Flipping the Classroom With Google Forms and Online Video Lessons

Giancarla Unser-Schutz

Rissho University

Although interest in flipped classrooms has grown recently, many teachers experience logistical problems when setting up flipped classrooms, where the reviewing of materials is done at home and engagement with problem sets is done in class. This paper demonstrates an alternative way to create course materials for flipped classrooms by making structured, interactive video lessons with quiz prompts in Google Forms using PowerPoint videos. By following the procedures outlined below, readers will become familiar with the characteristics of Forms, how to record PowerPoint presentations in video format, how to add videos to Google Forms, and how to create follow-up quizzes. In addition, the paper offers hints on how to create advanced lessons through recursive questions. With a review of their effectiveness, it will be seen that Google Forms can be used with a minimal time investment and can be an effective way of starting to flip the classroom.

　近年において、授業外の課題としてビデオなどを通して学習点を復習し、従来の課題を授業内にやるという反転授業に対する関心が高まってきているが、綿密な準備が必要な反転授業の積極的な活用を妨げる問題がまだ多く残っている。そこで、本論において、Google Formsに自作のPowerPointビデオをアップロードするという簡単な授業外レッスンの作成法を概説する。具体的には、Formsの特徴に関する理解を深めるとともに、本論ではPowerPointビデオを作成しアップロードする方法、またそのリンクをFormsに入れて簡単な確認クイズを追加する方法を紹介する。Formsをより高度に使いこなすために、反復質問の作成法の概要も述べる。最後に、本論で論じられたその有効性を基に、Formsが、最小の時間的投資で活用することが可能であり、反転授業を始めるのに有効であることを確認する。

It is not an exaggeration to say that most foreign language teachers have experienced problems balancing the need to provide both review and opportunities to practice for students. One solution to this problem that has become popular in recent years is to flip the classroom, whereby instructor-led lessons are primarily conducted outside of class, using videos or other easily accessible online materials. Popularized by Bergmann and Sams (2012), under the flipped classroom model, work traditionally given as homework to practice the studied topics is instead done in class with the instructor, allowing feedback to be given on the spot. As Sung (2015) found in a pilot study of a flipped ESL classroom in Korea, it is believed that because students review new points before class, they are better prepared to participate actively in the following class, both because they are more familiar with the contents and because, in the ideal scenario, they are able to determine what they need help with and talk to the instructor before they do any activities. Describing a flipped classroom in an ESL class, Han (2015) reported observable differences in student autonomy because of the expanded learning opportunities provided inside and outside the classroom and the focus on cooperative activities conducted within class time. Flipped classrooms can also be positive for instructors as they allow them to give assistance *before* and *while* problems are solved, potentially eliminating the need to deal with misunderstandings about the problems themselves.

A major problem with flipping the classroom, however, is preparation, with a great deal of work required to set up and manage the lessons for outside class. Luckily, a variety of free and accessible tools are now available to help this. One such useful tool is Google Forms, an online survey maker that is part of the Google Drive suite. Google Forms can also be used to set up simple flipped classroom lessons with videos and online quizzes to give and monitor review work, thereby freeing up classroom time for more productive activities. This paper presents one such approach to manage a flipped classroom by embedding PowerPoint presentation videos inside a Google Form. This approach enables instructors to introduce learning points and confirm comprehension of the video content with follow-up questions.

Procedures for Setting up Lessons in Google Forms
Step 1: Getting Started With Google Forms

Google Forms is a part of the Google Drive suite, a free data synchronization service and series of applications that includes the Google Docs, Sheets, and Slides office suite. Although originally made for creating online surveys, with its ability to embed YouTube videos and images and to collect uploaded files, Forms is highly malleable and well suited for making online lessons, with 11 basic question types to suit any situation. As individual pages, each form can be shared individually or embedded in a class website for easy access. In addition, Forms collects response data into spreadsheet files that are usable in Google Drive or Microsoft Excel, which can be later used for streamlined grading. Although creators must have a Google account to use Forms, students do not need to have one to respond, limiting potential barriers for users. Most importantly, for cash-strapped educators, Forms is completely free.

