

Just One More Hit: Student Engagement with Pre-Class Videos in the Evolution of an English for Academic Purposes Course from Traditional to Flipped

Joshua Shannon-Chastain

Faculty Academic English Coordinator,
MEF University,
Turkey,
shannonj@mef.edu.tr

Caroline Fell Kurban, PhD

Director of the Center for Excellence in Teaching and Learning,
MEF University,
Turkey,
kurbanc@mef.edu.tr

Abstract

The primary objective of this research is to use data gathered from a semester of a Flipped freshman English for Academic Purposes (EAP) course to examine our assumptions about Flipped Learning. To this end and to further improve the course, the following research questions emerged: How long is the optimal length of a video to capture students' attention?; Why are some videos viewed more than others?; Why do certain videos capture students' attention for longer?; Why do students engage in some online activities more than others?. To answer these questions, YouTube and Blackboard analytics were gathered from the second year EAP course and compared against students' perceptions in surveys and a focus group. Based on what we learnt, we asked ourselves: How can we adapt our Flipped courses to encourage the successful patterns of learning of our learners and discourage the unsuccessful patterns? Based on the analysis of outcomes, we have identified that our EAP Flipped best-practice theories are effective, and we have further developed best practices that lead to student success and removed those hindering progress. Based on these implications, a number of clear lessons have been learned that will be incorporated into future courses.

Keywords: MEF University, Web-based Technologies, Video Lectures, Online Engagement, Active Learning, Flipped Assessment, Flipped Best Practices

Background to the Study

Flipped Learning has emerged globally as an effective pedagogical approach for educating the Generation Y students of today and the Generation Z students of the 2020s and beyond. In 2013, MEF University was established with the vision of educating innovative and entrepreneurial global leaders to shape the future ("MEF University Vision and Mission," 2016). In order to achieve this vision, the founder of MEF, Dr. İbrahim Arıkan, and the university rector, Prof. Dr. MuhammedŞahin, realized that the existing approach to tertiary education was outdated and not suited to the needs of today's students, industries, economies or the digital environment. Only willing to establish the university if they could find an effective and innovative approach to education that would meet these needs, they undertook extensive research into learning pedagogies which eventually led them to embrace the Flipped Learning approach as their educational model.

Flipped Learning is not a new phenomenon; types of Flipped Learning have existed for a number of years. However, it is only now that all these ideas and approaches have been pulled together under the single title Flipped Learning that it is garnering more attention. The main pioneers behind the concept of Flipped Learning are Alison King who suggests instructors shift 'From Sage on the Stage to Guide on the Side' (King, 1993), Eric Mazur and his peer-instruction approach (Mazur, 1997), Maureen Lage, Glenn Platt and Michael Treglia's 'Inverted Classroom' approach (Lage, Platt, & Treglia, 2000), Salman Khan's Khan Academy with instructional videos (Khan, n.d.), and Jonathan Bergmann and Aaron Sams groundbreaking book 'Flip Your Classroom: Reach Every Student in Every Class Every Day' (Bergmann & Sams, 2012) which they followed up with by establishing the Flipped Learning Network (Bergmann & Sams, n.d.). It is the combination of all these ideas that creates the Flipped Learning approach. Flipped Learning differs from the traditional approach in the following ways. In the traditional approach, the lecturer is at the center of the educational experience, standing at the front of a lecture theatre acting as a disseminator of information. Students take notes, ask questions, remember and understand this information until later, while working without the support of their instructor or peers, they apply, analyze and evaluate that knowledge. However, this is neither an effective learning approach, nor the most effective use of the instructor or students' time. It is also not how students will be expected to operate when they enter the employment market. In Flipped Learning these stages are reversed. Instructors prepare videos of the lesson content which students access and engage with prior to class. This means that class time is freed up for higher-level, student-centered, active learning where students are asked to use that knowledge practically.

