

DIGITAL AUDIO RECORDING AND ITS APPLICATIONS IN THE FOREIGN LANGUAGE CLASSROOM

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Abstract

Looking for an easy-to-use technology tool that can help engage your students in communicative activities and practice speaking? Audacity has various applications for the foreign language classroom, for interpretive, interpersonal, and presentational modes of communication. From assessment to community-based group projects, digital audio recording can facilitate the realization of your objectives, no matter the target language or level.

Digital Audio Recording and its Applications in the Foreign Language Classroom

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Introduction

Unwieldy cassette players and poor-quality microphones are a thing of the past. Now, modern technology in the form of digital audio recording offers unprecedented ease in student-produced voice recordings in classroom settings. Digital audio recording is a useful tool in foreign language classrooms where a primary goal is for students to practice speaking the target language, hear how they sound, and improve their speaking proficiency. This kind of self-monitoring is an important part of language production for all levels of foreign language learners. Free, easy-to-use software programs such as Audacity are tools that facilitate and document student practice speaking the target language. By recording themselves speaking with the software, students' original language production is recorded and students have the opportunity to go back and hear themselves speaking. Now students are able to reflect on their accent, grammar, fluency, intonation, etc. This tool can serve a variety of purposes, including self-assessment, group work, dialogues, links to culture, and teacher assessment.

In the following module, we present our favorite online resources and examples of how to use Audacity for digital audio recording in the classroom. We also reflect on the value that this tool adds to classroom activities, and possible challenges that teachers should be prepared for when employing this tool in their work. Ultimately it is the potential to use Audacity as tool in larger student-centered, creative, collaborative projects that is most exciting in terms of implementation in the classroom. Beyond just improving their own individual speaking abilities and comparing their pronunciation with that of their teacher and other fluent speakers, digital audio recording tasks can be about student-created work. Students can write, record, edit,

* <http://creativecommons.org/licenses/by/2.0/>

and produce their own audio files and share as widely as they would like. Ideally and if time allows, Audacity can be a tool that allows students to take learning outside of the classroom. Larger interpersonal webs can be created with classmates, families, and native speakers in the community. Since foreign language learning is about not only perfecting, but applying spoken language in interactive and presentational formats, digital audio recording offers a host of options for the language teacher and learner alike.

Digital Audio Recording 101

Audacity is an instructional tool for digital audio recording and editing. It is a free program available for download here¹. This tool allows students and teachers to easily record, edit and eventually share audio files, thus facilitating student practice and assessment both in speaking and listening comprehension in the target language. Audacity requires Windows, Mac OS X, GNU/Linux or a similar operating system, at least 64 MB RAM and a 300 MHz processor, a microphone, speakers or headphones, and a high speed internet connection (recommended). Teachers and students first need to download the software and learn how to use the software via helpful tutorials. (See below for links to these tutorials.) This program allows teachers and students to record live audio files and edit them in a variety of ways. Some, but certainly not all, of the various editing features are the following abilities:

1. To cut out unwanted sounds such as pauses, coughs, hisses and hums
2. To copy, paste and delete
3. To undo and/or redo an unlimited number of times
4. To rearrange the order of sounds clips
5. To adjust volume levels before, after and while recording
6. To fade and amplify sounds
7. To mix multiple clips together and fuse them into one track
8. To change the speed or pitch of clips

Users can also transfer older out-of-date media files (such as tapes or records) into digital copies that can then be enhanced and edited.

With so many editing features students can submit their best work by recording and re-recording assignments until they are satisfied with their product. By recording, re-recording and editing, students are also practicing the language more and developing important self-monitoring skills needed to improve their language knowledge. Audio files can be saved in the WAV format to be put on CDs for students or be exported as MP3 files and shared with other users. This means that not only can Audacity be used to facilitate assessment of speaking skills, but it can also be employed as a resource for students who missed school and want to download that day's lecture or for students who need to extra listening comprehension or pronunciation practice.