To begin using Forms, you must create a Google account using any Google service if you do not already have one, which can be done at any Google-related site such as Google Mail (http://mail.google.com). Forms itself can be accessed at http://forms.google.com, and the easiest way to familiarize yourself with Forms is to create a new document and experiment with it. A comparison of Google Forms with other similar services and a more detailed overview of Google Forms can be found in Milliner and Flowers (2015) and Unser-Schutz (2017), respectively; however, a recommended start is to try using the different question types, which can be added from the right-hand bar in the bottom of the screen, and then check how they would appear to students with the preview option, accessible through the eye-icon on the top right of the editing page (Figure 1). Figure 1 shows the basic interface of Forms, using an example lesson on similarities and differences, with the lesson titles (*Unit 11: Similarities and Differences (Basic)*) and background questions (*What is your name?*, as a short-answer question; *What is your English class?*, as a multiple-choice question).
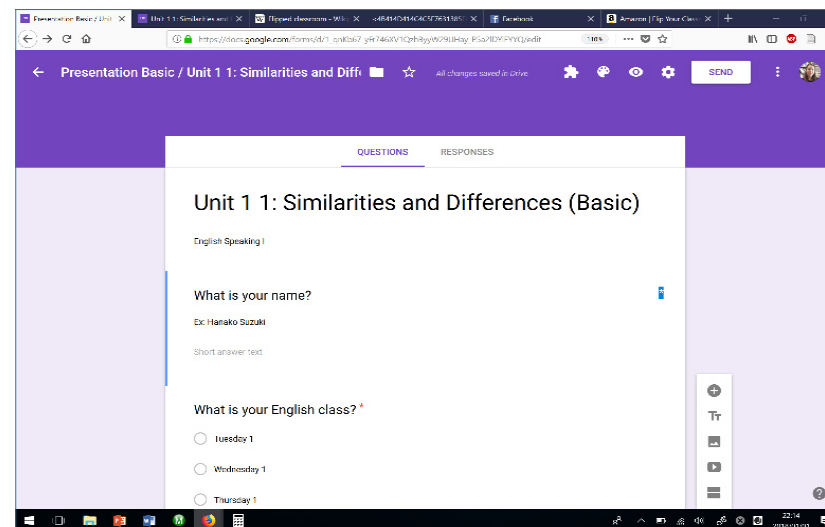

Figure 1. Google Forms interface.

Step 2: Creating and Uploading Video Content for the Online Lesson

The easiest way to create original content for students is to make a lesson in PowerPoint, which can then be fleshed out by recording narration as an MP4 video and uploaded to YouTube, an affiliate of Google. Other video-making programs are similarly suitable, and those without PowerPoint can create video lessons with one of the similar but free office suites such as OpenOffice. Additionally, it is also possible to use Google Slides for a similar purpose. Materials you already have as text documents can easily be modified into a lesson through copying and pasting. For the purposes of this paper, let us look at the transformation of a simple lesson on talking about similarities and differences. Originally a one-page Word file (Figure 2) including a simple outline of the target language and examples, as a PowerPoint (Figure 3) it needed five slides with the materials copied with some slight modifications. Although animations between the slides can be useful, a simple, streamlined presentation is more than acceptable, as was done here.
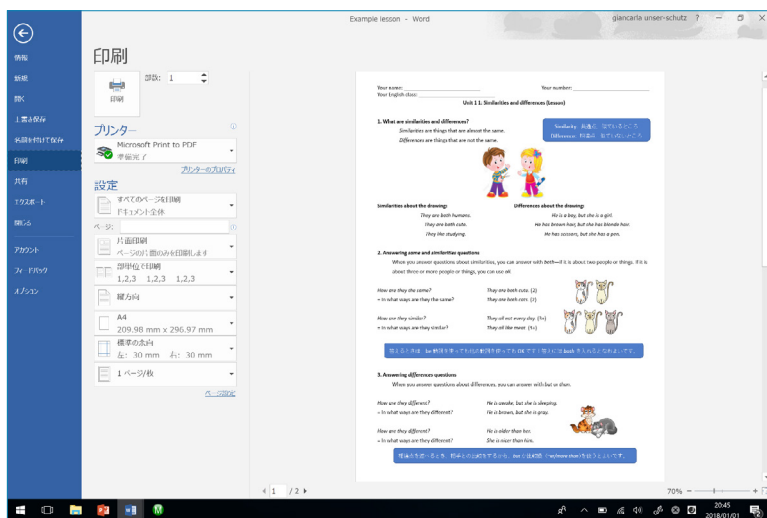
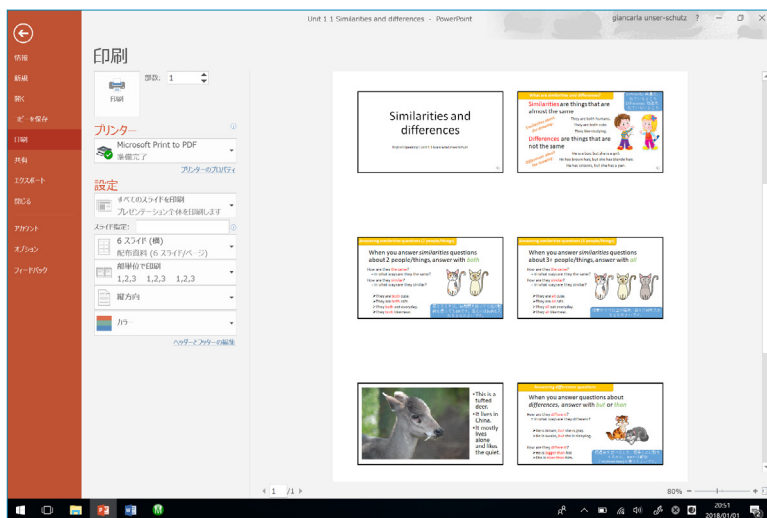*Figure 2.* Similarities and differences lesson, Word version.

