Online Teaching: The Affordances of PowerPoint and YouTube for a More Inclusive Approach

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Abstract
Online education, even when planned, has a number of challenges including availability and affordability of technology (Palvia et al., 2018), students' learning differences (Jacobs, 2013; Kebritchi et al., 2017), and tech-literacy of instructors and learners (Jacobs, 2013). In emergency situations witnessed in spring 2020, one of the keys to successful online education might be collaboration among instructors as recommended by Fish and Wickersham (2010). The present paper is a move in that direction and shares techniques that can help address two of the challenges mentioned above: (1) the availability and affordability of technology, and (2) students' learning differences. The latter point is particularly relevant to those teaching multilingual learners in that it relates to one of the solutions suggested by Zamel and Pack (2006) in addressing multilingual students' academic challenges; that is, providing handouts to facilitate comprehension of the content being presented.

Keywords
teaching, PowerPoint, YouTube, Inclusion, ESOL, technology, media

Background

When Palvia et al. (2018) predicted that "globalization of e-education is bound to happen" (p. 239), they probably did not realize how soon their prediction would become reality. The outbreak of Covid-19 worldwide in spring 2020 showed how online education may be the only option for teaching and learning to be sustained (Gacs, et al., 2020). Educators found themselves compelled to suddenly transition from face-to-face (F2F) to online delivery; however, transitioning posed a number of challenges that were not expected.

Online education, even when planned, has a number of challenges. Notwithstanding issues related to tech-literacy of instructors and learners (Jacobs, 2013), course designers and/or instructors have a number of factors to take into consideration, including, but not limited to, availability and affordability of technology (Palvia et al., 2018) but also students' learning differences (Jacobs, 2013; Kebritchi et al., 2017). Indeed, ease of access to technology has been identified by Volery and Lord (2000) as one of the main variables that affect online teaching/learning, and studies have shown that *minority students* may be less likely to succeed in online courses due to a lack of access to adequate technology (e.g., K. Moore et al., 2002; P. B. Moore, 2002). This underscores the importance for course designers and/or instructors to ensure that the course content is readily accessible to all learners, and if possible, on a Learning Management System (LMS) that students are familiar with. This is part of the impetus of the present paper.

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Another equally important factor for online course designers/instructors to take into consideration are student learning differences. As rightly put by Harrell and Bower (2011), "[t]he incongruence of a student's learning style with the characteristics of the online environment could lead to frustration and eventually course withdrawal" (p. 187). While this statement could apply to all students, in general, attending to students' learning differences becomes even more crucial when it comes to teaching multilingual learners. According to Zamel and Pack (2006), multilingual students bring with them "a multiplicity of intersecting experiences and a constellation of linguistic and cultural factors" (p. 127) that have a great impact on how they react to course materials, which in turn, can affect their performance. For instance, while students with prior first language literacy might be more at ease processing course content, those with less academic experience might have more difficulties digesting content in a language (English) they are still learning. Other students, still, may have greater fluency in one or more language skills than in others (e.g., reading vs. listening, speaking vs. writing) and that, in turn, may affect their attitudes toward course materials, and ultimately, their performance in the course.

A number of solutions have been suggested to address these issues specific to multilingual learners. One solution suggested by Zamel and Pack (2006) is the use of handouts that will help learners understand the content being presented. This is the rationale behind the second technique shared in the present paper (see Zamel & Pack, 2006, for more details on addressing multilingual students' academic challenges).

In sum, the present is an attempt to address two of the challenges discussed above; namely, (1) the availability and affordability of technology and (2) students' learning differences, particularly when it comes to multilingual learners. Using PowerPoint and YouTube, two familiar and affordable tools, instructors can design course content in both audio-video and downloadable/printable formats to accommodate different learning preferences, provide more support for comprehension, and facilitate access to content for students with limited internet access. The author has successfully used the techniques described in the remainder of the present paper in the design and delivery of content for a Massive Open Online Course (MOOC) on English Communication for Health Professionals in the West African region; and more recently, for an undergraduate online grammar course at a university in the southern United States.

