



Lesson: Aleatory Composition Project

OVERVIEW

Using *Pop!* by Tawnie Olson as an inspiration, students will compose a short original piece for their instrument that is created by the application of aleatoric techniques.

LEARNING GOAL

Students will:

1. Define and identify aleatory used in the development of a piece.
2. Express their creativity and demonstrate their understanding of aleatory through composing an original piece.

RESOURCES & MATERIALS

- Manuscript or other paper
- Computer musical notation program (optional)
- Student project handout
- *Pop!* lesson plan about aleatoric music as a prerequisite

NATIONAL STANDARDS CONNECTIONS

Creating: Selecting and developing ideas for defined purposes and contexts

Anchor Standard #2: Plan and Make

PROCESS

Students will:

1. Read a handout that defines aleatory and uses the aleatoric section of music from *Pop!* as an example. Students may also complete the *Pop! Adventures in Aleatory* lesson plan first as a prerequisite to have a more in-depth understanding of aleatory.
2. Determine the sounds of some action (e.g. starting up a lawn mower) that they intend to musically represent.
3. Experiment with creating sounds with their instruments that evoke the sound of the action.
4. Design an original way to musically represent the intended sounds of the action to create a written piece of music that use aleatoric techniques.
5. Record the composition or perform it live for others.

ASSESSMENT

The following sample rubric is provided to demonstrate how the compositions may be graded.

CATEGORY	10	5	3	R - Redo
Aleatoric Techniques	The composer effectively used an aleatoric technique in a way that demonstrates a clear understanding about aleatory.	The composer effectively used an aleatoric technique, but the melody depended more on traditional notation..	The attempted to use an aleatoric technique was not very effective.	The composer did not demonstrate any understanding about aleatoric techniques.
Inspiration for the Piece: Action of an Object	There seemed to be a clear relationship between the inspiration for the composition and the creative choices the composer made.	There was some evidence of a relationship between the inspiration for the piece and the creative choices made.	The relationship between the inspiration for the piece and the creative choices the composer made was difficult to detect.	The composer did not demonstrate an understanding of the objectives of this project.
Musicality and Craftsmanship	The composition was created with a high degree of craftsmanship, cohesiveness, and expressiveness.	The craftsmanship, cohesiveness, and expressiveness of the composition were generally well done, but would have been improved with some revising.	The piece needs a considerable amount of revising or rethinking of creative choices.	The composition was not completed or the composer did not seem to consider the criteria for this project.
Communicating Intentions	The composer's intentions were clearly communicated through the symbols and the directions provided.	The composer's intentions communicated through the symbols and the directions provided need a little more explanation for a performer other than the composer to understand.	The composer's intentions were difficult to understand through the symbols and directions that were provided.	The composer did not demonstrate an understanding of how to communicate intent through the use of symbols and directions.

Aleatory Composition Project

In the band piece *Pop!* at rehearsal Letter K, composer Tawnie Olson intends for the band to sound like popcorn popping. In the example from the conductor's score that follows, notice she provides pitches through using noteheads, but no stems on the notes. She also provides written instructions for how the performers are to play those pitches to imitate the sound of popcorn popping.

Pitched instruments: play any of the pitches indicated, in any octave. Begin by playing softly and leaving lots of space between notes. Then get louder and play faster - like a pot of popcorn when it gets going. At the conductor's cue, start getting softer and spacing out the notes more and more, like a pot of popcorn when nearly all the kernels are popped. Stop when the conductor cues m. 147. It might be helpful to designate section leaders, and have the section wait to enter until after they have played. It is also helpful to talk to the people next to you to make sure you don't play the same thing that they do (everyone should play a unique pattern). **Percussion of indefinite pitch:** make a similar shape (non-sustained notes moving from soft, slow to fast, loud to soft, slow, like a pot of popcorn) on any instruments you wish, making sure that the rest of the band can always be heard.

K ca. 20-40"

Olson's use of nontraditional notation and additional written instructions are examples of using aleatoric techniques. In aleatoric music some element of what is performed is left to chance and/or the decision of what sounds to play are determined by the performer, often with some sort of directions or original type of notation that doesn't necessarily include specific pitches or rhythms. Sometime shapes or lines (known as graphic notation,) nontraditional notes, and/or written instructions are used.

In *Pop!*, Tawnie Olson was more able to have a band sound like popcorn popping by using aleatory than she would have been able to accomplish by using traditional notation of pitches and rhythms. The decision-making of the performers of how fast and when to play the pitches made them equal creators during this portion of the piece, which will sound different at every performance.

For this project, you will decide an action that can be represented musically on your instrument and create a short original solo piece. You will have to design your own original way to notate the piece so that others would also be able to perform it. Here are the steps:

- Step 1:** Choose a sound of some sort of action (e.g. the sound of someone starting a lawn mower that won't start easily) that you would like to musically represent on your instrument.
- Step 2:** Experiment with various ways to make the sounds of your selected action on your instrument.
- Step 3:** Once you are satisfied with how you are making the sounds, design an original way to write down the music using aleatoric techniques, either on paper, music staff paper, or some other visual means.
- Step 4:** Either record yourself performing your piece or perform it live for others.
- Step 5:** Share the aleatoric music notation with other students. Would they be able to perform your piece based on the original notation you created?

It would be helpful for you to see other examples of other pieces that use nontraditional and graphic notation to create sounds using aleatory. You can check out the following band pieces by going to www.composersforum.org/bandquest. You may also search online to find other examples.

Title	Composer	Aleatoric Techniques
<i>Old Churches</i>	Michael Colgrass	Wavy lines and note heads representing pitches, plus directions to freely alternate long and short occurrences of the pitch (beginning and various places throughout the piece); Nontraditional beams on notes to indicate gradually getting faster (measure 49.)
<i>Eye of the Hawk</i>	Susan Botti	Groupings of traditional notation and wavy lines, combined with instructions on how to perform them, in various places throughout the piece.
<i>Odysseus and the Sirens</i>	Dana Wilson	Groupings of traditional notation and wavy lines, combined with instructions on how to perform them, at measures 10 – 17. At measure 52, a note with an X notehead indicates that the upper woodwinds, alto & tenor saxes play a random selected highest pitch possible as loud as possible (trilling if the player chooses) to represent the scream of Odysseus.

Here are additional pieces that also include aleatory:

Title	Composer	Aleatoric Techniques
<i>Symphony #1: In Memoriam Dresden – 1945</i>	Daniel Bukvitch	A variety of graphic symbols are used to indicated whistling, blowing air through instruments without mouthpieces, lightly tapping the lips of performers mouths while making a “shh” sound, and whispering, mumbling, speaking, shouting and then screaming the German words, “hilfe, feuer, raunch, faeuertaufe and feuer sturm.” To emphasize the emotional climax of the “Fire Storm,” Bukvitch uses a drawing of Dresden burning.
<i>Threnody to the Victims of Hiroshima</i>	Krystof Penderecki	Used triangles and straight and wavy lines in the string parts.

Have fun and be creative!