USING AUDIO TO AMPLIFY IMPACT AND STUDENT VOICES:
Basic skills for recording and integrating audio in language learning
with Adobe Audition

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Why learn audio editing skills?

Adding audio to the classroom:
- Scalable to student needs and levels, adaptable, versatile
- Portable and accessible
- Relevant both to student interests and authentic culture
- For enrichment, assessment, review, and more
- Familiarity with basic editing allows you to tailor authentic materials to students’ needs

What about you?
Take one minute now to share in the chat about how you’re currently using audio.

Applications:
- Add audio narration or notes to slides to explain difficult concepts
- Add audio and audio assignments to Canvas
- Provide pronunciation examples (both “good” and “bad”)
- Allow students to perform self-checks of skills
- Increase student buy-in by incorporating trends (podcasts, Tik Tok-style videos, TED Talks, etc.)
- Incorporate native speakers via interview projects, etc.
Use your new skills to adapt authentic materials to your students’ skill levels and needs.

- Use songs, podcasts, and watch vlogs to improve listening skills
- Use poetry, songs, or role plays to improve pronunciation
- Use different recordings to introduce dialects and variety of voices
- Prepare your students for real-life contexts
- Accelerate vocabulary learning and self-assessment

Podcasts that discuss current events, to introduce campus
Interviews with local community members
Classroom/campus news reports
Organize cultural nights, poetry readings, tongue twister contests
Capturing true stories in the community/campus/environment

Assessment
Review
Student self-checks
You will leave this workshop with the knowledge to:

○ Access Audition through Creative Cloud and elsewhere
○ Record, import, and play audio files
○ Add effects, make edits, and mix multiple audio files
○ Export your new audio creations
○ Begin integrating new and creative uses for multimedia into your teaching
Why use Audition?

- Zoom is convenient but **not** optimized for audio, lacks editing capabilities.
- Audition is fully-featured and straightforward to use for both simple and complex audio tasks.
- Part of the heavily university-supported Adobe Creative Cloud Suite, for PC and Mac.
- CC programs have many similar features and interfaces— you may already have a head start!
All IU affiliates have free access to the entire Adobe Creative Cloud suite of software both on campus and for installation on your personal workstation (PC and Mac).

If you have difficulty with any of these steps, please visit the IU Knowledge: https://kb.iu.edu/d/bffs
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td><strong>Frequency</strong></td>
<td>the pitch of the sound, measured in Hertz (Hz), higher numbers are higher pitch</td>
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<tr>
<td><strong>Amplitude</strong></td>
<td>the loudness of the sound, usually measured in decibels (dB)</td>
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<tr>
<td><strong>Waveform</strong></td>
<td>the representation of a sound (usually as a graphic), in Audition refers to a single audio file</td>
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<tr>
<td><strong>Multitrack</strong></td>
<td>in Audition refers to a work session where multiple waveforms can be mixed and edited as part of a single project</td>
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<tr>
<td><strong>Effects</strong></td>
<td>in Audition refers to any processing function applied to the waveform as a whole</td>
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<tr>
<td><strong>File Format</strong></td>
<td>the digital “container” of a file</td>
</tr>
<tr>
<td></td>
<td>For editing/preservation: .wav</td>
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<tr>
<td></td>
<td>For sharing/online: .mp3</td>
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Before recording, consider...

- Environment
- Equipment
- Purpose
- Practice

*Remember:* Pause for a moment to LISTEN!

What background noise do you hear?

Often we don’t notice background noise if we are not actively listening, but this noise can be a big problem on your recording.
Best Practices

Although Audition offers many editing tools, there is no substitute for a good quality recording!

**Try to remember these best practices:**

- Always be mindful of the environment in which you are recording.
  - If you are struggling to find a quiet location to record, ask CeLT staff!

- Always check and adjust your microphone level before recording.

- Always leave a short pause at the beginning of recording, before beginning to speak.
  - This eliminates the possibility of accidentally missing the beginning of your audio and provides a noise sample for Noise Reduction, if necessary.

- Always fade in your file at the beginning and fade out at the end.
  - These fades don’t have to be long but will make your file sound smoother and more polished.

- Never be afraid to ask for assistance if you have a question or concern. CeLT is happy to help!
Opening Audition: the Default Workspace

- Files panel
- Effects Rack
- Editor panel
- Playback control bar
- Tools bar
- History panel
- Volume meter
Configuring Audio Devices

- **Step 1:** Launch Audition (with the “Open” button) from the “Installed” list of apps in the Creative Cloud manager.

- **Step 2:** At the top of the screen, navigate to Edit > Preferences > Audio Hardware (or Adobe Audition > Preferences > Audio Hardware on Mac).