Figure 3. Similarities and differences lesson, PowerPoint version.

Realistically, very long videos are more likely to become burdensome for students, so good lessons should be short review or learning points. A suggested goal is to have between three and eight slides, which should result in a video of between 3 and 5 minutes, depending on the topic. Anecdotal evidence in both my and others' (e.g., Stempleski, 2002) experiences suggests this is best. For example, instead of trying to cover all aspects of the simple past tense in one video, it may be prudent to make three or more shorter videos: one on the verb *be*, one on regular verbs, one on irregular verbs, and so on. Since a major concern when flipping the classroom is making sure students really watch the videos and do not just skip to the comprehension questions, it can be a good idea to include something random in the video that they could not guess, such as one slide unrelated to the topic, which can be used for a subsequent miniquiz. An example of this can be seen in the lower left slide in Figure 3, which gives three or four simple facts completely unrelated to the main theme, which can be tested later (see Figure 5).

Once the presentation is complete, narration can be added to help explain the lesson. If your computer has a camera, it also most likely has a microphone; if it does not, you will need to attach an external microphone. Since the quality of internal microphones is often poor, it can be a good idea to add an external microphone. Recording narration is done by going to the *Slide Show* tab on the top navigation ribbon in PowerPoint. After finishing, save it as a video through the export tab under *File*.

To upload the video, sign into YouTube using your Google account. Click on *Upload* and choose *Unlisted* so the video can only be seen by those with a link. By doing so, your video will not show up on any search engines, which can help limit who has access to your work but does not require you to to authorize each individual student who might need to watch it. Once the upload is finished, you can find your videos anytime by opening the *Creator Tools* option in the pull-down menu in the top right corner of the screen.

