Chapter 24. Let's Get Technical: Scaffolding Form, Content, and Assessment of Audio Projects

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We focus on a soundscape project and the feeders used to scaffold the creative and technical skills students need to complete the larger projects. We use the term feeder for smaller assignments that are carefully sequenced to build upon one another. Each one feeds into the next and creates a trajectory to success for students. In designing these feeders, we deliberately balance rhetorical skills, research methods, and technical proficiency.

This format leverages scaffolded feeders, peer feedback, drafting, and revision processes to explore composing strategies that include technical specificity and assessment of the technical aspects. As students progress from one feeder to the next, they must transfer rhetorical knowledge and technical skill to complete each subsequent assignment. By scaffolding technical precision—and its assessment—in the feeders, both students and instructors are able to identify areas where more practice is necessary and devote attention accordingly. After completing a series of feeders, students are prepared to compose a variety of more technically and rhetorically sophisticated projects.

We outline a science fiction soundscape radio drama project—a collection of sounds woven together to help a listener perceive and experience an environment—which includes a variety of fictionalized elements that work to tell a story through a combination of characters, description and sounds.

The Numbers Station Soundscape

This assignment was redesigned after being inspired by the Rhetoric Society of America 2017 Summer Institute seminar on Digital Rhetoric: Behind and Beyond the Screen. At the institute, Casey Boyle, Jim Brown, and Steph Ceraso asked participants to transduce the space of the Herman B. Wells Library on Indiana University's campus and use an augmentation app to publish the resulting soundscapes (see also Boyle et al., 2018).

Students are challenged to produce a science fiction radio drama that reimagines and transduces a real numbers station. The short-wave radio station, of which there are many, broadcasts a mix of sounds, ones that appear to be coded, secret messages. We begin the project by reading about the mysterious numbers station described in a BBC article (Gorvett, 2017). Next, we listen to and discuss an au-

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dio capture of a strange sound (Stemwulf, 2016) being broadcast constantly from a numbers station. The clip, which is 6 minutes and 25 seconds long, contains an unexplained disruption to the broadcast. The students take up this disruption as a point of departure for their soundscape. They brainstorm story ideas, imagining what happened at the station that caused the sound inexplicably to stop and then resume, again inexplicably. Since the station and its broadcast are a mystery, there are no "right" or "wrong" answers as to what occurred. This gives students the ability to be creative while refining audio storytelling concepts and technical skills.

We present the feeders below, not as assignment prompts that we would give to students, but in a descriptive fashion for instructors to see how the smaller assignments are structured to scaffold skills and concepts leading up to the larger project.

Feeders—Working with Loops: Creative Exploration

In the first feeder, students work in teams and are given a limited number of loops. First, they are asked to create a 30-second sound file using only the loops provided with the prompt. Their objective is to work with the loops and arrange them on the timeline to produce 30 seconds of sound that is different from what any other team produces. On a technical level, this feeder helps students practice audio-composing skills and gain comfort working in the audio-editing interface. On a conceptual level, this feeder introduces students to the idea of flexibility within a framework. The limitation of having only certain loops to select from is a rhetorical constraint. Creativity is required to imagine ways of working with those loops to create new sonic possibilities—cutting, fading, layering, and arranging the loops in different ways. Through this work, students engage with the following:

- Technical skills:
  - Creating and using tracks
  - Understanding of loops and how to work with them
    - Add them to tracks
    - Make cuts
    - Fade or transition between loops
    - Layer/arrange loops on different tracks to create new sounds
    - Save work and export in multiple file formats
- Concepts:
  - Creativity and exploration
  - What's there in the interface? And what are rhetorical affordances students can identify as they start composing?
  - What are the creative possibilities? Especially when everyone starts with the same set of materials?

Next, students are asked to create another 30-second sound file. Once again students are given rhetorical constraints; they are permitted to use only the loops

provided with the prompt. This time, however, their objective is to work with the loops and arrange them on the timeline to produce 30 seconds of sound that is as identical as possible to what every other team produces. On a technical level this feeder requires students to apply the basic audio-composing and editing skills and provide them more practice. On a conceptual level, this feeder introduces students to the idea that, in a team setting or work environment, it is sometimes necessary to translate one person's vision or concept into practice through composing and editing. This helps prepare students for more advanced group projects where each person might have a different role on a team production and for future workplace settings where a client or supervisor might ask for a project to be completed and provide some resources and direction but it is up to the individual or team to implement that vision with technical proficiency. Through this work, students engage with the following:

- Technical skills: Same as Feeder 1
- Concepts:
  - Understanding audience needs and expectations by translating someone else's vision or concept for an audio piece into a 30-second MP3 file
  - Using knowledge of the interface and editing tools to compose proficiently produce the desired outcome for stakeholders