- **Step 3:** With your headset plugged into your computer, click the drop-down arrow next to “Default Input” and verify that your device is appearing. “System Default” should automatically select your headset source when it is plugged in, but it’s best to check.

- **Step 4:** Do the same with the “Default Output.”

- **Step 5:** Click “Okay” at the bottom of the Preferences panel. These settings are retained the next time you open the program.
Tool Bar and Editor Panel

To learn more about the Audition interface and basic navigation, view UITS IT Training’s video: https://iu.mediaspace.kaltura.com/media/t/1_azi4qlfo

Some of the tools are only available in particular editing modes and will be grayed out when unavailable.
Getting Ready to Record

To begin a new recording, you have several options:

- File > New > Audio File
- In the Files panel: New File > New Audio File
- Pressing the red Record button in the playback controls

You will now see the file name listed in the “Files” panel.
Recommended Recording Settings

- **File Name:** Giving your file a clear name will be helpful when working with multiple files in a multitrack session.

- **Sample Rate:** 44100 Hz for most projects

- **Channels:** Mono for a single microphone input

- **Bit Depth:** 16 bits for most projects

**Note:** Audition does not have any input volume settings and relies on the audio device’s own volume control. To adjust the microphone volume, visit your computer’s audio settings.
What is clipping?

**Clipping** happens when the signal is too loud and exceeds the maximum possible volume.

Always check your recording volume before beginning to record, in order to avoid this audible distortion! **In Audition, try to make your average volume fall between -18dB and -6dB on the volume meter.**

![Clipping Waveform](https://commons.wikimedia.org/wiki/File:Clipping_Waveform.png)

Image: “Clipping Waveform” by Mikhail Ryazanov (Wikimedia Commons), licensed under CC BY 3.0
Recording in Waveform Mode

For most speech-oriented purposes, it's easiest to record in “Waveform” mode.

To begin recording: Press the red “Record” button in the playback controls.

To stop recording: Press the square “Stop” button in the playback controls or press “Record” again.

Note: The playback bar also offers a number of other functions during recording, including pausing record, recording over portions of the existing track (replacing content), etc.
Saving Your Project and Your Recording

Save vs. Export

Remember: **Saving** will save your Audition project workspace. **Exporting** will save your new creation as an audio file. A “peak” file will also be generated when you export, but you generally won’t need to retain it after finishing your project.
Hands On!

Now, try recording in Audition.

Throughout this workshop we will make a brief “podcast.” First, we will record the introduction.

▪ Put on your headset and create a New Audio File.
▪ Press the “Record” button, then speak a sentence or two to introduce yourself to your “audience.”
  ▪ “Hello, this is Rebecca Ramsey from the Center for Language Technology.”
▪ Press the “Stop” button to end the recording.

▪ Export your audio file to your desktop as a WAV file named “intro.wav”.

Please let me know if you have any questions or need additional help.
Managing Multiple Files

Once created, all of the files will be listed by name in the Files panel.

To open a file in Waveform mode:
Double-click on the file name in the Files panel to open the Waveform view of it.

To close a file permanently:
Right-click on the file name in the Files panel and select either Close Selected Files or Close All.
Importing Audio

To import audio:
Go to File > Import > File and select desired file or Drag and drop audio file into the “Files” panel

Once imported, you can double-click on the name in the “Files” panel to open it.
Hands On!

Now, let’s make a few more segments for our podcast.

- For this demonstration we will start with a blank session, so right-click in the Files panel and select “Close All.”

- Now create a new audio file titled “middle” and record a few sentences about what your students learned this week. We will not be exporting this file yet.

- Finally, create another new audio file titled “ending” and record one more time to create your ending. “Next week we’ll be discussing _____, so stay tuned!” Do not export this file either.

You can toggle between your available audio files by double-clicking on their name in the Files panel.

Please let me know if you have any questions or need additional help.
Basic Editing

Let's take a look at some features of the editing interface and effects rack.

Basic processing tasks can be done in Waveform mode, while trimming and other editing is easier in Multitrack mode.

The History panel makes it easy to undo and redo changes!

Remember: You must “apply” the effects rack before the changes will be reflected.
Changing the Volume

The **Heads-Up Display** allows you to quickly change the volume for the entire clip.
Combining Multiple Files

To mix multiple audio clips into one, you must use Multitrack mode.

- **In the Files panel, with the clips selected:**
  New Multitrack Session
Editor vs. Mixer Views

In Multitrack mode you can assemble/reorder clips, perform edits, and change the entire track volumes relative to each other.
All of the audio tracks in your multitrack session will play simultaneously.

If you don’t want to hear some of them, you will need to mute or solo tracks by clicking the **mute** or **solo** button by the track name.