Audacity Tutorial Links

“Creating an MP3 file using Audacity” http://www.teachertube.com/view_video.php?viewkey=ac88ccd8100451384c97²

This is a very instructional video on how to do everything from recording to exporting as an MP3 file. This video shows you how to cut and paste, adjust volume, rearrange the order of clips, add background music, and fade in and out. For a more detailed look at the Audacity main screen, click on the following link <http://www.sad46.org/download/audacity-basics.pdf>³.

“Audacity Slightly Advanced”

http://www.teachertube.com/view_video.php?viewkey=b2e6bf071729a4fa68df⁴

Here is another helpful video that assumes that you already have some knowledge of the Audacity basics. It teaches you how to use some of the more advanced Audacity features such as amplifying select sections and importing and layering tracks. There is also a PDF document that offers a zoomed in view of many of

¹ <http://audacity.sourceforge.net/download/>

² http://www.teachertube.com/view_video.php?viewkey=ac88ccd8100451384c97

³ <http://www.sad46.org/download/audacity-basics.pdf>

⁴ http://www.teachertube.com/view_video.php?viewkey=b2e6bf071729a4fa68df

the features used in this video. To access it, follow this link <http://teachdigital.pbwiki.com/podcasting>⁵, scroll down to the “How-to Guides and Articles” section and click on letter b. Audacity Quickstart Guide (2 page PDF).

“Audacity Help Page”

<http://audacity.sourceforge.net/help/>⁶

This is a link to the Audacity Help page. From this website, you can access links to the Frequently Asked Questions page, the Audacity user manual and the Audacity Wiki page which contains many useful tips and tutorials.

“Podcasting Basics”

Since Audacity files are often eventually shared as podcasts, a working knowledge of podcasting basics can be necessary. See the site below to learn more.

<http://teachdigital.pbwiki.com/podcasting>⁷

Classroom Applications

There are many examples of more teacher-centered digital audio recording in foreign language classrooms, while we found less student-centered examples shared online.

Teachers use Audacity: to record their lectures so that students can listen to them at home; to produce vocabulary and pronunciation practice guides for their students; to record native speakers’ voices in the creation of speaking and listening materials; to record audio off of streaming video or local media so that students can listen to the voices on radio broadcasts or podcasts. For example, teachers are using Audacity to record sight word lists of new vocabulary items and then burned them onto CD’s so students could listen/practice in class or at home. Teachers also record their own voices reading texts, creating audio files and burning them onto CD’s for students, who could then listen to the audio files at home as they read along with the text.

Abel Olivas⁸ has his Spanish II and AP Spanish students record themselves on Audacity software and submit those files for the 20% percent of their final grade that is based on oral activities. For speaking practice, students prepare oral presentations in class and record them with Audacity. This kind of practice supplements more extemporaneous, interpersonal activities in class as well as student voice recordings using a cassette recorder to simulate the AP exam.

Joanne Van Tuyt⁹ makes "audio flashcards" for her Russian language students using the Audacity software so that students can hear and practice the language on their own time. She records each vocabulary word or phrase in its own audio file which students can organize in their own playlists; vocabulary audio files can also be accompanied by a relevant video file, or photo.

Audacity is a tool that facilitates resource-producing and -sharing across foreign languages and levels. Teachers direct students to online resources created by them or other teachers. This site¹⁰ links to Spanish-language and bilingual podcasts that guide student through vocabulary and pronunciation practice and grammar review. Students can easily access audio files for more exposure to proper pronunciation in the target language (perhaps with a different accent than their teacher’s) and for practice in listening comprehension. At this site¹¹, foreign language teachers post podcasts recorded on a variety of subjects, sharing resources from class lectures to pronunciation practice tutorials. Students can practice specific thematic vocabulary or listen to a podcast called "How to Improve your Spanish Pronunciation," recorded by an experienced Spanish teacher.

