not. In addition, 58 answered that they had previously used YouTube to learn something themselves while only 12 answered that they had not done so. This matched the expectations in course design that most students would be familiar with YouTube and that many of them would have experience using it to learn something. The fact that more than half had previously used YouTube for a class was not expected, but further supported the idea that students might be comfortable using it for this course.

	Yes	No	Unanswered
Are you familiar with YouTube and how to use the platform?	62	7	1
Have you ever used YouTube for a class before?	38	32	0
Have you ever used YouTube to learn something by yourself before?	58	12	0

Figure 1. Experience with YouTube

Students gave their perceptions of YouTube as a platform for learning on six scales. They used a 5-point Likert scale to rate their perceptions of YouTube for usefulness, helpfulness, trustworthiness, professionalism, ease of use, and convenience. Prior to distributing the surveys, the researcher hypothesized that these six responses could be grouped into three constructs: usefulness/helpfulness, trustworthiness/professionalism, and ease of use/convenience. All unanswered questions were removed from the data, and the responses were checked using Chronbach's alpha. Using the data of students' perceptions prior to the class, usefulness and helpfulness had a Chronbach's alpha coefficient of .652, trustworthiness and professionalism had a coefficient of .755, and ease of use and convenience had a coefficient of .569.

With the data for students' current perceptions after viewing two sets of videos, usefulness and helpfulness had a coefficient of .811, trustworthiness and professionalism had a coefficient of .742,

and ease of use and convenience had a coefficient of .586. These coefficients suggest that the responses for usefulness and helpfulness were reasonably strongly correlated as were the responses for trustworthiness and professionalism. It is reasonable to accept that these questions can be grouped as asking for the same underlying construct and can be discussed together. Ease of use and convenience, however, were less strongly correlated and should be considered separately in evaluating this data. Chronbach's alpha coefficient for these constructs in the later surveys will be mentioned with that data, but the conclusion remained consistent with students' perceptions of usefulness consistently being correlated with their perceptions of helpfulness, their perceptions of trustworthiness being correlated with professionalism, and their perceptions of ease of use not being strongly correlated with convenience.

Figure 2 below breaks down the responses by question for the students' perceptions of YouTube as a learning platform prior to beginning the class. To calculate the mean and standard deviation, the responses were given a numerical value from 1 (not at all) to 5 (very) and the "I don't know" responses and unanswered questions were removed.

	I don't know / unanswered	Not at all	Very little	So-so	Quite a bit	Very	Mean (1-5)	SD
Useful	4	0	2	25	27	12	3.74	0.10
Helpful	3	1	3	21	34	8	3.67	0.10
Trustworthy	1	1	7	29	26	6	3.42	0.10
Professional	2	1	11	26	25	5	3.32	0.11
Easy to Use	3	0	6	18	30	13	3.75	0.11
Convenient	3	0	4	10	39	14	3.94	0.09

Figure 2. Starting Perceptions of YouTube as a Learning Platform

This suggests that students began the class with a neutral to positive view of YouTube as a learning platform.

The next chart breaks down the students' responses by question for their perceptions of YouTube after being provided with the first two sets of videos. The mean and standard deviation are again calculated on a 1 to 5 scale, with the "I don't know" responses and unanswered questions being removed.

	I don't know / Unanswered	Not at all	Very little	So-so	Quite a bit	Very	Mean (1-5)	SD
Useful	1	0	1	12	37	19	4.07	0.09
Helpful	2	1	0	12	33	22	4.10	0.10
Trustworthy	1	1	0	10	41	17	4.06	0.09
Professional	1	1	1	27	25	15	3.75	0.10
Easy to Use	1	0	0	7	32	30	4.33	0.08
Convenient	1	0	0	5	36	28	4.33	0.07

Figure 3. Perceptions of YouTube as a Learning Platform After Early Videos

This shows a small improvement in the students' perceptions of using YouTube for learning in all surveyed categories. An unpaired t-test was used to compare the responses since it was necessary to remove the unanswered questions from the data, and it showed that all changes were statistically

significant at $p \leq .05$. The comparison is shown here in Figure 4.