1. Creating a Lecture Video

1.1. Some Basic Guidelines

Before diving into the different steps of creating a lecture video, below are a few tips that can help make the content simple and easy to understand for students:

- Provide the content outline at the beginning of the presentation. This can help students know what to expect and possibly activate their background knowledge on the topic.
- Use minimal content on each slide. To that end, a good option is to use bullet points as much as possible and avoid too much text on the slide. There is ample opportunity to provide additional explanations when recording the audio-slides (see next section).
- Use the *Animations* tools in PowerPoint to sequence the content of each slide. This allows students to focus on one point at a time. Additionally, the *Shapes* tool (e.g., arrows, text bubbles, circles, rectangles, etc.) can be used to draw students' attention to key points. However, it is important to remember that too much animation might end up being distractive for students.

- Use section divider slides to break up the content of the presentation. A section divider slide is a slide with the title of the next section. It serves the purpose of visually indicating to students the end of the previous section and the beginning of the next one.

Once all slides have been created following the guidelines above, the next step is to create a video of the PowerPoint presentation following the steps described below. The steps and figures provided here are primarily those followed when using a Mac computer, but they are similar to steps in Windows. Where there are significant dissimilarities, alternative steps are also provided for Windows users.

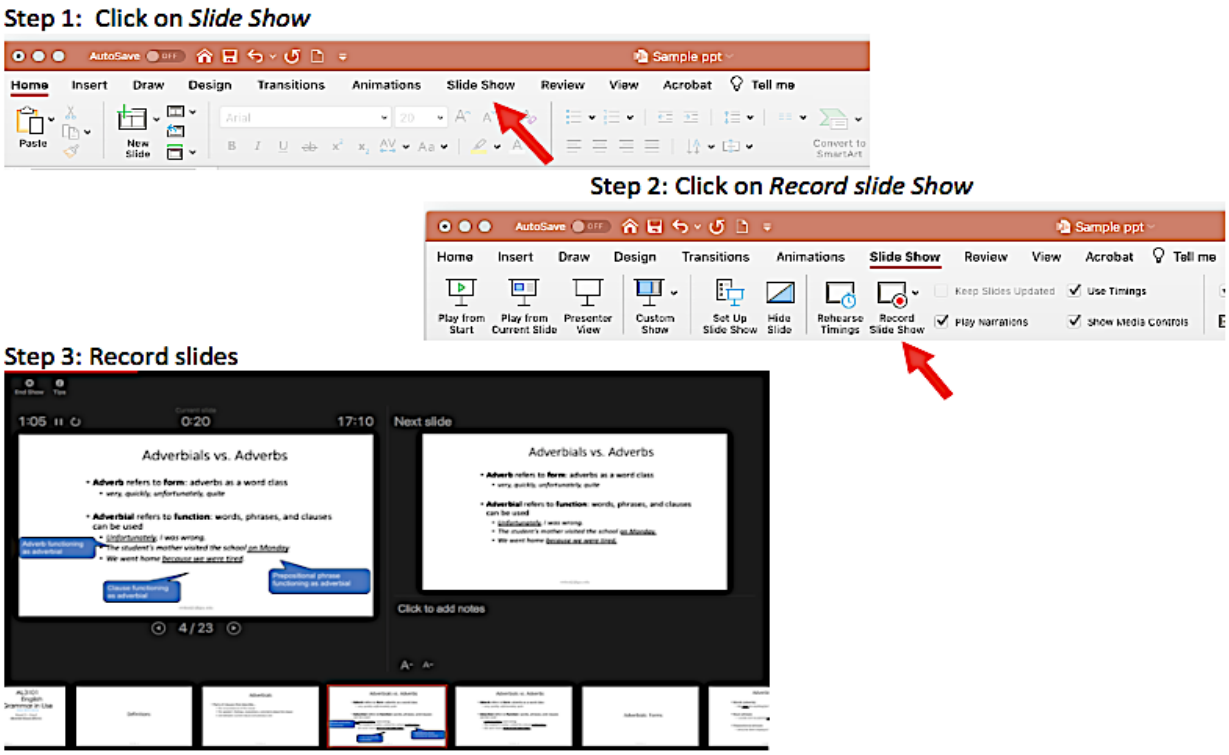
1.2. Recording Audio Slides in PowerPoint