Uses of Audacity for second language acquisition: <http://www.linux.com/feature/59062>¹²

Students are using Audacity to practice and record their speaking skills for their teacher for use in assessment. Students can listen to their own voice compared to that of their teacher or another native

⁵<http://teachdigital.pbwiki.com/podcasting>

⁶<http://audacity.sourceforge.net/help/>

⁷<http://teachdigital.pbwiki.com/podcasting>

⁸<http://faculty.harker.org/AbelO/APSpanLang/index.htm>

⁹<http://cit.duke.edu/ideas/projects/2005/08/01/audio-flashcards-russian/>

¹⁰<http://www.spanish-bookworld.com/spanish-podcasts.html>

¹¹http://epnweb.org/index.php?request_id=1628&openpod=10#anchor10

¹²<http://www.linux.com/feature/59062>

speaker, listening to the ways that their pronunciation differs; this is a key example of the self-monitoring that Audacity can facilitate. What we did not find as many examples of online were lesson plans or descriptions that focused on student-created audio files in foreign language classrooms. However, some student-created Audacity files are part of larger multimedia works like digital storytelling projects (using Photostory or Microsoft Moviemaker software). Students can also record original commercials or public service announcements in the target language and share them online as podcasts. Research shows that task-based assignments are more effective and meaningful, in that students use linguistic elements in context and in real-life situations.

Potential for More Creative Use

We think that there is room for much more creative, student-centered uses of Audacity in foreign language classrooms. Original student work is the first step: creating commercials, song mixes, digital travel brochures or shopping guides. Digital storytelling also involves student creativity and self-expression. These all involve student written and oral production, but contextualize these skills and thus make learning more meaningful.

Audacity can be used to involve native speakers in the community, utilizing this often untapped local linguistic resource. If students have access to mini-disk recorders or stand-alone laptop computers with microphone hook-ups, they can interview their classmates or community members. Students can record native speakers' voices, to use in focusing on their own pronunciation and how it can improve. Students can interview native speakers about their opinions, experiences, or for information about their home countries. This information can then be presented in a multimedia Powerpoint or Photostory presentation with visual images, maps and graphs to accompany the audio files. (See "Digital Voices" project below.) This is taking digital audio recording to another level in extending the interactive, communicative web and bringing more people into the learning community. Students practice speaking with native speakers and interviewing others, key interpersonal skills in the target language.

Students can listen to English-language and Spanish-language podcasts about current events and important issues. For example, at the Homeland Productions site¹³ students can listen to audio podcasts about social, economic, legal, and environmental issues from the U.S.-Mexico border. This is listening comprehension practice and integrates culture; students could prepare their own audio files responding to the information presented online to share with their classmates.

In Advanced Placement foreign language classrooms there is great potential to use Audacity as practice for the oral portion of the exam. Since the AP exam includes a listening comprehension/dialogue section where students listen to a voice prompt (one-half of the dialogue about an unknown topic) and have twenty-second intervals to extemporaneously respond, easy-to-use recording software like Audacity facilitates practice speaking and recording your voice. Teachers can record a master prompt and have students in the computer lab open the audio file, listen, and record their own Audacity track layered over it. Then, students can listen to both tracks and hear what the "conversation" would sound like. They can also focus on errors in their own speaking. Teachers can give creativity and control over to students, asking them to write and record their own master prompts and share them with classmates for further practice. This creation and handling of the audio files gives students a sense of ownership in preparation for an otherwise very stressful part of the AP exam! See the "Audacity Slightly Advanced" tutorial for any questions about layering and isolating tracks.

Notable Examples

We did not find many examples of student-centered lesson plans using Audacity in foreign language classrooms. However, we did find a few examples of the kind of projects we hope to find, where student learning and creativity are greatly enhanced by the use of digital audio recording. Some are specifically designed for foreign language classrooms, and others can be easily adapted.

Digital Voices Across the Curriculum:

In this collection of exemplary classroom examples from the UK, secondary foreign language teachers

¹³<http://www.homelands.org/series/border.html>

from "Language Colleges" were selected by the National Centre for Languages and trained specifically in digital audio recording technology and cross-curricular project design. Teachers asked students to record themselves and others and present information on a variety of topics (time, weather, travel, school) in the target foreign language; these were cooperative group projects, requiring that students could take initiative and work together. Projects were interdisciplinary and many involved students recording community members giving opinions and information about a given topic, also in the target language. Sound files were edited on Audacity and layered over pictures and graphs in Powerpoint presentations that students presented to the rest of the class. Some projects also served as community resources, to be useful outside of the classroom context. Across the board, teachers reported increased confidence in speaking and better pronunciation practice and review by their students as a result of these projects. These results and tips-for-teachers for similar project design are also presented at the end of this page. These projects are exemplary in incorporating digital audio recording software into student-centered, community-based, interactive multimedia projects that connect disciplines as well as language and learners. These various plans are very good examples of the kind of student-centered work that we would like to see happen in foreign language classrooms and school communities.