	Usefulness		Professionalism		Ease of Use	
	<i>Before Class</i>	<i>After Lesson 2</i>	<i>Before Class</i>	<i>After Lesson 2</i>	<i>Before Class</i>	<i>After Lesson 2</i>
Mean	3.74	4.07	3.32	3.75	3.69	4.33
Variance	0.62	0.51	0.79	0.75	0.96	0.43
Observations	66	69	68	69	68	69
Hypothesized Mean Difference	0		0		0	
df	130		135		117	
t Stat	-2.542		-2.871		-4.495	
P(T<=t) one-tail	.007		.002		>.001	
t Critical one-tail	1.657		1.656		1.658	
P(T<=t) two-tail	.012		.005		>.001	
t Critical two-tail	1.978		1.978		1.980	

	Trustworthiness		Convenience		Helpfulness	
	<i>Before Class</i>	<i>After Lesson 2</i>	<i>Before Class</i>	<i>After Lesson 2</i>	<i>Before Class</i>	<i>After Lesson 2</i>
Mean	3.42	4.06	3.94	4.33	3.67	4.10
Variance	0.72	0.53	0.60	0.37	0.65	0.63
Observations	69	69	67	69	67	68
Hypothesized Mean Difference	0		0		0	
df	133		125		133	
t Stat	-4.750		-3.276		-3.133	
P(T<=t) one-tail	>.001		.001		.001	
t Critical one-tail	1.656		1.657		1.656	
P(T<=t) two-tail	>.001		.001		.002	
t Critical two-tail	1.978		1.979		1.978	

Figure 4. Before Class vs. After Lesson 2: t-Test: Two-Sample Assuming Unequal Variances

This suggests that while students began the class with a neutral to positive impression of YouTube as a learning platform, their perceptions became more positive when they were provided with teacher-created videos in a university course.

Students were also given the opportunity to share their thoughts in a free form answer, and most who chose to respond gave generally positive comments. Several students appreciated the ability to view a video or a video section more than once, and several others commented on its convenience and ease of use. One student also commented that they appreciated that the in-class time could be shortened with the use of YouTube. Most of these positive comments did not suggest that YouTube was superior to other platforms but suggested that the students did respond well to the flipped classroom style.

There were, however, a few less positive comments as well. Two students suggested the videos could be hard to understand, and another noted that they were unable to discuss with their classmates to assist in understanding content. One student stated that they found the videos boring. Given the

overall positive reaction to the videos, it is reasonable to suggest that continuing to improve the quality of videos would be a reasonable way to address these concerns.

Second Survey

The second survey was used to track students' changes in perceptions after having more experience using YouTube in a flipped classroom during the semester. They were asked the same questions as in the first survey based on their perceptions of YouTube at that particular time. The full survey can be seen in Appendix B. Chronbach's alpha again found that usefulness/helpfulness and trustworthiness/professionalism were strongly related with coefficients of .891 and .829, respectively. Ease of use and convenience were again not strongly related with a coefficient of .404. Figure 5 below details the students' perceptions of YouTube as a learning platform following the 6th lesson.

	I don't know / Unanswered	Not at all	Very little	So-so	Quite a bit	Very	Mean (1-5)	SD
Useful	1	0	1	13	28	27	4.17	0.09
Helpful	0	0	3	12	26	29	4.16	0.10
Trustworthy	0	0	3	16	30	21	3.99	0.10
Professional	0	0	1	22	31	16	3.89	0.09
Easy to Use	1	0	0	9	21	39	4.44	0.09
Convenient	1	0	3	7	25	34	4.30	0.01

Figure 5. Perceptions of YouTube as a Learning Platform After Sixth Lesson

Comparing this data to the results from the first survey using an unpaired t-test shows that the perceptions remain improved from the pre-course data with $p \leq .05$, but the data do not show any statistically significant change from the responses given after the first two lessons. The comparison to the before class opinions is shown below but the comparison to after lesson 2 is omitted as it is not significant.

	Usefulness		Professionalism		Ease of Use	
	<i>Before Class</i>	<i>After Lesson 6</i>	<i>Before Class</i>	<i>After Lesson 6</i>	<i>Before Class</i>	<i>After Lesson 6</i>
Mean	3.74	4.17	3.32	3.89	3.69	4.43
Variance	0.62	0.62	0.79	0.60	0.96	0.51
Observations	66	69	68	70	68	69
Hypothesized Mean Difference	0		0		0	
df	133		132		123	
t Stat	-3.181		-3.964		-5.058	
P(T<=t) one-tail	.001		>.001		>.001	
t Critical one-tail	1.656		1.656		1.657	
P(T<=t) two-tail	.002		>.001		>.001	
t Critical two-tail	1.978		1.978		1.979	

Figure 6. Before Class vs. After Lesson 6: t-Test: Two-Sample Assuming Unequal Variances