There are three easy steps to follow for the recording of the audio slides in PowerPoint:

- **Step 1:** Click on *Slide Show* on the menu bar in PowerPoint (see Figure 1).
- **Step 2:** On the new toolbar that appears, click on *Record Slide Show*.
- **Step 3:** Start recording your slides once the recording screen opens. Here is the opportunity to provide explanations and additional details, a little like when giving a F2F presentation. As seen in Figure 1, Step 3, the recording screen is similar to the Presenter View in PowerPoint with a preview of the next slide or the next point on the slide. To move to the next point or slide, just click on the right arrow under the current slide or use the down arrow on the computer keyboard.

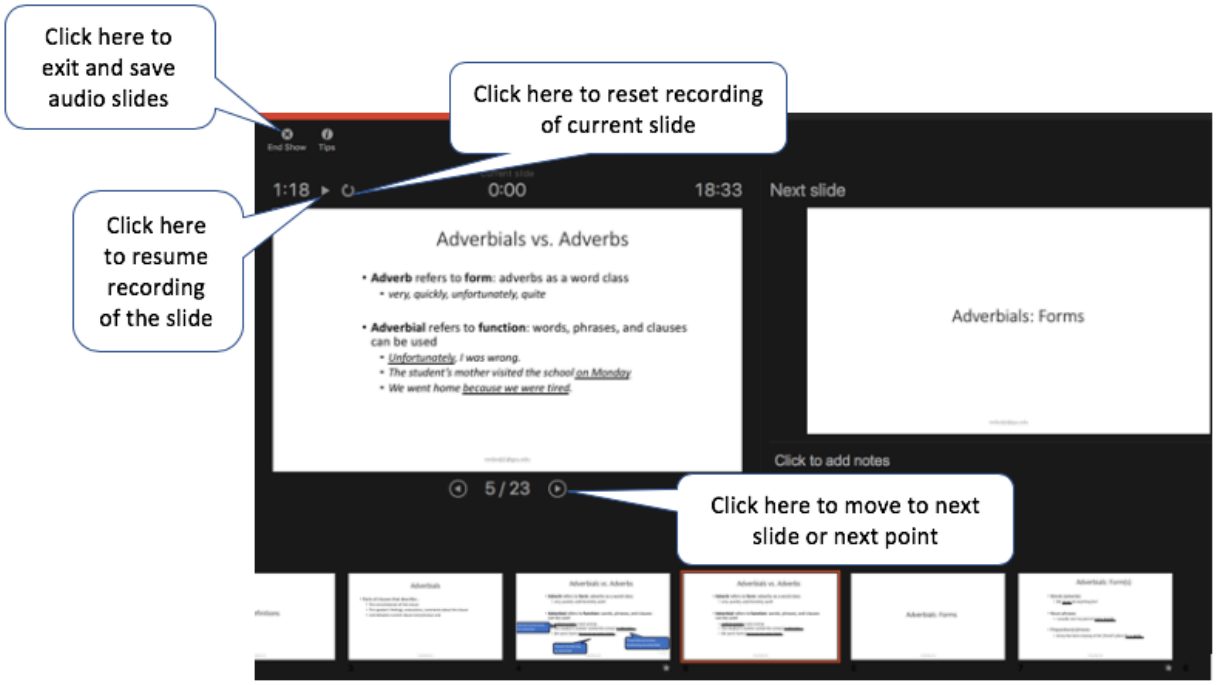
Figure 1

Three Steps for Recording Audio Slides



In case of error while recording a slide, click on the round arrow above the slide to reset the recording of that single slide and then click on the *play* button to resume recording (see Figure 2). For Windows users, click on *Clear* tab above the slide, and in the dropdown menu that appears, click on *Clear Recordings on Current Slide.* Once all the slides are recorded, click on *End Show* to exit and save your audio slides.

Figure 2
Step 3 in Details



Once all audio slides have been recorded and saved, the next step is to convert the audio into MP4 format, still in PowerPoint.