Step 3: Create a Quiz for Your Video in Google Forms

After your video lessons are completed, go back to Google Forms and create a new form. For grading purposes, all Forms should collect basic information such as student names, numbers, and class sections, all of which can be included as short-answer or multiple-choice questions. The next step is to embed your video, which can be done by clicking the YouTube icon found in the right-hand navigation menu (see Figure 1) and adding the URL. After this, any other questions or quiz items can be added below. It may be a good idea to include basic practice questions to confirm understanding. In this example, the basic practice questions were originally in a Word file (Figure 4).
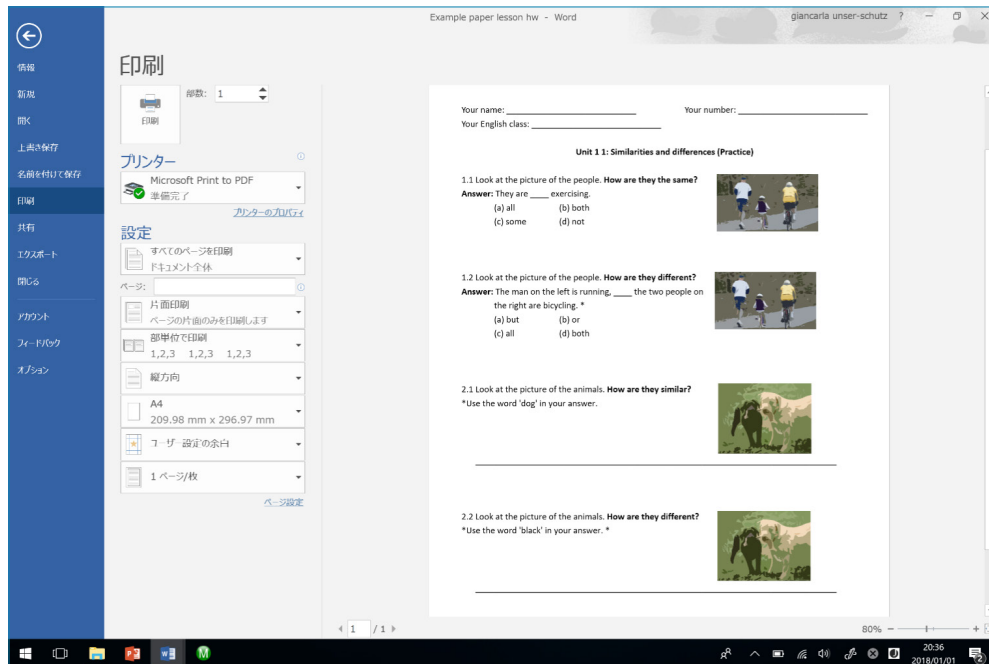
Figure 4. Practice questions, text version.

Additionally, if you included a random content slide, this is where you would include a few questions about it to make sure students really watched the video (see the last question in Figure 5). To avoid their being skipped, all important questions should be set as *Required*, which appears as an option in the bottom right of each question. All required questions will have a red star next to them in the final form (see Figure 5). Finally, it may be useful to add a final, nonrequired short-answer question to be used to collect feedback and comments about the lessons.
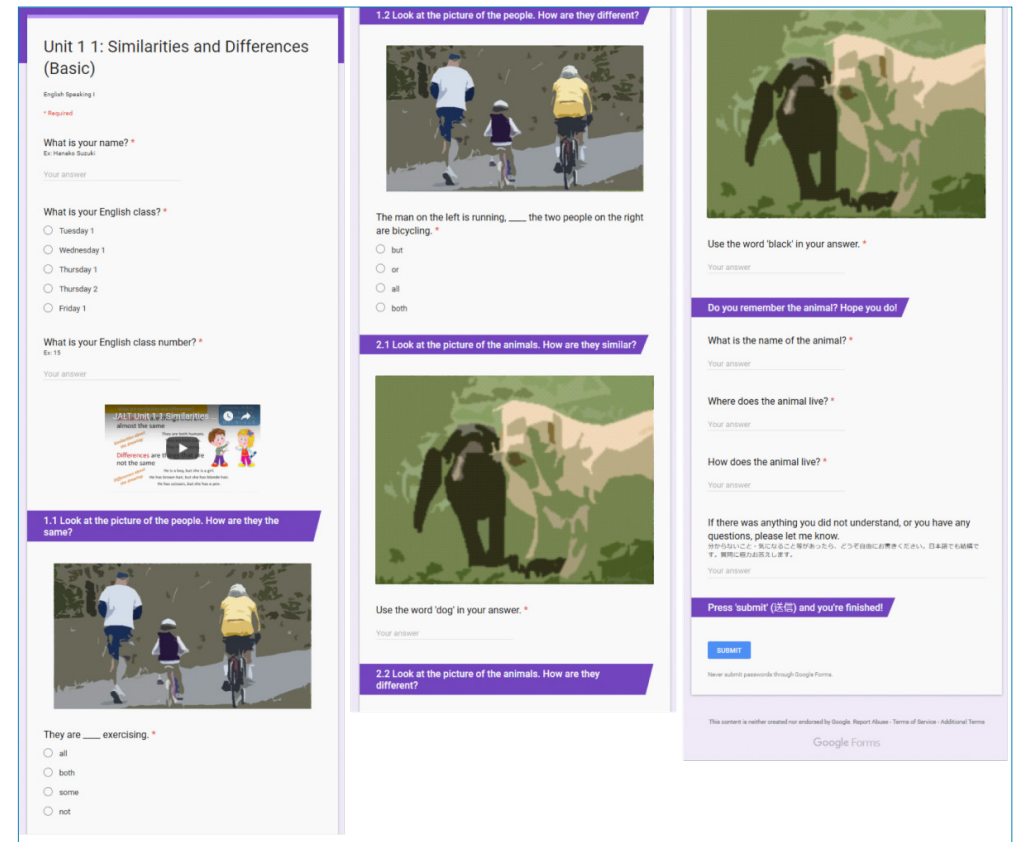