	Trustworthiness		Convenience		Helpfulness	
	<i>Before Class</i>	<i>After Lesson 6</i>	<i>Before Class</i>	<i>After Lesson 6</i>	<i>Before Class</i>	<i>After Lesson 6</i>
Mean	3.42	3.99	3.94	4.30	3.67	4.16
Variance	0.72	0.71	0.60	0.69	0.65	0.74
Observations	69	70	67	69	67	70
Hypothesized Mean Difference	0		0		0	
df	137		134		135	
t Stat	-3.945		-2.646		-3.4085	
P(T<=t) one-tail	>.001		.005		>.001	
t Critical one-tail	1.656		1.656		1.656	
P(T<=t) two-tail	>.001		.009		.001	
t Critical two-tail	1.977		1.978		1.978	

Figure 6 Continued

Written comments showed multiple students suggesting that they appreciated the convenience of the videos and the ability to watch parts that they found difficult more than once. However, one student said that they would prefer to be taught directly by the teacher, and a few students expressed the need to be careful to be sure that the information was accurate.

Third Survey

The third survey (see Appendix C) continued to ask about the students' perceptions of YouTube as a learning platform but additionally asked further questions about their actual usage of YouTube and Blackboard for watching the videos, as well as their preferences between the two. Looking at their perceptions of YouTube as a learning platform, Chronbach's alpha again showed usefulness/helpfulness and trustworthiness/professionalism to be valid groupings with coefficients of .815 and .776, respectively. Ease of use and convenience continued to be poorly correlated with a coefficient of only .503. The table below details the students' responses about their perceptions of YouTube as a learning platform at the end of the semester, following the 13th of 14 total lessons.

	I don't know / Unanswered	Not at all	Very little	So-so	Quite a bit	Very	Mean (1-5)	SD
Useful	1	0	1	15	27	26	4.13	0.10
Helpful	0	0	1	12	26	31	4.24	0.09
Trustworthy	0	0	1	17	27	25	4.09	0.10
Professional	0	0	1	18	25	26	4.09	0.10
Easy to Use	1	0	0	5	18	46	4.59	0.08
Convenient	1	0	0	7	24	38	4.39	0.10

Figure 7. Perceptions of YouTube as a Learning Platform at End of Semester

Using an unpaired t-test to compare this data to the previous results again found that the data were different from the students' perceptions that they reported holding before beginning the class with $p \leq .05$, but it was not statistically significantly different from the perceptions they reported as current in either the first or second survey. The comparison to the before class perceptions is again

shown in the following chart, while the comparison to the survey responses from after lessons 2 and 6 is omitted as it is not significant.

	Usefulness		Professionalism		Ease of Use	
	<i>Before Class</i>	<i>After Lesson 13</i>	<i>Before Class</i>	<i>After Lesson 13</i>	<i>Before Class</i>	<i>After Lesson 13</i>
Mean	3.74	4.13	3.32	4.09	3.69	4.59
Variance	0.62	0.64	0.79	0.69	0.96	0.39
Observations	66	69	68	70	68	69
Hypothesized Mean Difference	0		0		0	
df	133		135		114	
t Stat	-2.829		-5.205		-6.411	
P(T<=t) one-tail	.003		>.001		>.001	
t Critical one-tail	1.656		1.656		1.658	
P(T<=t) two-tail	.005		>.001		>.001	
t Critical two-tail	1.978		1.978		1.981	

	Trustworthiness		Convenience		Helpfulness	
	<i>Before Class</i>	<i>After Lesson 13</i>	<i>Before Class</i>	<i>After Lesson 13</i>	<i>Before Class</i>	<i>After Lesson 13</i>
Mean	3.42	4.09	3.94	4.39	3.67	4.24
Variance	0.72	0.66	0.60	0.73	0.65	0.62
Observations	69	70	67	70	67	70
Hypothesized Mean Difference	0		0		0	
df	137		135		134	
t Stat	-4.727		-3.193		-4.194	
P(T<=t) one-tail	>.001		.001		>.001	
t Critical one-tail	1.656		1.656		1.656	
P(T<=t) two-tail	>.001		.002		>.001	
t Critical two-tail	1.977		1.978		1.978	

Figure 8. Before Class vs. After Lesson 13: t-Test: Two-Sample Assuming Unequal Variances

The majority of the comments about using YouTube for learning in the third survey were positive, as in the previous surveys, with several students liking the ability to re-watch the videos, and others stated that they liked the ability to study anywhere and in their spare time. One student did report that they thought it was “bad for the body,” but this is likely a stronger concern given that the students were online for most or all of their classes this semester.