The Evolution of the EAP Course over the First Two Semesters

In the first semester of MEF University opening, the English for Academic Purposes course was designed along the lines of a traditional EAP course. A course book was provided to all students and the course followed the progression of the learning outcomes in the book. However, early into the course, the instructors started to question how it was justifiable to run a traditional course for the EAP students when the university believed in Flipped Learning as its learning approach and had promised students this would be the approach used. The EAP instructors really wanted to Flip the course, but due to the course already having started, felt there was little time to make changes. The instructors also agreed that, although they were unhappy with the traditional book-based approach, the students had all been provided with the book and were therefore expecting to use it. While time constraints were recognized, there was some consensus from the EAP instructors that some changes needed to be made immediately before the lack of a Flipped approach on the EAP course became an issue with the students. In order to do this, the EAP instructors looked at the topics that the students were exposed to in the EAP book and tried to find videos related to these topics, then upload these to the university learning management system, Blackboard, for the students to view before class. The students then watched these videos prior to class and then in class undertook activities from the book related to theme of the videos. This shift meant that there was more of an image of Flipped Learning taking place, but realistically the approach was simply trying to shoehorn a traditional course-book-based course into something that looked like a Flipped model. When the instructors shared their thoughts about the semester, they expressed the following concerns. The EAP course had not really taken a Flipped approach, but there was some confusion over where to start, and that there was limited time to address this. There was some frustration that students weren't watching the videos before class and it was agreed that this was something that needed to be addressed in the course design in order to incentivize viewing. In addition, there was disappointment that class attendance was so low. Finally, instructors were picking up indications that as EAP is a mandatory course for all students the students just expected the instructors to pass them regardless. From this, it became clear that the students had a very traditional picture of assessment and did not prioritize the EAP course.

In the second semester, taking into consideration the lessons learnt from the first semester, the EAP team made the following changes. A continuous assessment model was implemented to try to increase student engagement with pre-class activities and increase attendance. Next, the instructors reviewed the materials. It was agreed that using a course book to structure the EAP course was not the best approach to Flipped Learning as it led to a more traditional approach and, in addition, the book didn't fully match the learning outcomes that had been identified. As a starting point, the instructors decided upon a set of topics that would interest and challenge the students, and, crucially, started designing their own videos and creating activities around these topics and learning outcomes. Along with other supporting videos (comedy clips, commercials, clips from TV shows), these videos were uploaded onto Blackboard in advance of class for the students to watch. In class, the students

were asked to get involved in student-centered, practical activities, such as brainstorming, ranking, ordering, categorizing and discussing, all presented within the context of the chosen topic. The book was used as a resource for extra activities for students to do at home, but dropped in-class. The results at the end of the second semester were greatly improved, with a pass rate of 90%. This showed a better match between the expectations for the students' abilities and what they were being asked to achieve. The students expressed mixed feedback regarding the videos. Some said they enjoyed the videos, some said they didn't know if they were learning from the videos while, conversely, some students expressed that the videos were so informative that they learnt everything from them and therefore didn't need to come to class. Class attendance also arose as a point of contention. Some students expressed that they came to class regularly, unlike other students, and therefore felt that they should get extra credit for this. When the instructors pointed out that there were lots of graded pop quizzes in class that effectively gave them points if they attended, the students responded that they didn't see it that way and that they felt it was unfair that they were not getting points for attendance. Regarding the instructors' reflections, it was noted that students joining the EAP course from the ELPP was a great advantage at the start of the second semester as these students were used to the concept of the Flipped Learning approach, unlike those who had started immediately in faculty. The EAP instructors felt there had been varying success with the 24 videos they had made and also with the supporting videos; some had proven engaging for the students, others not so. This led the instructors to question what aspects made a video engaging for students. Based on an analysis of YouTube data it was determined that shorter videos, 3-6 minutes, and humorous and entertaining videos were the key to student engagement with the pre-class materials.