**Mute:** Mute will “turn off” playback of only the track muted.

**Solo:** Solo will play only the track soloed. The rest will not play.
Creating Fades and Joining Clips

A fade is a gradual increase or decrease in the loudness of an audio track, generally used to “smooth” the beginning and end of a recording.

**Fading In or Out:** To fade your clip, hover your mouse over the top corner edge of the clip until the bi-colored gray square appears. Click it and drag the fade to your desired duration. It will be automatically applied once you release the click.

**To join two clips together:**
Line the tracks up appropriately by selecting the “Move” in the Tool Bar and then drag the clips horizontally until they are aligned.

You should always **crossfade** your audio when joining tracks together. This means **fading out** the first track while **fading in** the second.

**Note:** The clips, even if aligned, are still discrete audio files on your computer until you **export** the multitrack session as a new file.
Common Audio Fixes and Effects

Most commonly used editing tools:
- Volume/Amplification
- Trimming
- Joining multiple files
- Noise reduction

To remove background noise:
Audition offers excellent noise reduction processing. Although we won’t practice with it today, I will include instructions for this processing in the materials sent to workshop participants for later reference.
To export your entire multitrack project as a new single file, navigate to:

**File > Export > Multitrack Mixdown > Entire Session**

Since this file is likely to be shared, MP3 format is generally the best choice of format.
Removing Noise

It's always best to record audio in a quiet room with no background noise, but sometimes this isn't feasible. **Constant background noise** (such as hums, buzzes) can often be reduced but be aware that it’s impossible to eliminate all of the undesired noise.

**To reduce noise (in Waveform editing mode):**
You must have at least a small section of recording that contains only the noise. To begin, in Waveform mode, highlight this portion of noise. From the drop-down menu at the top of the screen, select Effects>Noise Reduction/Restoration>Capture Noise Print. This shows the software what noise you wish to remove in the next step.

**Note:** Some noise, like traffic or background conversations, cannot be helped by noise reduction editing.
Removing Noise

Next, select the entire clip and navigate to Effects>Noise Reduction/Restoration>Noise Reduction (process) to open the Noise Reduction window. You will see a graph of your signal and noise, and a number of adjustable parameters. The most important adjustments are explained below, but you can hover your mouse over any blue numbers in Audition to view a description of the parameter.

**Noise Reduction**: Controls the overall “strength” of the noise reduction.

**Reduce by**: Controls how much the volume of the “noise” frequencies is reduced. Larger numbers = more reduction, but may be more damaging to the remaining audio.

It’s important to remember that there is no “best setting” for any noise reduction parameters, and you should rely on trial and error. Make a few changes, preview it, and then tweak it some more until you are happy!

**Tip**: There is a Play button at the bottom of the window, allowing you to preview the results. Clicking the “Output Noise Only” selection allows you to listen to what noise is being removed.
Hands On!

Now, let’s assemble our podcast.

- Import the first piece of your podcast (intro.wav). Your other segments should still be available in the Files panel.

- Select all three audio clips in the Files panel and make a New Multitrack Session.

- Line up the clips in order in the multitrack window, using the Move Tool to align the clips horizontally.

- For each track, trim any excess silence, if there is any.

- Finally, perform a crossfade at each junction point.
  - Remember: To make a crossfade, fade out the end of the first clip and fade in the beginning of the second clip.

- Now it’s time to export your finished project!

Please let me know if you have any questions or need additional help.
Applying Today’s Knowledge
In Canvas:
- Add audio/video to a module:
- Add media to an assignment prompt
- Have students submit media as a response

In PowerPoint:
- Insert audio to play either when clicked or automatically
To add narration or voice notes:

- **Step 1:** You must first upload your audio to your Box and make that file shared with your presentation’s audience.
- **Step 2:** Navigate to **Insert > Audio**
- **Step 3:** Choose your (already uploaded) file

Voice typing:

- You may also use voice-to-text to type! *This tool has many supported languages.*
- Navigate to **Tools > Voice typing**
CeLT Multimedia Services

- **Equipment loans**
  Checkout Room BH661
  - USB headsets, external microphones, DARs, specialized phone/tablet tripods and mounts, camcorders, and more

- **Full-service professional audio and video production**
  CeLT Studio Room BH114
  - High-quality professional audio/video recording (including green-screen) and editing

- **Hosting multimedia on the CeLT Language Assets Repository website**
  Web Services Specialist Mintian Guo
  - Customized web hosting for your class and enrichment materials, for IU students and/or public access

- **Customized training and collaboration to help you achieve your teaching goals**
  CeLT Director Xiaojing Kou

To request services, visit: [http://celt.indiana.edu](http://celt.indiana.edu)
Thank you!

If you have any questions about today’s workshop or related topics, please contact Rebecca Ramsey at:

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