In addition to continuing the same line of questioning, the third survey (see Appendix C) asked questions about the students’ actual use of the videos on YouTube and Blackboard and their preferences between the platforms. Students reported on how many of the videos provided they watched with most students, 56 of the 70 respondents, stating that they watched all of the videos provided.

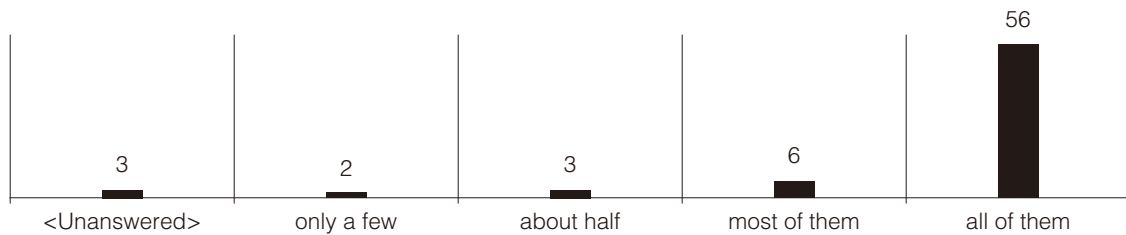


Figure 9. Responses to: How many of the videos that were Provided did you watch?

The students also generally reported that the videos were helpful to them in preparing for their lessons, with 57 out of 70 respondents saying they were “quite a bit” or “very” helpful and only one student responding negatively.

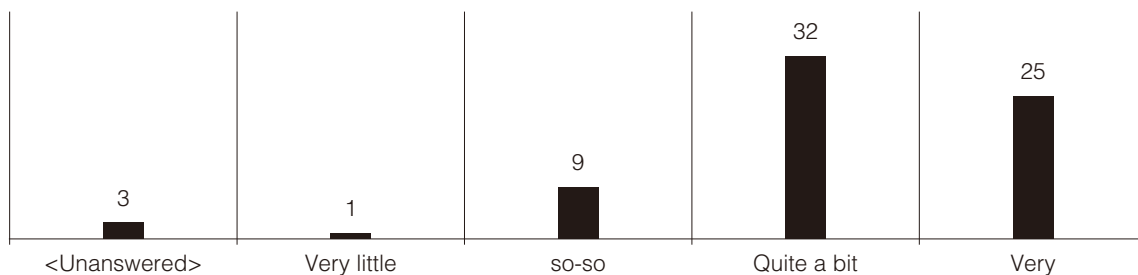


Figure 10. Responses to: How helpful were the videos for preparing for your lessons?

Students also were asked about their use of the videos for reviewing a concept later in the semester. This was not assigned as a required activity for them, but it was suggested as a good way to review before debate tests. Nearly all students reported doing this at least once or twice, with 13 even claiming to do it frequently.

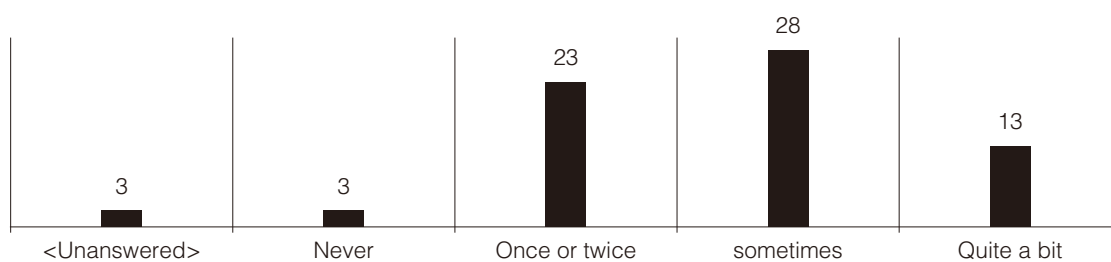


Figure 11. Responses to: Did you go back and watch any videos again to review something because you wanted to?

Students also reported on the helpfulness of the videos for review later in the semester, with more than half having a favorable opinion.