Figure 5. Final version of the Form, basic version (split for presentation purposes).

Following the points detailed above, you will end up with a sufficient, basic lesson Form. However, there are three additional, slightly more complicated options that can help improve the Form dramatically. First, you can use the *Sections* tool (the bar symbol in the right-hand bar in Figure 1) to split the Form into a series of pages. If you do not do this, the whole Form will be one long page, as in Figure 5. Although this is not a fatal flaw, it can become unwieldy if there are too many questions, especially for students

answering using their cellphones. Each section does *not* have to contain a question, meaning that they can be used for other purposes, such as to give instructions by adding text through *Titles* (the double-*T* symbol in the bar in Figure 1).

Second, you can use recursive questions to help encourage review by looping students to the same question until they get it right. To do so, you will need to have each question set as an individual section. After doing so, select the *Go to section based on answer* option, accessible in the three-dot symbol in the lower right corner of each question (Figure 6). By selecting this, a pull-down tab is added to each answer, from which you can select any of the sections of the quiz as the following page to access. Most simply, you can set incorrect answers to send users back to the same question and correct answers to allow users to continue to the next question. A more sophisticated alternative is to use the new section option to create *Sorry!* pages with no questions. Incorrect answers are sent to a *Sorry* page, which can be linked back to the same question. An example of this is shown in Figures 6 and 7, where each incorrect answer leads to the page on the right, which has no questions; students are instead looped back to the original question.
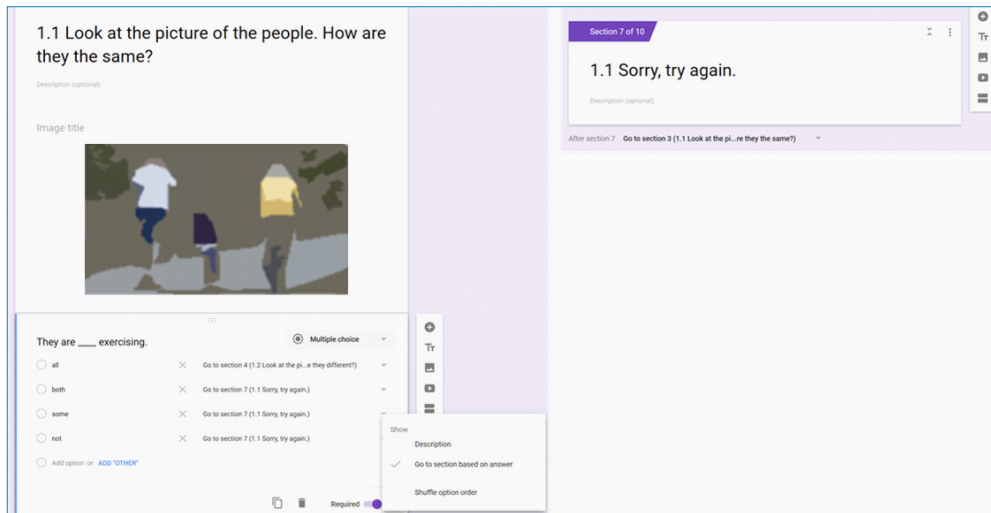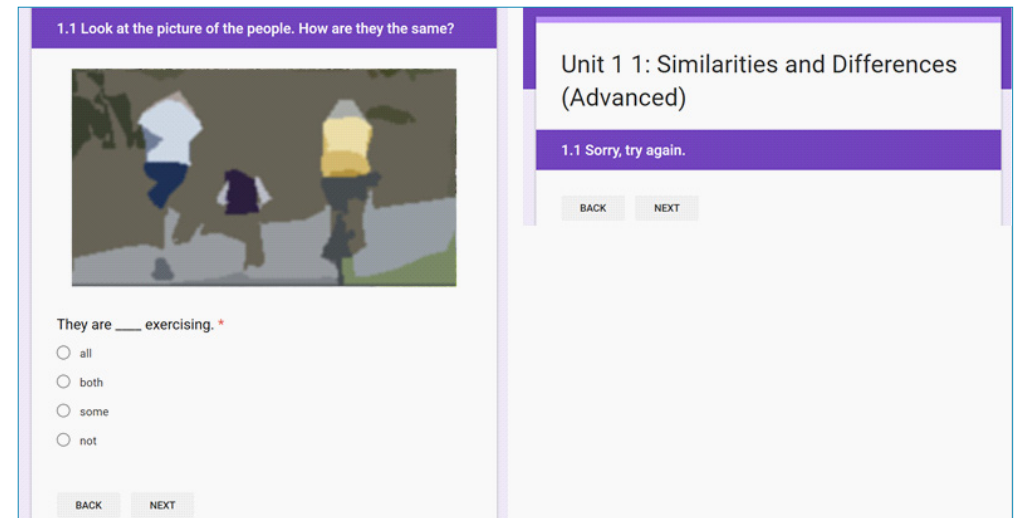