Preparing for semester three over the summer of 2015, the instructors reached the decision that continuing with a book was not the best option. It was felt it would be more beneficial to revisit the learning outcomes as the starting point for planning the course and then create course materials from scratch. With these issues in mind, the Faculty Academic English Coordinator rewrote the course aims and learning outcomes and worked to develop authentic materials for the course. Newspaper articles, film clips, adverts, and images were used to create a rich and authentic context for learning. In addition, new videos were made by the team to introduce and support the learning outcomes. By this stage, the videos were more sophisticated, better edited, and included additional aspects such as in-video links, added text, titles, headers, and additional information. In addition, the videos were made a lot more humorous as this was assumed to increase students' engagement. Another crucial change in the approach to course design in semester three involved revisiting the assessment structure to address some of the issues that had come up regarding online participation, class attendance and participation, and students' perception that exams were more important than other types of assessment. Now, instead of just watching videos prior to class, students had to complete post-video online quizzes, the total of which was 24% of their overall course grade. This was planned with the aim of increasing online participation before class. These were treated as formative assessments; the tests could be taken as many times as the students wished with only the highest grade being recorded. The aim was to encourage students to re-watch the videos if they had not understood and then take the quiz again to improve their score. The rest of the assessment structure was based on units of study, as opposed to mid-semester and end of semester assessments. Finally, regarding the lessons, additional class activities were developed that involved the students reviewing the content of the pre-class videos, playing games and doing activities that practiced discreet components of the content. In addition, instructors made sure students were involved in student-directed group activities that focused on the skills students need in their academic lives. The aim of the lessons was for students to have the opportunity to work towards the learning outcomes, but also for them to have fun, direct activities themselves, share their opinions, and develop their critical thinking skills and ability to express their ideas at undergraduate level.

By the end of the first year, the approach to the design of the English for Academic Purposes course had gradually evolved from a traditional course into a Flipped course. However, this evolution was based mostly on assumptions we had built from informal observations and student feedback. Therefore, it was decided in the second year, that formal research would be undertaken to ascertain whether these assumptions were correct. The EAP course could then be improved based on the results that emerged.

Research Method

The research questions that had arisen from our assumptions were as follows: How long is the optimal length of a video to capture students' attention?; Why are some videos viewed more than

others?; Why do certain videos capture students' attention for longer?; Why do students engage in some online activities more than others?. In order to answer these questions, a combined quantitative and qualitative approach was taken. Macro-quantitative data were collected from the Blackboard grade center including students' grades for online participation and their overall course grade. This macro view of grade data ensured anonymity for students. Macro-quantitative data were also collected from YouTube Analytics including: length of videos; average number of views per video; and average length of view per video. To hear what the students were saying, quantitative data was collected from mid-semester student surveys and end-of-semester student surveys and qualitative data was collected from a student focus group. After the Blackboard data and YouTube data were collated, these were analyzed against what the students were saying in the surveys to see if students' perceptions of what they were doing on the course correlated with what they were doing in practice. Finally, the outcomes of this analysis were evaluated and recommendations for revisions to the EAP course for the third academic year were made.

For purpose of this paper while the integrity of the data from Blackboard and YouTube is unassailable, it has proved so compressive that an attempt to provide it in this paper, even in an appendix, is unmanageable. Therefore, any and all data is available upon request.

Analysis of Results

Based on an analysis of Blackboard data and YouTube analytics the following observations were made. Students were most likely to participate in pre-class activities the day prior to the class. As our classes were Mondays and Wednesdays data from Blackboard and YouTube show the most engagement on Sundays and Tuesdays. Mondays and Wednesdays were about half of the preceding, with Thursday, Friday, and Saturday showing the absolute lowest levels of student online engagement. Based on YouTube analytics we can see that 69% of videos were watched on a desktop or laptop, 23% on a tablet, and 9 % on a mobile device. Interestingly, students who used tablets watched videos almost 10% more than on a PC.

There were around 500 active students in the EAP course and on average each pre-class video and associated quiz was completed by 81% of students. As these students were drawn from all of the faculties of the university, events and exams affecting particular faculties led to variances in which students did the pre-class tasks. It should be noted that while events like midterms in other classes did radically affect attendance, online participation was not nearly so affected.