http://www.cilt.org.uk/languagecolleges/projects/digital_voices.htm¹⁴

Digital Storytelling:

In this six-week project, English-as-a-second-language students used digital audio recording and PhotoStory for authentic student-created cultural productions that were relevant to their lives. Students chose a topic that was interesting and meaningful for them, then researched the topic and created a dialogue to accompany their visual presentation of pictures. This project format means that students are speaking and most likely practicing their monologue multiple times because they want to turn in their best work. This site presents examples of student work as well as online resources for more information on digital storytelling. We consider this an example of how audio recordings can be part of multimedia projects where students combine new spoken language skills, personal stories, and technology to express themselves and write about their communities. Student choice and collaborative ownership are important aspects of these projects; both allow for much more engaged learning.

<http://faculty.lagcc.cuny.edu/eiannotti/7.1/>¹⁵

Audacity Radio Commercial Project:

This website has a variety of links to lesson plans that use digital audio recording, specifically Audacity. One example is to use Audacity to record a radio commercial using a specific set of vocabulary words. While this lesson plan is not geared specifically for foreign language classrooms, it provides a very versatile lesson plan format because it can be adapted for any ability level. Depending upon your students' abilities, teachers could change the vocabulary or the amount of student output required. For example, beginning level students could record themselves reading a prepared script composed by either the teacher or the whole class. More advanced students would not only be asked to use a larger amount of more challenging vocabulary, but they would also have to write the script for the ad themselves. This could be done individually or as a group assignment. Completed ads could be used only by the teacher as a form of assessing speaking skills, or they could be posted online as podcasts to share with the rest of the class. Several topics we thought would lend themselves easily to this assignment are grocery store ads, travel agency ads, clothing store ads and real estate ads. This kind of assignment allows for student choice and creativity, as well as practice both writing and speaking. We like that it is adaptable to various levels and content.

<http://lessonplans.btskinner.com/multimedia.html>¹⁶

Podcast Project:

¹⁴http://www.cilt.org.uk/languagecolleges/projects/digital_voices.htm

¹⁵<http://faculty.lagcc.cuny.edu/eiannotti/7.1/>

¹⁶<http://lessonplans.btskinner.com/multimedia.html>

Another of the lesson plans requires students to work in groups to record a five minute radio show that they will later share with the class by making it a podcast. While the topics of discussion are left to the students' choice, it must be something related to their school. Some examples suggested are the dress code, the cafeteria menu or the student handbook. This gives the students some freedom of choice and an opportunity to express their opinions and creativity while still remaining a structured activity. This topic in particular makes the activity very relevant and meaningful to their lives, which is essential to engaged student learning.

<http://lessonplans.btskinner.com/multimedia.html>¹⁷

Digital Audio Recording in the Classroom: Advantages and Disadvantages

Strengths

There are many advantages to using digital audio recording in the foreign language classroom. Tools like Audacity add flexibility to instructional planning and facilitate the sharing of student speaking samples for assessment and/or presentation. Audacity also facilitates interpersonal communication and the sharing of resources across communities by posting audio files online as podcasts.

In the process of listening to and recording their own audio files, students have more exposure to the spoken language and their pronunciation, especially, can improve. Students' pronunciation also improves as their ability to self-monitor increases with the use of digital audio recording in the classroom. Students can hear their own voices and their fluency, vocabulary and grammar usage, and pronunciation as many times as they would like to play the audio files. Students can contrast their pronunciation with that of their teacher or another native speaker, in assignments that specifically target their focus and meta-cognition in producing the target language. Students can practice beforehand and review, edit, and re-record their audio files, leading to more confidence in oral presentation without being "on the spot" in front of their peers and a polished finished product.

The use of digital audio recording within the context of larger communicative activities targets one of the primary national standards in foreign language teaching: "Communication." Audacity is a flexible, useful tool for all of the modes in teaching and learning foreign languages: interpersonal (Standard 1.1), interpretive (1.2), and presentational (1.3).