Figure 7. Example of a recursive question with a *sorry* page in the final version.

Finally, the *Response validation* option can be used to limit the answers accepted to short-answer questions, which can be useful for automatically correcting them. This option can also be accessed by clicking the three-dot symbol, upon which you will be able to select what is targeted (text or numbers, etc.) and how is it targeted (containing or excluding, etc.), as well as an error text message (Figure 8). This can be used to require the use of certain phrases or words, as in Figure 9. By requiring the answer to include the word *dog*, answers that are grammatical but not appropriate can trigger errors, which students must correct to move on. Note that to fully automate the correcting of short-answer questions requires having only one possible answer, which may not be the case for many prompts.

Figure 6. Example of a recursive question with its *sorry* page in the interface.
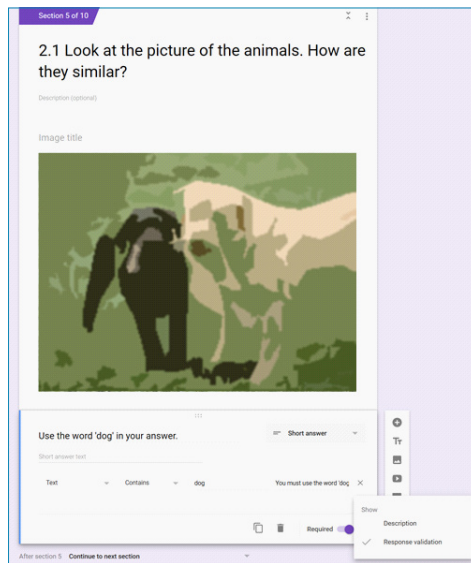
Figure 8 (left). Example of the response validation screen.

Figure 9 (right). Example of a question with response validation.