Students accessed pre-class videos exclusively through Blackboard. Therefore, it is unlikely that students watched videos without doing the associated quiz afterwards. In other words, students logged on to Blackboard with the intent to complete all pre-class tasks, there was no disconnect between content and activity. This is confirmed based on a comparison of number of video views to number of students who attempted the quiz. For example, the video and associated quiz "Find the perfect Source" was made available on Sunday October the 11th, the pre-class task was due 9am on Wednesday October the 14th. 427 students submitted the quiz. During this same time period the video received 463 views. The greater number of views to number of quiz submission can be explained as individual students watching the video more than once. This is further verified by the fact that the video's average view duration and average percentage viewed was higher than the video length (2.15 minutes) and percentage itself, 2.49 minutes and 115.64% respectively. This shows that students not only watched the video more than once, but also re-watched sections of the video multiple times. Whether this was due to the quiz related to that video, or the video itself being challenging, or both, is unknown. However, it is important to note that this trend is not collective among videos, some videos were not watched multiple times, nor did all videos have high scrubbing rates. The reason for this is unknown, but we would speculate that the difficulty level of the video and/or associated quiz would be a primary factor in this. This issue will be a key component of future research, however we can confirm from the data that humor plays no role in students' engagement with a video.

Based on conversations with students we had assumed that humorous or entertaining videos would receive a higher number of views, and higher average view duration and average percentage viewed. However, we found no correlation. While we initially found this result surprising, after some consideration and comparison with related data, this result is perfectly logical. Students' in-class comments regarding amusement and satisfaction with a pre-class video led us to assume that said video was more engaging. However, there was no reason for students to re-watch the video based on this. Moreover, as students only had a short amount of time to complete the pre-class tasks, there was no reason that "word of mouth" would have increased video views. Finally, no matter how funny

or brilliant a video may have been, its re-watch value in terms of entertainment when compared to the many other options on YouTube is negligible. Whether or not a more entertaining or humorous video leads to an increase in student recall of the content or increase in student learning is an intriguing question, one that will be a subject of further research.

Another interesting trend observed in the data related to video views can be seen in views after the period for which the video was intended. For instance, the aforementioned video "Find the perfect Source", got 463 views prior to the class it was prepared for. However, in total the video got 655 views. These nearly 200 additional views occurred some three weeks later between November 4th and 6th. The reason for this is clear, on November 6th a high stakes written assignment was due which required demonstration of the skills and content included in the video, post-video quiz and associated class.

The issue of stakes is an interesting one, clearly high stakes assignments encouraged students to re-watch or "revise" the videos. However, the stakes of the pre-class quizzes had no effect on how many views a video received. In total, all pre-class quizzes for a given day were worth 12 points. However, prior to a given class there were often multiple videos and quizzes given. For instance, a longer video with an associated quiz worth 10 points, and a shorter video with a quiz worth 2 points, did not see a disparity in the number of views nor the average view duration or average view percentage.

Based on the results of the mid-semester survey, end of semester survey, focus group, and ongoing discussions with students, we feel we can confidently claim that we have created an effective, Flipped course. Evidence for this conclusion is plentiful. In the mid-semester student survey, students' perception of their learning experience was overwhelmingly positive. High numbers of students responded either "agree" or "strongly agree" to the questions asked regarding Flipped Learning on the EAP course. For example; more than 90% of students said that it was easy to find videos and activities on Blackboard; 85% said the videos were informative and relevant; 75% said they learned from the pre-class quizzes; 80% said they used what they learned from the videos; and 84% said they saw a strong connection between what they did online and what they did in class. "Videos and topics helped us to have a better understanding of what is expected of us in a Flipped class." (MEF University Student, 2015). Finally, 72% said they found the lessons engaging and useful and were learning the skills they needed. The end-of-semester student survey conducted by the MEF Student Affairs Office confirmed these results, as students had responded more favorably to the EAP course than to many of their other University courses.