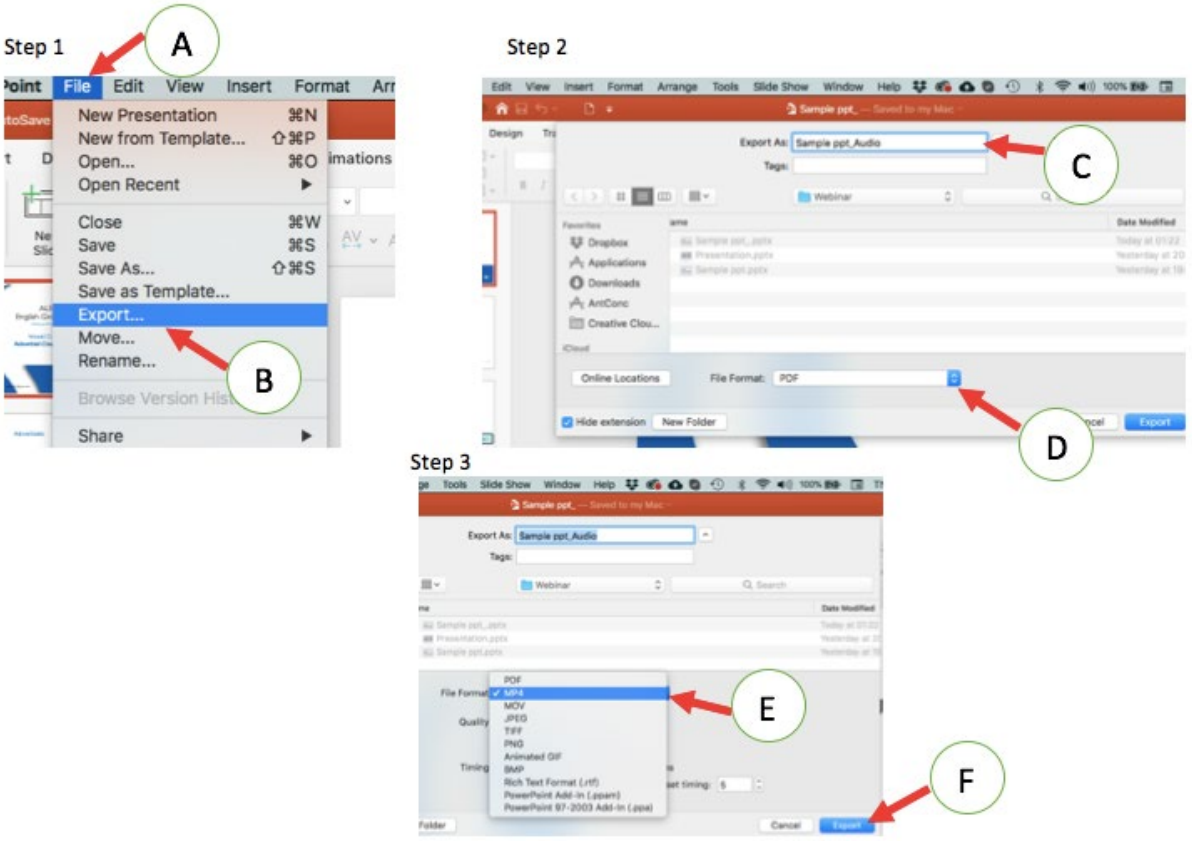
1.3. Creating MP4 File in PowerPoint

Here also, there are three easy steps described below and visualized in Figure 3:

- **Step 1:** On the menu bar, click on *File* (A), then on the dropdown menu that appears, select *Export* (B). If you are using Windows or a PC, after (A) and (B), click on *Change File Type,* then click on *Save as Another File Type.*
- **Step 2:** In the dialog box that appears, name the file (C); then click on *File Format* (D). For Windows users, (D) will correspond to *Save as type.*
- **Step 3:** In the dropdown box that appears, select MP4 (E) and click on *Export* (F) or *Save* for Windows users.

Once PowerPoint finishes generating the MP4 file, the next step is to create the video in YouTube. It should be mentioned that it can take time for PowerPoint to convert the audio slides into an MP4 file depending on the length of the presentation. The longer the presentation, the more time it will take to create the MP4 file. If possible, divide the content of your lesson or lecture into short presentations of 10 to 15 minutes.