In the third step of the scaffolding process, students begin working with voice. In this step of the assignment sequence, the script is a rhetorical constraint with which the students must contend. Each team is given the same few lines from a script to read and record using a USB microphone connected to the audio-editing interface and out in the field using either a recording app on a phone or a handheld recorder. Students are prompted to revisit the idea of flexibility within a framework, as introduced in the first feeder, to explore how aspects of the human voice can be a rhetorical resource in audio storytelling. Students read and record the lines of the script multiple times, exploring how changes in vocal variety, pacing, volume, and tone or inflection can be used to convey meaning in audio storytelling. Students then combine their voice recording with audio loops before exporting their MP3 file and turning it in. Through this work, students engage with the following:

- Technical skills:
  - Working with a microphone
  - Audio recording in the editing software interface
  - Audio recording in the field using cell phone recording apps or handheld mics
  - Importing audio files from a phone or an SDHC card
- Concepts:
  - The alphabetic content of a script is only one part of how meaning is made in audio storytelling.

- Particular qualities of the human voice also play an important role in audio storytelling:
  - Vocal variety
  - Pacing
  - Volume
  - Tone or inflection

By the time students have worked through these feeders, they are familiar with basic audio composing and editing concepts ready to compose their science fiction soundscape described as the Numbers Station assignment.

Assignment

Project: The Numbers Station Soundscape

Orson Wells rocked the nation when he brought science fiction to the air waves with his famous 1938 radio drama *War of the Worlds*. In 2015, an eight-episode science fiction podcast called *The Message* created another stir, telling the story of a mysterious sound seemingly transmitted from outer space and recorded by the U.S. military (Sriram, 2015). Inspired by these creative and powerful science fiction audio stories, you will create your own 3–5-minute science fiction soundscape. Your job is to reimagine the setting of "MDZhB" shortwave radio station (Gorvett, 2017).

You will develop and pitch a concept of your piece to the class. Your pitch must explain how you plan to include the mysterious buzzer sound being broadcast from the MDZhB station, including the unexplained silence in the sound clip.

Once your pitch is approved, you will outline, design, produce, record, and mix this project. You may work independently or as part of a team for this assignment. To complete this project successfully, you will need to search for Creative Commons or public domain loops and sound effects, record scripted audio and natural sound, then mix, fade, and equalize your audio seamlessly together. This piece is meant to be creative and should have a narrative story arc.

Guidelines

Each audio piece must be 3–5 minutes in length and include:

- Balanced levels for each track/element and the overall piece
- Fade ins and outs used to create smooth transitions
- Field recordings
- Foley or sound effects

All components must be licensed through Creative Commons, be from public domain sources, or be original creations.

Also required:

- Notes from your pitch to the class
- Written script

- Transcript with timecodes (A transcript includes not only the words from the written script but also descriptions that make the music, foley, and other sounds accessible to members of the audience using the transcript.)
- You must turn in a detailed, spreadsheet list of each sound you've used, the place where it came from, the link to that place, permission to use (if you had to email the artist, send the permission email as well).
- Final audio file must be submitted as MP3
- A well-organized .band file (or other appropriate file format if you are using Audacity or another program) inside a folder that also contains all the raw files used to create the work.

The Rubric

All of the feeders use the rubric below, which in this example provides equal weight to each feeder element. For the larger audio projects, this same rubric can be modified with point values adjusted as needed to facilitate grading of the more complex assignments.

Table 24.1. Grading Rubric

	Does not meet expectations 0	**Shows promise but needs significant revision 3**	**Demonstrates Competency 4**	**Outstanding Work 5**
Script—Written description of location	No vivid descriptions, lack of description	Some level of vivid description, good draft	Shows and tells the story through rich, vivid descriptions	Listeners can easily visualize the story, pairs with breaks for nat sound without literal duplication
Field recordings	Distortion present or no recordings included.	Mic too far or too close to the object being recorded. Few recordings included.	Field recordings add to the story through cohesive flow, clear recordings.	Nat pop breaks are introduced in the piece to complement the narration.
Narration recording	Substantial problems with clarity or reading of lines; story arc is disorganized or difficult to follow.	Additional takes needed in some areas; slight distortion on clips; reconsider recording location.	Pacing, inflection and vocal variety are well utilized for the genre. Recording location minimizes background noise.	Pacing and vocal variety drive the piece, few-to-no fumbles or word jumbles in the piece. Crisp clear audio recorded with little-to-no unintentional reverb or background noise.

	Does not meet expectations 0	**Shows promise but needs significant revision 3**	**Demonstrates Competency 4**	**Outstanding Work 5**
Editing	Majority of sound levels are blown out or too low, few to no fades present. Choppy sounds	Some sounds are too loud or too soft, few fades, needs refinement.	Master sound levels are in acceptable ranges; fades and timing are used to polish the piece and move us through sounds and tracks.	Superbly balanced levels. No breaks in the flow of the piece. Sounds are seamlessly woven together throughout.