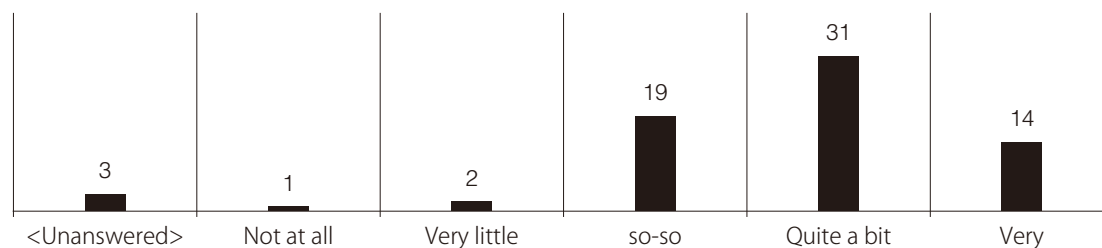


Figure 12. Responses to: How helpful were the videos for reviewing something later in the semester?

In general, the student responses suggested that the videos were used by nearly all students in preparation for their classes, and their perceptions of the videos as a method for preparation were overwhelmingly positive.

Students also gave answers about their preferred platform between YouTube and Blackboard. The graph below shows that both platforms were used by students, and more students answered that they used both platforms than either platform exclusively.

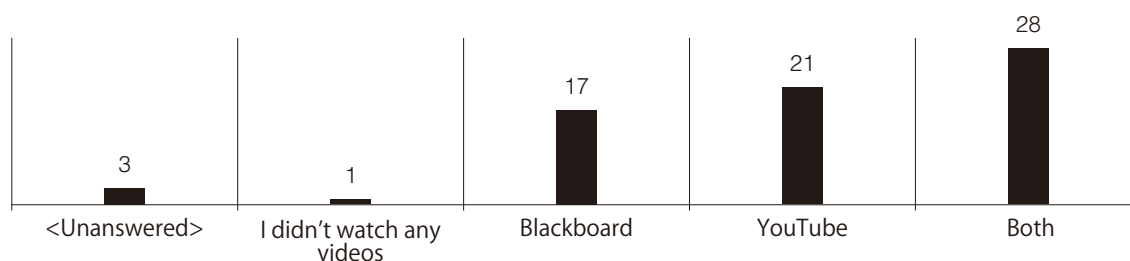


Figure 13. Responses to: Did you watch videos on YouTube, Blackboard, or both?

When asked about which platform they used more, the results showed that students did seem to have a clear preference with, 59 out of 70 respondents stating that they did use one platform more than the other. YouTube was slightly more popular than Blackboard in this data set, but the numbers were fairly close.

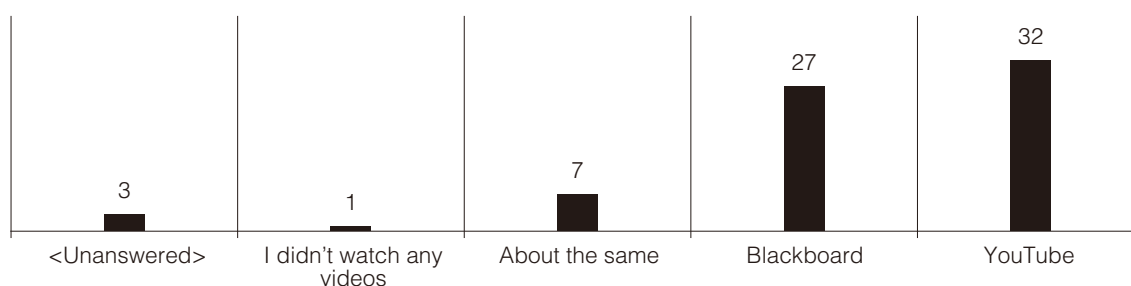


Figure 14. Responses to: Did you watch more videos on YouTube or on Blackboard?

When asking students about their preferred platform, YouTube was a more popular choice compared to the reported usage.

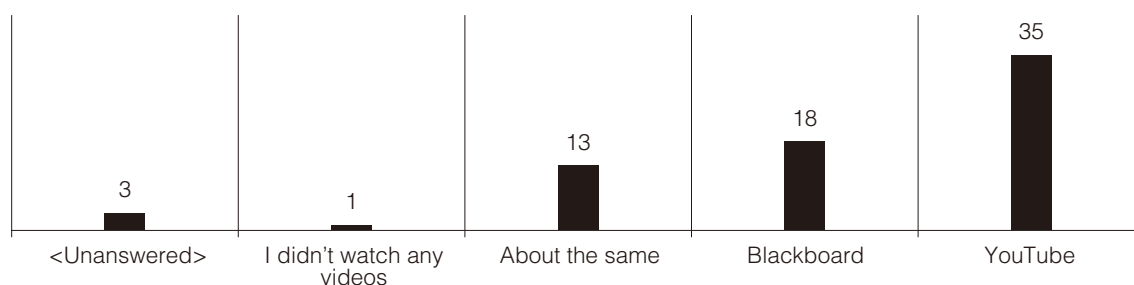


Figure 15. Responses to: Did you prefer YouTube or Blackboard for watching videos?

