Found Sound Compositions In The Digital Age

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Humans have been using *found sounds* to create music for millennia. Music teachers have been encouraging composition using founds sounds like pots, sticks, bottles, glasses, and cans for generations. The music of Karlheinz Stockhausen, John Cage, and Brian Eno might not be your cup of tea, but composing electronic music with *found sounds* can open doors for students with limited musical experience, and engage those who haven't yet found a niche. With limited technology, students can create meaningful electronic compositions using captured sound samples. These types of projects can work for students in grades 3-12.

Software Needs:

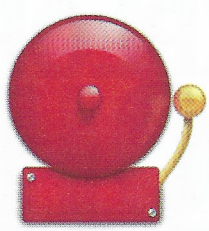
For elementary and less experienced intermediate students, use a program like *GarageBand* or *Mixcraft*, or an online solution like *Soundtrap* or *Soundation*. These come with pre-existing beats, as well as melodic and harmonic loops that provide scaffolding and structure. For more advanced intermediate and high school students, limit or eliminate the use of pre-recorded loops. Encourage these older students to build their own loops and beats with the found sound samples. They will benefit from the options and flexibility offered by more sophisticated software such as *Logic, ProTools, Sonar*, or *Ableton Live*.

Version 1: School Sounds Remix (for elementary and intermediate grades)

Inspired by WNYC's "Remix the Rails."

Duration: Minimum 4 class meetings. Allow at least 6 class sessions if students will be capturing and cleaning up the audio samples themselves.

A. Capture Sounds. *[This phase is an optional student activity. As the teacher, you can capture sounds & generate the sound library, or enlist older students to work on it prior to starting the composition project.]*



Using any digital device that can record (handheld recorder, cell phone, tablet, *Chromebook*, *iPad*, laptop), and capture sounds around the school. If you can involve students in this process, they will love the opportunity to experience their school sonically. From recording the bell and pencil sharpener, to doors closing, feet in the hallway, and the squeak of shoes in the gym, students can take ownership of sound collection. Assign students to work in small groups (2-4). Require each group to capture a specified number of sounds, and consider sending each group to a different area of the school. Classroom teachers and colleagues in other departments may be open to providing time, ideas, or even helping capture sounds as part of an inter-disciplinary project. Work with students so they master the life skill of moving the files to a shared location such as *iCloud* or *Google Drive*. If your school has a technology specialist or coach, consider enlisting her help with file management.

B. Edit sounds and create a sound library. *[Also an optional phase of the activity. The teacher or older students can complete this in advance.]* Teach students to use simple editing software such as *Audacity* (free & cross-platform) to isolate rhythmic and pitched components of the captured recordings. Export/save each sound clip as a separate .wav or .aiff sample to build library of sounds. Teacher support will be needed to load the library (file folder) of finalized sounds to each device students are using to compose. Intermediate students may be able to utilize some the techniques suggested below in the *Single Sound Project* to add processed sounds to the library.

C. Assign the project. Divide students into groups of 2-4 students. Assign roles like *Record Keeper*, *File Manager* (in charge of saving every 5 minutes), and *Headphone Keeper*. Depending on the age and experience level of the students, you may want to specify the overall form or structure for their compositions (Beginning-Middle-End, *AABA*, rondo, or theme and variations). Consider requiring four

measure phrases. Along the way, teach students to fade and balance volume levels, and to use pan to create an interesting audio environment. Allow a minimum of 3 class meetings to work on and revise the composition.

D. Require self-reflection and peer feedback/critique of work in progress. Ask students to document their ideas and progress each session using pencil & paper or a notepad. *(Hint:* Assign this task to one member of the group as the Record Keeper who ensures that ideas and work notes are written down.*)* For peer responses, have each group play a small section of work in progress (10 seconds) for the whole class on the *second* day of composition work. At the start of the *third* class, require all students to trade seats/devices, listen to another group's project in its entirety, and provide suggestions based on expectations for the finished project.

E. Mini-Concert. Play all student compositions for the class in their entirety. With younger students, you may wish to complete this last phase over the course of several classes to allow time for singing and other activities. Older students can contribute to the evaluation process by completing a simple rubric for each project.

Version 2: Single Sound Project (Intermediate and High School)

***Presented at the 2017 NAfME National In-Service Conference by Clive Davis of The Berkshire School**

Duration: 10-15 class periods (40-45 minute sessions)

The *Single Sound Project* draws upon music such as Hugh Le Caine's "Dripsody." Le Caine used the recording of a single drop of water to create this piece with audio tape recorders and players. The original sound sample (one drip of water) was processed to create different pitches, new sounds, and looped at different speeds. These techniques can be easily replicated using Audacity to process the initial sound sample.

A. Play "Dripsody" for the class. Explain that they will need to capture a single sound that lasts 5 seconds or less. Each student must record his/her own original sound and will compose independently. (Adapt this aspect to have students work in pairs as necessary.)

B. Import the sound to *Audacity*. Trim and isolate the sound, and save this unprocessed clean sample.

C. Generate a minimum of 20 permutations of the original sound. Using *Audacity's* built-in effects, try pitch shifting and techniques like reversing or stretching. Trim very small pieces of the sound by zooming in to a granular level. For samples shorter than 1 second, students may need to fade out the very end of the clip to avoid getting a "click." Use the "loop play" feature in *Audacity* (shift-spacebar) to hear a selected clip play repeatedly. Export each new permutation as .wav or .aiff. Be sure each exported version has a unique name that will make it identifiable when placed in a folder of all of the permutations.

D. Import the clips to a new, dedicated folder of samples in *Logic, ProTools*, or *Ableton Live*.

E. Use the clips to create a coherent whole *without* using loops and samples built into the software. While working, continue to modify the sounds with EQ, compression, sweeps, and other effects. Use the clips to create original loops (ostinati).

F. More advanced students can load one or more of these original samples into a MIDI track. Now that sound can be played or recorded using a MIDI keyboard or pad. Students can even draw in original melodies using these original samples.

G. Prepare a preliminary rubric for the project based on your class structure and normal procedures, and include musical elements as well as audio engineering elements. Share the rubric with students once they have begun the composition phase of the project. Encourage them to "grade trade" on the third day of composition, and offer meaningful suggestions for project expansion and enhancement.

H. On the next day, have all students select a short segment to play for the class (10-20 seconds). Continue the process of seat trades, sharing of work in progress, and peer coaching over the remaining working days of the project.

I. Consider setting up a "gallery walk" when all work is complete. Empower students to complete full rubric-based evaluations of the work of 3 different classmates. If you are comfortable with the objectivity of the evaluations, include these scores as all or part of the final grade for the project. *(This process is used by Richard McCready, TI:ME Teacher of the Year 2013, River Hill High School, Clarksville, MD.)*

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