Sample Student Projects

1. "The Sound Is My Medicine": A sound engineer at a popular radio station is asked by his general manager to visit his residence after work to fix some custom technology. The engineer finds thousands of dollars of equipment, stolen, and repurposed for a higher calling.[1]
2. "The Calming Method": When two scientists, Thaddeus and Anne, are unable to conceive a child, they'll go to any means to create one. But what consequences await them when they create a monster?

Reflection

Jen Ware: This is Jen Ware and Ashley Hall.[2] We're going to dive in and talk about feeders for a little bit here and some of the additional learning processes that kind of undergird those feeders.

Ashley Hall: So, the feeders include peer feedback, drafting, and revision times.

Jen: Some of these are built into the class periods so that we can focus on composing and the technical aspects together. As students progress from one feeder to the next, they must transfer the rhetorical knowledge and technical skills to complete each subsequent feeder, so they're building upon those experiences in those smaller scale assignments.

Ashley: And, by scaffolding technical precision—and its assessment—in the feeders, everybody's on the same page and we can focus our attention strategically on what students need more practice with.

1. Two student examples (audio files and descriptive transcripts) can be found on the book's companion website.

2. The audio version of Jen Ware and Ashley Hall's reflection can be found on the book's companion website.

Jen: So let's talk about the assignment for a little bit. It was inspired by an RSA Summer Institute, Digital Rhetoric: Behind and Beyond the Screen. And there, Steph Ceraso, Jim Brown, and Casey Boyle had us do an assignment on location where we were asked to transduce the space of the Herman Wells Library on the campus of Indiana University.

Ashley: And then we used the Geotourist app to publish our soundscapes. I thought that was really interesting, and it pushed me as a participant in the workshop beyond what I had done with soundscape composing either on my own or in terms of designing assignments. So I was inspired by that and wanted to keep working with that idea. And I came across this article in the BBC about this mysterious numbers station (Gorvett, 2017), and I thought okay, that'll be an interesting project for the students.

Jen: So the assignment asked students to transduce this space of this mysterious numbers station. And this station just broadcasts this incessant droning sound. So that's the catalyst for the assignment, and the students have to create a narrative around that drone sound stopping and then restarting.

Ashley: And to get the students there, to the point where they can actually write a narrative, put together and make choices about the sounds that are going to be arranged in their soundscape and then edit it all together, we go through these feeder assignments.

Jen: And they haven't done a series of assignments like this before.

Ashley: Right. So for a lot of students, especially the English students—and this is usually a cross-listed class that has both English students and communication students in it, uh, and that's a nice dynamic. But for the English students in particular, they have very little exposure to composing with technology, composing sound, composing visually. But they might have more experience doing creative writing.

Jen: And the communication students generally know the concepts of composing media for different platforms, but they're kind of out of their comfort zone when it comes to the creative writing aspect, something that's not more of a formal type of reporting media at this point.

This is one of the reasons why I enjoy teaching this class, because of the different experiences that the majors have and bring into the course. It allows everyone to bring in their strengths and learn something new at the same time. And that structure of feeders works well here, I think.

Ashley: So, the feeders help everyone really get on the same page and also ramp up their technical knowledge along with their conceptual knowledge. We start out with a feeder where the students are given 10 or so loops, and really their job is just to explore and be creative and find out what the possibilities are.

Jen: And the loops don't have to be in the software even. Sometimes we provide them with sets of Creative Commons materials and audio loops. Depending upon the audio-editing software that's available, this is another way to provide the creative experience.

Ashley: And while they're doing that and they're trying to come up with something different, they're learning the basic interface, they're learning how to put loops on the timeline, they're learning how to duplicate loops, cut loops, and make fades. This prepares them for the second feeder, which is really a technical challenge where everyone is asked to produce the same outcome. So they have to go find key loops, arrange the loops in a particular way that are defined, and they have to draw from what they've learned in their first feeder and apply it in their second feeder.

Jen: I think this certainly helps in terms of drafting a project, outlining the transcript, and then using that dialogue and the sounds listing to really follow that as they move into production. And help them see what's working well or make adjustments.

Ashley: From that point, they're ready to take on more challenges, and the environment can become less controlled. So now they're ready to do things like record a human voice. And sometimes that takes the form of a script that they write and then record, sometimes it's going out and doing an interview. But they've ramped up, and they're ready to take on those challenges, and they're able to be strategic in how they're going to use that audio in conjunction with the loops and the sound effects that they're going to be working with when they come back.

Jen: And I think what we're talking about here a little bit is the creativity within the constraints of the assignment and that being a really big part of this. The creative fiction aspect opens up another way to listen to and understand the ways that sounds can set a scene and create a mood.

Thank you everybody for hanging out with us and hearing a bit about our experiences with the feeders in this project. I'm Jen Ware.

Ashley: And I'm Ashley Hall.

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