Figure 3
Creating MP4 Video File in 3 Steps

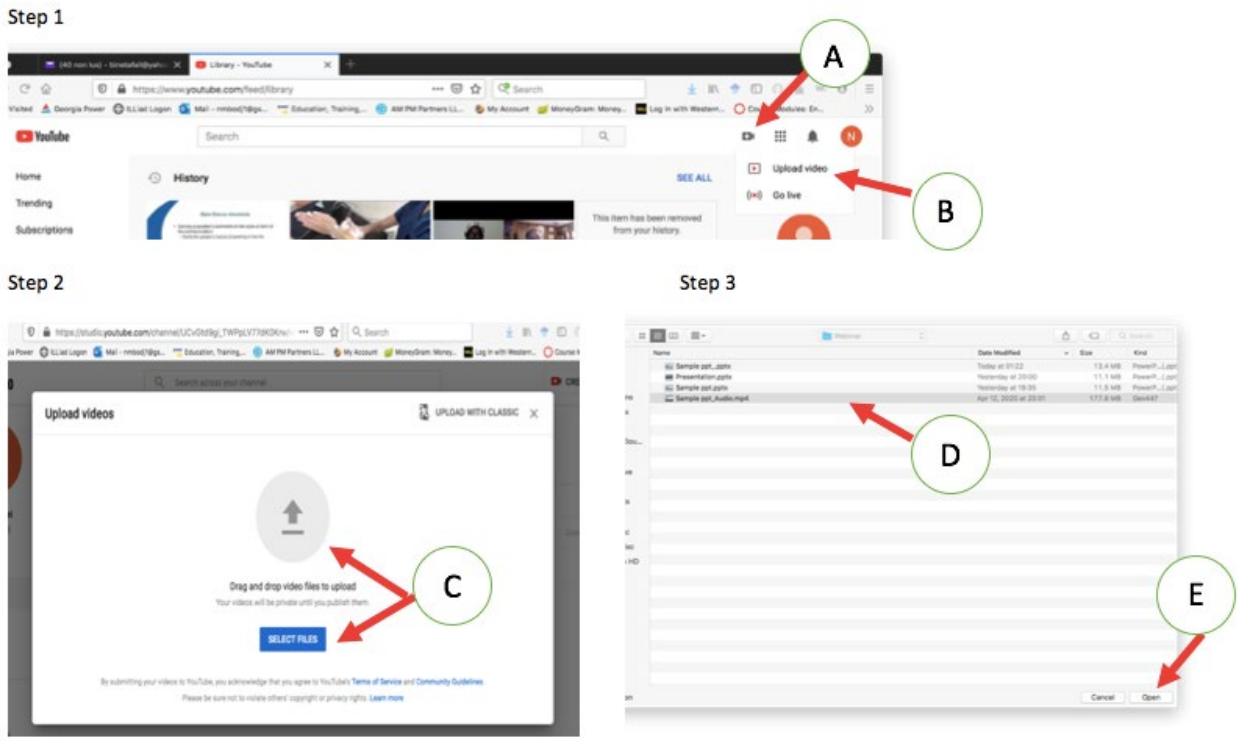


1.4. Creating the Video in YouTube

To create the video in YouTube, all you need is a Google account. Log in to YouTube using your Google credentials. If you do not have a Google account, create one and then log in to YouTube. Once on your YouTube page, follow these three steps:

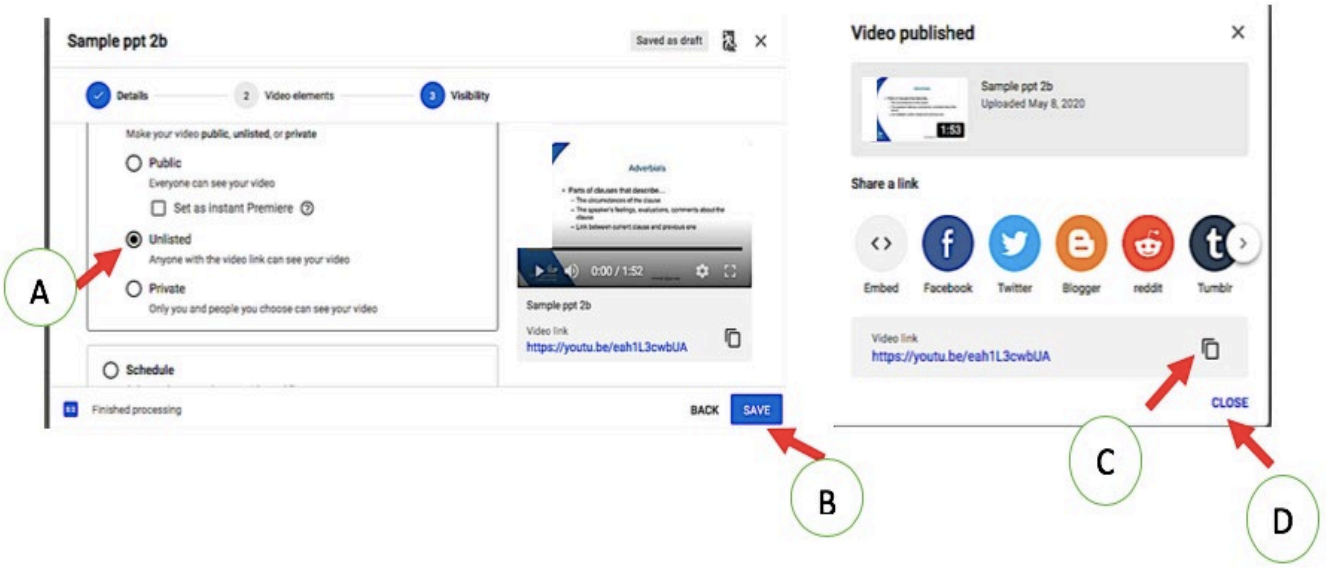
- **Step 1:** On your YouTube page, look at the top of the page for the video icon (see Figure 4). Regardless of what page you are on in your account you will always see the video icon on top of the page. Click on the icon (A) and it will give you two options: *Upload Video* or *Go Live;* click on *Upload Video* (B)
- **Step 2:** Once you click on *Upload Video,* a dialog box will appear. Click on select file or just click on the arrow above it (C).
- **Step 3:** In the new dialogue box that opens, browse for the MP4 you have just created and select it (D). Then click on *Open* (E).

Figure 4
Creating a Video in YouTube in 3 Steps



Once the MP4 file has been uploaded, follow the steps in YouTube to complete the creation of the video. Once YouTube finishes processing the video, select the visibility of your video (A). Personally, I always choose *Unlisted*. That way, the video is not searchable in YouTube but anyone who has the link can access it. For greater collaboration, it is important not to save your video as *Private*. Private videos can be shared with a maximum of only fifty users and those users cannot share the video. In other words, even if someone else has the link, they cannot access the video unless you personally invite them. After selecting the visibility of your video, click on *Save* (B). A box will appear with multiple options for sharing the video. All you have to do is copy the video link (C) and share it with your students, whether you are using a commercial learning platform (e.g., Canvas, Blackboard, D2L, LoudCloud, itsLearning, etc.) or other free platforms like Google Classroom. If you are not ready to share the video yet, click on *Close* (D)*;* you can always get the link later from your YouTube page.

Figure 5
Last Steps in YouTube



2. Creating a Reading Version of the Video

The purpose of creating a reading version of the video is twofold. First, it attends to students' differences. Students can choose to watch the video or download the reading version depending on their learning preferences. For multilingual students who are less fluent in listening, it certainly would be beneficial to follow the written version while listening to the video. As discussed above, this reading version of the lecture can also serve the purpose of facilitating multilingual learners' comprehension of the content of the lecture. In fact, some of my undergraduates (also multilingual students) told me at the end of the course they found it very helpful to follow the reading document while listening to the video. The second purpose of the reading version is to make the same content available to students with limited internet access. Downloading a Word or PDF document certainly requires less data than watching a YouTube video. The reading version is created using the transcripts of the video (automatically generated in YouTube) and images of the PowerPoint Slides.