Table 1. *End-of-Semester Student Survey Results*

Flipped Classroom	EAP Average (Out of 5)	University Average (Out of 5)
The Flipped Classroom method was effectively used on this course.	4.52	3.85
In the context of the Flipped Classroom method, the online course videos were effective.	4.4	3.81
The Course	EAP Average	University Average
Course objectives and what was expected of the students were clearly stated.	4.23	3.96
The course content was useful and relevant to course objectives.	4.16	3.98
Textbook(s), course videos, resources on Blackboard and other materials were up-to-date and helpful.	4.42	3.85
The assignments/projects contributed to my learning.	4.01	3.82
The course involved critical and analytical thinking.	4.6	3.95
Overall Evaluation	EAP Average	University Average
Overall, the course was effective.	3.97	3.89

Overall, the instructors were effective.	4.49	4.01
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Student survey data, focus group, and general comments about the videos were likewise positive. While a few students said that some videos were boring, students generally commented that they found videos creative and engaging. In fact, 70% said the videos were entertaining. Moreover, 78% said they watched the whole video and 58% said they watched the video more than once. However, as previously stated, despite student comments and survey data, the entertainment value of a video has no effect on student views or the average view duration or average view percentage. As one student stated: "I can't say one video is better than another. They are all same, you can't discriminate things that you have to do." (MEF University Student, 2015)

Moreover, the data does not fully support student assertions that they regularly watched the whole video or watched it more than once. Rather, student-viewing habits seem to be the product of time and necessity. Unlike the abovementioned "Find the perfect Source" video that was watched in full and more than once, most videos were watched nearly all the way through, but not watched more than once. Yet one of the most interesting aspects of student viewing behavior regards on which day the video was viewed. Take for example the video "Thesis Statement 101". It received a total of 650 views in total over the duration of the course, but got only 401 views prior to class. However, there were a total of 418 quiz submissions received before class. With the pre-class task connected to this video, it is clear that the students had rushed to finish prior to class in order to meet the quiz deadline. For example, after this video and quiz were posted on Friday November 6, views on that day and the next showed high average view duration and average view percentage, indicating students watched the whole video and watched more than once. However, on Sunday November 8th and the Monday November 9th (likely early in the morning on Monday before class) the average view duration and average view percentage dropped. At first this drop was small, but by Monday (again, likely rushing to finish before class) these rates dropped by almost half. Now it is no revelation that work done last minute is rushed, but it is important to point out that student engagement with Flipped materials is likely far more the product of necessity in meeting a deadline to obtain a grade, rather than of length or content of the video.

Conclusion

While this research has raised more questions than it has answered, a few clear lessons have been learned that will be incorporated into future courses. Accountability increases engagement. We are currently investigating new online assessment tools like EdPuzzle. Such tools can be used to reinforce accountability and track just what students are watching and how questions affect viewing habits. This should increase both their engagement as well as the data available to analyze how we can further improve engagement. Based on experience in semester two, Flipped Learning best practices were modified to produce shorter videos, a practice which was fully internalized this semester. However, while we feel that shorter videos lead to higher student engagement, it would be interesting to see how students react to longer videos. Therefore, longer videos will be periodically employed to see if there is a change in student engagement. If longer videos still hold the students' attention, then more content can be introduced prior to class. Finally, it is not the suggestion of this study that entertaining and/or creative videos is not important to overall student engagement, in fact, just the opposite. We would argue that the overall tenor of creative and entertaining videos in the course gave the students an impression of the course, which enabled us to use videos that were useful but less than entertaining. This is important because many students expressed an admiration for the course's creative and humor compared to their, very often, traditional style lecture videos they got in their other faculty classes. Therefore, the entertainment value is not important to student engagement with any individual video, but rather affects the overall student engagement with the course. To quote one student, EAP was "the most fun class in the whole semester. Thanks for making boring stuff enjoyable." (MEF University Student, 2015)

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