Step 4: Reviewing Your Form and Sharing It With Students

After finishing the lesson Form, it is crucial that instructors preview their new Form by clicking the eye-icon, trying both incorrect and correct answers. This is especially important for recursive questions and response validated questions, as the possibility for bugs is higher. When ready, share the preview page's URL with students or embed it in your class website or system. The URL of the Form can be unwieldy. If students are expected to type the URL in themselves, shortening the links through TinyURL.com or within Forms (by accessing the *Send* option at the top of the page on Forms) can minimize issues. An alternative is to make a simple lesson page to collect links for students; it is easy to make skeletal pages with Google Sites, accessible from https://sites.google.com/new

Step 5: Planning What to Do in Class

The last step to fully implement this procedure is to decide what to do in the classroom itself. To fully utilize the strengths of flipping the classroom, it is important to plan classwork that (a) deals with the video lessons and (b) will require active participation by the students. What is appropriate will depend on the topic of the lesson, the goals of the class, and the textbooks and curriculum of the class, but some guidelines can be laid out. In classes with a textbook, many problem-solving activities—any readings, listening, videos, or role-playing—can likely be taken from the textbook itself, with the video lessons on Forms focusing on the skills needed to do those activities. More generally, for lessons concerning grammar, classwork can focus on producing and practicing the grammar points through group work responding and talking about readings and audio or video recordings that focus on the points in question. Lessons on vocabulary can also be planned similarly. For lessons concerning pronunciation, classwork can focus on practicing pronouncing and listening for the learning points together. For lessons concerning speaking strategies, conversational pair activities targeting the strategies can be effective. The goal should be to focus on student-centered activities, with the instructor primarily acting as a facilitator for smooth group work and assisting students.

Assessing the Usefulness of Preparing Lessons on Google Forms
Evaluating the Time Necessary to Set up Forms for Lesson Plans

Although relatively simple to develop, it still takes a certain amount of time to set up course materials using the procedures described here. It is difficult to accurately predict how much time is required as this will change according to each individual's skills and previous experiences. In my personal experience, the final version of each lesson video is

usually around 5 to 10 minutes. Creating the PowerPoint slides usually takes about twice that time or more if there were no previous materials to work with; recording narration also takes about the same amount of time. The Form itself usually takes from 30 to 60 minutes to create. Total time comes to approximately an hour and a half at the longest estimate. If two or three lessons are given per week, this means it could take upwards of 5 hours of preparation.

This is not an insignificant amount of time, but it is also important to consider how this investment has freed up time productively. Putting the work online means that less time is spent printing and collecting homework. There is also less grading of homework, as most active problem sets are done together in class, and the use of recursive and response-validated questions means that most answers can be automatically corrected. Those questions that need to be graded can easily be processed by collecting the data in spreadsheets. In particular, the spreadsheet data can be used to make semipersonalized student reports, a process outlined in Unser-Schutz (2017). In addition, although the initial time investment is high, the materials can be reused from year to year, meaning that the burden is lower in following years.

How Have Classes Changed Using Forms?

An additional question is how to assess the usefulness of these procedures. Since starting to use lessons on Forms in my classes in the spring of 2017, several important changes have emerged. In the past, a great deal of class time was devoted to reviewing homework assignments, which could be particularly troublesome because students often did not understand what was being asked of them in the assignments, leading to many avoidable mistakes. Most of the homework now is doing the review lessons themselves, which means far less review work is taking place in class. Today, almost all classroom time is given to productive activities, such as practicing pronunciation, listening to videos and recordings, doing reading and writing assignments, conducting student interviews, and doing group work. Because we work together on the problem sets in class, there are also fewer avoidable mistakes, at least from the instructor's point of view. Having the work online has also meant that students can easily review for tests, which some students have actively been doing, and it has been easier to tell students what the scope of tests will be by referencing the lessons.

Of course, an important task will be to more accurately assess how effective the online flipped lesson system has been in improving learning outcomes. Because this is a study in progress, it is not possible to answer this question at this time, but I can strongly state that, at the very least, the majority of students are actively engaging with the assignments and doing them on time. A key point has been to make miniquizzes for each lesson, including questions about the random slides. These quizzes are returned to students using personalized reports (as detailed in Unser-Schutz, 2017), which make it clear that the online assignments are an important part of their grades, and so most follow the instructions. Needless to say, there are those who do not; however, that is not a problem unique to online systems. Anecdotally, in my own classes, I have felt no significant difference in the number of students who are not actively engaging with the work since using the online lessons as compared to earlier years when the homework was the more traditional style of problem sets on readings or grammar points in the textbook.