2.1. Generating the Video Transcript in YouTube

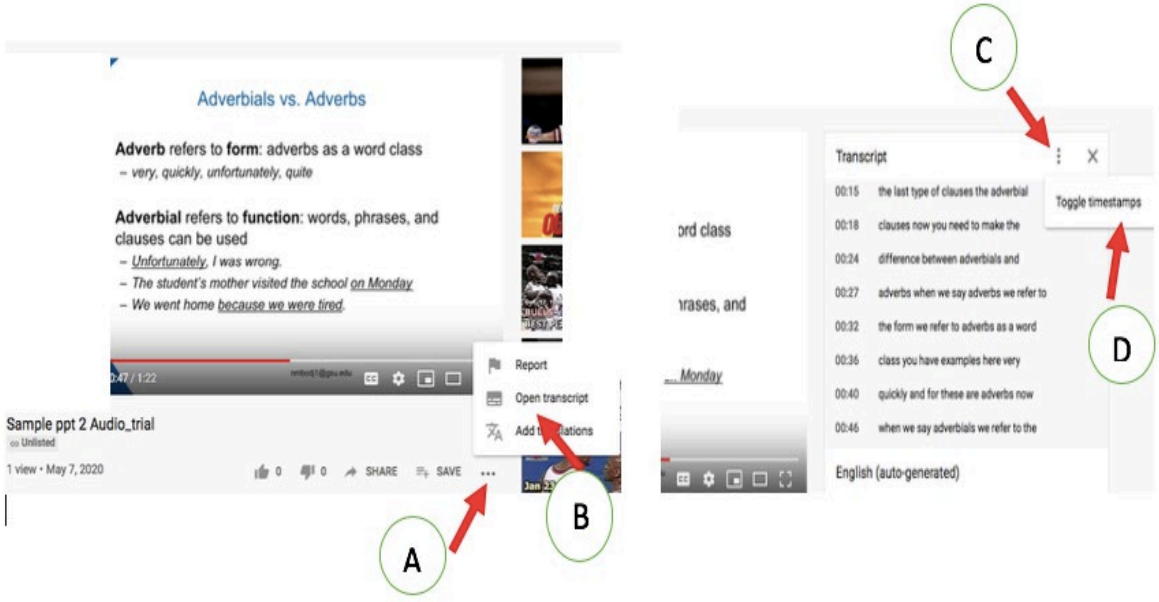
Here again, there are three easy steps:

- **Step 1:** Open your video in YouTube.
- **Step 2:** Once the video is open, click on the three little dots in the menu bar below the video (A). In the dialog box that appears click on *Open Transcript* (B), and the transcript will appear at the top right of the page.
- **Step 3:** As you can see on Figure 6, the transcript comes with time stamps. To hide the time stamps, click on the little dots on the top right of the transcript window (C) and then click on *Toggle Time Stamps* (D).

After these three steps, just select and copy the transcript and paste it on a Word document. At this point, it is important to mention that the transcript is machine-generated, which means that it may not be a 100% accurate. It is necessary to go over the transcript to check it for accuracy and

punctuation. After editing the transcript, you can now move on to converting the PowerPoint slides into images.