The data for platform usage suggest that students were fairly evenly mixed in terms of using the platforms at least once. In evaluating the data for the question “Did you watch videos on YouTube, Blackboard, or both?” a chi-squared goodness of fit test was run after removing the “unanswered” and “I didn’t watch any videos” responses. No statistically significant difference was observed compared with expectations that the three choices would be evenly represented. Evaluating the responses regarding which platform they used more found that students did in fact have a preference for one platform over the other. A one-sample proportion test was used to compare the answers of “About the same” with “Blackboard” and “YouTube” together and found that it was statistically significant at $p \leq .05$. Most students did have a platform that they used more. However, running a one-sample proportion test comparing only the Blackboard and YouTube answers yielded results that were not statistically significant, meaning that within this sample there was no clear choice in terms of which platform was more used. The data regarding student preferences were more conclusive. A one-sample proportion test again confirmed that more students had a preferred platform versus those who liked both platforms about the same. When comparing Blackboard and YouTube another one-sample proportion test found that students overall had a statistically significant preference for YouTube compared to Blackboard at $p \leq .05$.

Qualitative data were also collected regarding the reasoning behind the students’ preferences between the platforms. Interestingly, many of the responses for either platform stated that it was easier and more convenient to use that platform. Of the 18 students who preferred Blackboard, 17 chose to write in reasons for their preference and all of them could fit into the categories of being easier or more convenient. Some had specific reasons, including the video announcements being sent through Blackboard made it easier to use Blackboard, the ability to watch the video without switching pages on their browser, and the fact that they did their lessons on their computer which did not have YouTube installed. Furthermore, 34 of the 35 students who preferred YouTube also left comments, with 24 fitting into the category of being easier or more convenient (including 9 responses mentioning technical benefits such as lower data use and the fact the videos did not need to be downloaded). Seven more responses were related to the fact that the students were used to using YouTube. The remaining 3 responses were “Because I can review back video freely,” “I don’t have a special reason,” and “It is because, there are various videos.”

DISCUSSION

It was clear from the data that students do hold a mostly positive view of YouTube as a platform for learning. Their responses were generally positive across all six surveyed dimensions: helpfulness, usefulness, professionalism, trustworthiness, convenience, and ease of use. The ability to group

helpfulness with usefulness and professionalism with trustworthiness according to Chronbach's alpha further increases the confidence we can hold in the results for those constructs. Ease of use and convenience must be considered separately, but the data still suggest that students had positive views of YouTube with regard to both. Looking at the students' perceptions over the duration of the course, they started with a neutral to positive view of YouTube but reported viewing it more positively after making use of the videos provided for class. The new mostly positive perceptions continued for the duration of the class with the final survey showing very similar results to the first survey where they gave their perceptions after only two lessons. This suggests that the teacher created videos that were provided to students had a positive effect on their perceptions of using YouTube for learning. The data that were collected does not give insight into why their perceptions changed, but further research could be done to try to determine what factors do impact the students' views of a platform after they begin using it.

Looking at the responses more granularly, nearly all of the students had a neutral to positive view of YouTube with regards to the helpfulness/usefulness construct as well as to ease of use and convenience. These positive perceptions were further supported in the final survey when the students who chose YouTube as their preferred platform frequently cited its convenience or ease of use as the primary reason for their preference. However, despite the overall positive perceptions with regards to the professionalism/trustworthiness construct, a significant number of students reported beginning the class with a somewhat negative view of YouTube for this construct. The later surveys did show a change to a more positive view in regard to professionalism and trustworthiness, but it is necessary to note that some students are likely to be hesitant to trust YouTube content initially. This is further supported by a few open-ended responses where students expressed the need to check sources and be careful of incorrect information. This is unlikely to be a concern for teachers using self-created materials but may be something that needs to be accounted for when using content from other sources.