- Students communicate with other people (interpersonal) by recording interviews, native speakers' voices, and their classmates' opinions. This is a tool that can be the jumping-off point to send students into the community and facilitate their interacting with other people in the target language. (See "Digital Voices Across the Curriculum" project.)
- Students listen to other people's voices (interpretive) and either answer questions that demonstrate their understanding and listening comprehension abilities. Students can listen to a story recorded in an audio file as they read along (both reading and listening skills). Students can also record their own voices in response, simulating a dialogue. This is particularly applicable to Advanced Placement classes in preparation for the oral part of the exam; please see our description above.
- Students record their own voices to share with other people (presentational), whether it is their teacher, classmates, or community members. Students can write their own stories and record them on audio files, linking writing and speaking skills. Students can post audio files on wikis and/or burn CD's as "electronic speaking portfolios" to give to their teacher or classmates. These CD's could even be used as tutorials for younger students as a way to facilitate peer tutoring across levels. Students have a record of their oral practice, using key vocabulary and grammar, to listen to in future years, since language learning builds upon itself and they will have to be responsible for their prior knowledge. For class assignments, students can produce audio files at home as an alternative to presenting work in class in front of their peers. This is more practice for more students, and means class time does not have to be taken up for the same purposes of letting every individual student make a presentation. For example, students can record their summary and thoughts about current events, posting Audacity files

¹⁷<http://lessonplans.btskinner.com/multimedia.html>

as podcasts on a classroom wiki site with accompanying links to the newspaper article in question. All of these assignments compiled in portfolios help students monitor their progress and set goals.

Students can express themselves in a variety of presentational modes, with Audacity accounting for the audio portion. Digital storytelling as discussed above allows students to choose a topic of interest, work with others, integrate culture and current events, and personalize their learning. Spoken language and presentation of pictures, information, and stories are all student-selected and –constructed. This kind of engagement allows students to connect with the content in an entirely different way.

Teachers can also become more familiar with free and widely available software like Audacity, to then use in for a variety of purposes in a foreign language classroom. This is a flexible tool that allows for easy adaptability to diverse instructional goals and objectives, and facilitates cross-curricular work like that seen in the “Digital Voices Across the Curriculum” project. Teachers can use Audacity to help them in administrative tasks, like sharing class lectures with students who missed class by posting files online. Digital audio files are also easy for assessment purposes, since students can share them with their teacher in a variety of ways and one-on-one teacher/student time is not needed for all oral assessments.

Limitations

Students may not be familiar with digital audio recording and may be uncomfortable or nervous using new technology; as such, teachers must be familiar with Audacity and other tools needed for a particular project, and ready to help students feel empowered to use them independently. Directing students to online help sheets and tutorials such as those referenced above is a good way to help students feel more supported. An in-class group “tutorial” with the teacher walking students through every step of the process might also be necessary in many cases, before students feel confident to embark on a project. Teachers need to be prepared to invest some time beforehand in teaching themselves, teaching their students, and proactively troubleshooting potential problems.

Technology may not be widely available in schools or in students’ homes, so longer-term projects may be necessary as a result. If students have access to a computer lab at school with the necessary equipment, they can work on their own time to accomplish the tasks. Teachers can collaborate with school personnel for support in coaching students and ensuring the necessary technological access.

Since even the easy-to-use tools can have problems and all technology-based lesson plans can go awry, teachers should have a back-up plan in case students face challenges with computers, microphones, file sharing, etc.

Tips for teachers

1. Audacity is a tool to help you get where you want to go, and not the end in and of itself. Connect your project to your curriculum, standards, and class needs, and not the technology.
2. Design your project to allow for student choice and creativity. If students can choose their own topic, the speaking project will be more meaningful and interesting to them.
3. Provide specific guidelines, goals, and grading rubrics as necessary to focus students’ efforts while still allowing them creativity.
4. Provide students with as much introductory coaching and support as they need and think about their equal access to technology when designing assignments. Students need to be comfortable using the technology so that the focus can be on their speaking and self-editing, not how to manipulate the Audacity software.