Figure 6
Generating Video Transcript in YouTube



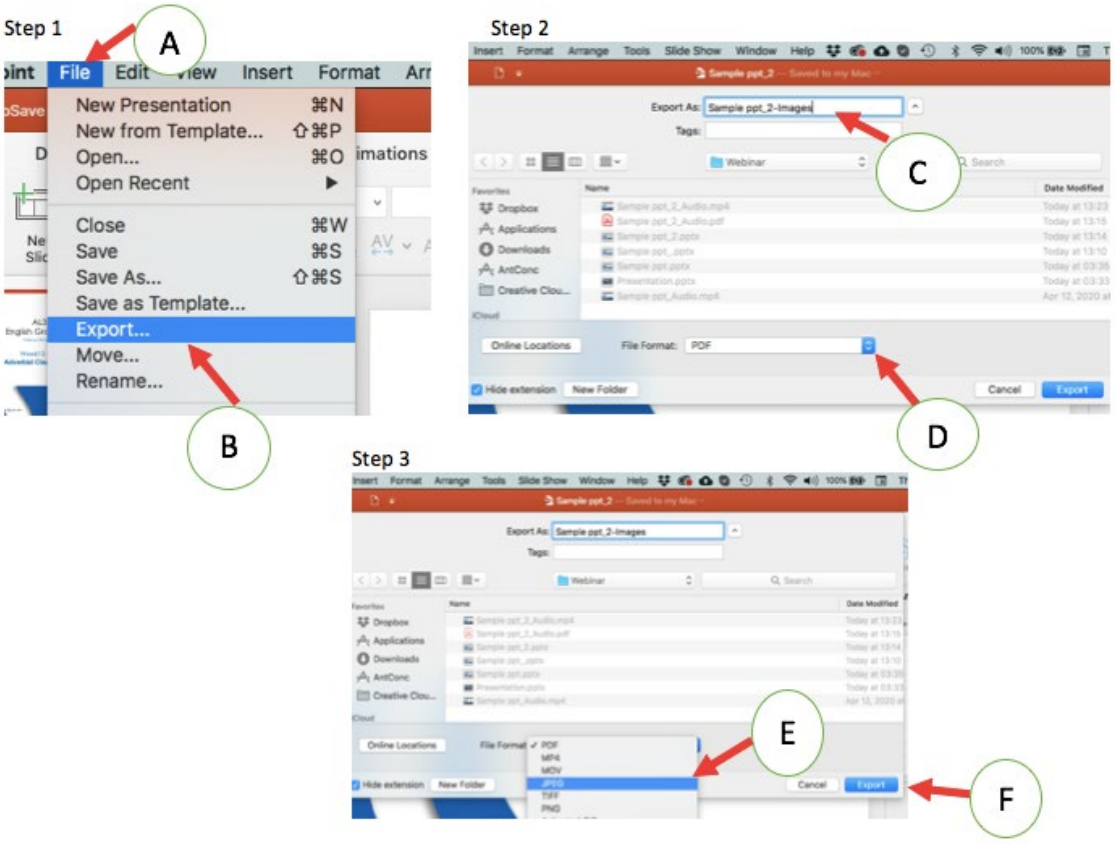
2.2. Saving Slides as Images in PowerPoint

To obtain the images of the content that will be used for the reading version of the video, open the original PowerPoint presentation and follow (again) the three easy steps below:

- **Step 1:** On the menu bar, click on *File* (A) and on the dropdown menu, click on *Export* (B). If you are using Windows or a PC, after (A) and (B), click on *Change File Type,* then click on *Save as Another File Type.*
- **Step 2:** In the dialog box that appears, name your file (C) and click on the *File Format* button to open the drop-down menu (D). For Windows users, (D) will correspond to *Save as type.*
- **Step 3:** On the dropdown menu, select JPEG or PNG (E) depending on your preferred extension for pictures, then click on *Export* (D) or *Save,* for Windows users. PowerPoint then generates a folder with all slides saved as separate images.

Now that you have your video transcript and individual images of the slides, you can create the reading version of your lecture. Open a new Word document, insert the first slide and then copy and paste the corresponding passage of the transcript. Repeat the same process with subsequent slides till you reach the final slide. This transcribed version of the video can then be saved in both Word and PDF documents and shared with the students.

Figure 7
Converting Slides into Images in 3 Steps



Conclusion

In this paper, I shared techniques for creating course content using familiar and affordable technology and using different modes of delivery of such content. Beyond fostering ease of access to course content for all students, the techniques shared in this paper can contribute to a more inclusive approach to online teaching by providing multilingual learners with the additional support they may need to comprehend course materials. Indeed, finding ways to provide this additional support is all the more crucial in a context like the United States where more than 176 languages are spoken nationwide (Castek et al., 2008) and where multilingual learners are expected to make up for approximately forty percent of the K-12 student population alone (Thomas & Collier, 2002). Since online education seems to be the main (if not the only) option in these challenging times, collaborating and sharing techniques and tips is more important than ever for instructors. It is my hope that the techniques shared in this paper will help alleviate some of the challenges (for both instructors and students) inherent to online education and perhaps most importantly, contribute to a more inclusive approach to online teaching/learning.

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