The final survey also suggested that students held generally positive views of using videos in a flipped classroom during a semester where classes had to be taught remotely due to the ongoing pandemic, and further supported the idea that their views of YouTube as a learning Platform were generally positive. A majority of students reported using the videos and finding them helpful for preparing for class. With 62 of 70 respondents reporting that they watched most or all of the videos, and 57 out of 70 saying that the videos were "quite a bit" or "very" helpful in preparing for their lessons, it seems reasonable to accept that the students generally did find the videos beneficial. Furthermore, 64 out of 70 reported watching videos again voluntarily for review, with 13 stating they did so "quite a bit," and 45 said they found the videos "quite a bit" or "very" helpful for reviewing later in the semester. Only a few students chose to leave qualitative comments on the use of videos, but those comments were positive as well, including one student stating they wanted to continue this style of learning, another liking the fact that they could "look back," and one more appreciating the ability to re-watch videos to help with understanding. While the overall perception of the flipped classroom was not the main purpose of this study, confirming that the students generally did like the format is important when evaluating their perceptions of using the YouTube platform for the class. If they generally disliked using videos in a flipped classroom, then having a positive view of YouTube would not be a particularly useful takeaway.

The final survey also allows us to compare the two platforms, YouTube and Blackboard, that were used in the course. In terms of actual usage, most students used both platforms at some point during the course. Of those who only used one platform, it was a fairly even split between Blackboard

and YouTube. However, when asked about which platform they used more, it was very clear that most students used one platform more than the other. Furthermore, 59 out of 70 respondents stated that they used one platform more than the other, and 7 said they used both platforms about equally. Of the remaining 4, 3 did not answer and 1 student did not watch any videos. While more students did report using YouTube more often than Blackboard, it was not a statistically significant difference, implying the two platforms were used about equally.

While there was no significant difference in terms of which platform students used more often, the difference in preferences was much stronger. The difference between the 35 students who preferred YouTube, the 18 who preferred Blackboard, and the 13 who liked both equally was statistically significant. This means that in the sample it is fair to say that students did prefer YouTube to Blackboard. Interestingly, the reasoning was similar independent of the preferred platform. Qualitative data suggested that students based their preference primarily around ease of use and convenience. The students who reported liking both platforms equally also explained this by stating that both platforms were easy to use and convenient. While this preference was clear in the data, it is worth noting that there were still 18 students in the sample who preferred Blackboard and this preference should not be disregarded. YouTube and Blackboard are both acceptable options for sharing videos for a flipped classroom, but as the qualitative responses show, they have different strengths. YouTube is a platform that students are more likely to be familiar with and comfortable using: it loads quickly and allow students to start watching a video right away, does not require students to download files, and depending on the teacher's ability to compress a video file, may require less data as well. On the other hand, students found that Blackboard was sometimes more convenient as the announcements and assignments were also shared through Blackboard and some students appreciated the ability to download the video files. Given the specifics of this course it seems that the decision to make the videos available through both Blackboard and YouTube was superior to requiring the students to use one particular platform. Overall, the data from these surveys suggest that YouTube is a reasonable option for delivering instruction in a flipped classroom, but that it may be reasonable for teachers to consider making content available on more than one platform if they are able to do so.

CONCLUSION

Providing videos for pre-class preparation as part of a flipped-classroom design was generally well received by the students, and providing the videos on two platforms, Blackboard and YouTube, turned out to be a good decision. The majority of students reported using the videos to prepare for class and finding them helpful for preparation and for review, including review not given as an assignment. While some students used both platforms to watch videos, it was clear that most students did use one platform more than the other, though it was closely split between Blackboard and YouTube. Students' preferences, however, did clearly favor YouTube. Investigating students' perceptions about YouTube as a platform for learning found that they had a neutral to positive view of it at the start of the class, and after being provided with videos on YouTube for the class, they seemed to view it more positively. This does suggest that providing content through YouTube for a flipped classroom in a Japanese university is a reasonable decision. One benefit of using YouTube was the fact that nearly all students were familiar with the platform and had experience using it for learning, but it was also popular due to its ease of use and convenience. It would be interesting to see if these results could apply to other platforms that teachers may introduce to students that are easy

to use but that students are not familiar with before the class.

It is also important to note that while YouTube was the preferred platform, it was not universally preferred, and other students preferred Blackboard for reasons very similar to the reasons their classmates preferred YouTube. This could be interpreted to suggest that teachers who are able to provide content through multiple platforms should consider doing so in order to provide easier access to their content to all of the students in their class. While this may not be practical for interactive assignments where students may need to communicate with each other and may not work when teachers need to collect responses from students, it does seem that providing a variety of ways to access content such as videos is a positive decision for students.