Finally, the lesson Forms have also offered an additional space to receive feedback from students. As recommended above, every lesson includes a final nonrequired, short-answer question where students can freely write any comments or issues they had. Previously, it was not uncommon for students to not complete homework or to do it incorrectly because of avoidable misunderstandings. This only became clear later, if at all, because most students did not actively request clarification. In the online system, having this space to make comments has led to more students providing valuable feedback. If anything, it would be desirable if students lodged complaints or reported issues more actively, so as to uncover bugs in the Forms. Some changes may be necessary in the future to ensure students report issues, including making it clearer when and how to report problems.

Expanding on Google Forms

Although the examples above outlined a very simple and basic procedure for using Google Forms to create online flipped classroom lessons, it would be incorrect to assume that this is all Google Forms can do. With many different structural options, Forms is malleable to different needs, and the basic tools presented here can be expanded upon easily. With some creativity it is possible to include such options as listening prompts or to add recordings. For example, although Forms does not allow users to add independent audio files, this can be worked around by adding narration to blank PowerPoints and saving them as videos. Likewise, Forms is not currently able to accommodate recording, but it does have an uploading option, which can be used to have students record themselves speaking on their own devices and upload their saved files. As noted above, the collection of response data as spreadsheets also means that they can be easily used in grading and giving students feedback, such as progress reports based on each lesson's miniquiz. Although it may seem unwieldy at first, Forms is a great tool for educators, and many new possibilities will likely become obvious through its use, starting with—but not limited to—creating online lessons to try a flipped classroom approach.

Needless to say, there are still many issues to be dealt with that go beyond this paper. Although I have looked specifically at how Google Forms can be used for flipping the classroom, the effectiveness of flipping the classroom is still being debated. Although Han (2015) found that it seemed to positively improve learning autonomy, Han's students were generally highly motivated to begin with, meaning similar results may not be achievable in all cases. Likewise, although Sung (2015) found that many students viewed the flipped classroom positively, others found that it presented a significant burden on their time and viewed it as another potentially irresponsible experiment with students' time and learning. Attention both to what kinds of classrooms are best suited for being flipped and how to gain students' trust when using potentially unfamiliar methods such as those described here remain issues that could not be fully addressed in this short paper. However, as part of a larger project on developing easily accessible online tools for learning, a continuing task is to collect evidence towards the usefulness of these procedures, students' attitudes towards them, and how they affect classroom activities. In order to fully evaluate the procedures outlined here, I am now planning a follow-up survey on students' responses to the online video lessons to evaluate how the flipped classroom method has worked for my students.

Acknowledgments

Bio Data

Giancarla Unser-Schutz is an associate professor at Rissho University. She is currently interested in how to improve motivation and interest amongst students in non-EFL-specialist faculties. She also conducts research outside of EFL on the linguistic characteristics of *manga* as well as Japanese naming practices. Her publications may be found at http://rissho.academia.edu/GiancarlaUnserschutz/. <giancarlaunserschutz@ris.ac.jp>

References

Bergmann, J., & Sams, A. (2012). *Flip your classroom: Reach every student in every class every day*. Washington, DC: International Society for Technology in Education.

Han, Y. J. (2015). Successfully flipping the ESL classroom for learner autonomy. *NYS TESOL Journal, 2*(1), 98-109.

Milliner, B., & Flowers, S. (2015). Form technology for language teachers: How do you like your monkey? *The Language Teacher, 39*(3), 24-27. Retrieved from http://jalt-publications.org/tlt/departments/tlt-wired/articles/4475-form-technology-language-teachers-how-do-you-your-monkey

Stempleski, S. (2002). Video in the ELT classroom: The role of the teacher. In J. C. Richards & W. A. Renandya, *Methodology in language teaching* (pp. 364-367). Cambridge, England: Cambridge University Press.

Sung, K. (2015). A case study on a flipped classroom in an EFL content course. *Multimedia-Assisted Language Learning, 18*(2), 159-187.

Unser-Schutz, G. (2017). Increasing feedback for students with personalized reports and Google Forms. In P. Clements, A. Krause, & H. Brown (Eds.), *Transformation in language education* (pp. 414-421). Tokyo: JALT. Retrieved from http://jalt-publications.org/files/pdf-article/jalt2016-pcp-054.pdf