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APPENDIX A: Survey 1

1. Are you familiar with using YouTube and how to use the platform?

- a. Yes
- b. No

2. Have you ever used YouTube for a class before?

- a. Yes
- b. No

3. Have you ever used YouTube to learn something by yourself before?

- a. Yes
- b. No

4. Before starting this class, how useful did you think YouTube was for learning?

Not at all – Very little – So-so – Quite a bit – Very

5. Before starting this class, how professional did you think YouTube was as a platform for learning?

Not at all – Very little – So-so – Quite a bit – Very

6. Before starting this class, how easy did you think it was to use YouTube for learning?

Not at all – Very little – So-so – Quite a bit – Very

7. Before starting this class, how trustworthy did you think YouTube was for learning?

Not at all – Very little – So-so – Quite a bit – Very

8. Before starting this class, how convenient did you think it was to use YouTube for learning?

Not at all – Very little – So-so – Quite a bit – Very

9. Before starting this class, how helpful did you think that YouTube was for learning?

Not at all – Very little – So-so – Quite a bit – Very

10. Now, how useful do you think YouTube is for learning?

Not at all – Very little – So-so – Quite a bit – Very

11. Now, how professional do you think YouTube is for learning?

Not at all – Very little – So-so – Quite a bit – Very

12. Now, how easy do you think it is to use YouTube for learning?

Not at all – Very little – So-so – Quite a bit – Very

13. Now, how trustworthy do you think YouTube is for learning? Not at all – Very little – So-so – Quite a bit – Very

14. Now, how convenient do you think it is to use YouTube for learning?

Not at all – Very little – So-so – Quite a bit – Very

15. Now, how helpful do you think that YouTube is for learning?

Not at all – Very little – So-so – Quite a bit – Very

16. Do you have any other comments about using YouTube for learning?

_____ (Open Ended Response)

17. Do you have any comments about how your thoughts about using YouTube for learning have changed this semester?

_____ (Open Ended Response)

APPENDIX B: Survey 2

1. Now, how useful do you think YouTube is for learning?

Not at all – Very little – So-so – Quite a bit – Very

2. Now, how professional do you think YouTube is for learning?

Not at all – Very little – So-so – Quite a bit – Very

3. Now, how easy do you think it is to use YouTube for learning?

Not at all – Very little – So-so – Quite a bit – Very

4. Now, how trustworthy do you think YouTube is for learning?

Not at all – Very little – So-so – Quite a bit – Very

5. Now, how convenient do you think it is to use YouTube for learning?

Not at all – Very little – So-so – Quite a bit – Very

6. Now, how helpful do you think that YouTube is for learning?

Not at all – Very little – So-so – Quite a bit – Very

7. Do you have any other comments about using YouTube for learning?

_____ (Open Ended Response)

8. Do you have any comments about how your thoughts about using YouTube for learning have changed this semester?

_____ (Open Ended Response)

APPENDIX C: Survey 3

1. Now, how useful do you think YouTube is for learning?

Not at all – Very little – So-so – Quite a bit – Very

2. Now, how professional do you think YouTube is for learning?

Not at all – Very little – So-so – Quite a bit – Very

3. Now, how easy do you think it is to use YouTube for learning?

Not at all – Very little – So-so – Quite a bit – Very

4. Now, how trustworthy do you think YouTube is for learning?

Not at all – Very little – So-so – Quite a bit – Very

5. Now, how convenient do you think it is to use YouTube for learning?

Not at all – Very little – So-so – Quite a bit – Very

6. Now, how helpful do you think that YouTube is for learning?

Not at all – Very little – So-so – Quite a bit – Very

7. Do you have any other comments about using YouTube for learning?

_____ (Open Ended Response)

8. Do you have any comments about how your thoughts about using YouTube for learning have changed this semester?

_____ (Open Ended Response)

9. How many of the videos that were provided did you watch?

None – only a few – about half – most of them – all of them

10. How helpful were the videos for preparing for your lessons?

Not at all – very little – so-so – quite a bit – very

11. Did you go back and watch any videos again to review something because you wanted to?

Never – once or twice – sometimes – quite a bit – very often

12. How helpful were the videos for reviewing something later in the semester?

Not at all – very little – so-so – quite a bit – very

13. Did you watch videos on YouTube, Blackboard, or Both?

YouTube – Blackboard – Both – I didn't watch any videos

14. Did you watch more videos on YouTube or on Blackboard?

YouTube – Blackboard – About the same – I didn't watch any videos

15. Did you prefer YouTube or Blackboard for watching videos?

YouTube – Blackboard – About the same – I didn't watch any videos

16. Why did you prefer the website you chose?

_____ (Open Ended Response)