Recreating the Secondary General Music Classroom for the 21st Century Learner: Teaching Music Through Composition with Technology

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Composition as a Vehicle for Learning Music

In today’s Music Education world, old-fashioned, lecture based Music Appreciation or General Music classes just don’t cut it anymore. Regardless of prior music education or lack of thereof, students have access to sophisticated music software either free or inexpensively and are already composing their own music. Every student can have a meaningful hands-on applied learning experience that will impact not only their music experience and learning but also their understanding and comfort with 21st century technology. Technology allows a musical experience for all skill levels never before possible, composition without having to know much about traditional music theory or notation. We are now faced with a new challenge in music education, to re-prioritize what skills need to be taught in order to foster music composition given the available music technology. As music educators, we understand that there is and always will be a need to teach students the basic elements of music and music composition if our students are to create sophisticated music. The question is: what are the necessary skills and how do we best deliver those skills given the technology available?
The following is the first section of a soon-to-be-released book by Barbara Freedman. It is a multimedia curriculum for teaching music through composition using technology. This presentation will discuss the underlined lessons. Lesson plans and other materials are in this handout packet.

**Introduction to Music Composition**

1) Tour of a Sequencer  
   a) Software Instruments  
   b) Loops Library  

2) Using Loops  
   a) Creating Melodies with Loops  
   b) Using Loops to Create Accompaniment  
   c) Understanding Song (AB) Form  
   d) Creating the First Piece with Loops (*Project*)  

3) Recording Drum Tracks  
   a) Understanding Basic Rhythms  
   b) Reading and Playing Rhythms  
   c) Rhythm Dictations  
   d) Recreate Drum Patterns  
   e) Compose Your Own Drum Patterns  

4) Composing Drum Grooves (*Project*)  

5) Writing Melodies  
   a) Understanding the Piano Keyboard  
   b) Melodic Dictations  
   c) Evaluating Melodies  
   d) Compose Your Own Melody (D Dorian)  

6) Melody Variations Using Rhythmic Alterations  
   a) Create Melodic Fragments, Rhythmic Augmentation, Rhythmic Diminution  

7) Creating More Variations  
   a) Changing the Range of Regions  

8) Composing with Original Loops  
   a) Modified Sonata Allegro Form (*Project*)  

**Intermediate and Advanced Composition Projects Include:**  

1) Pieces for solo instruments or chamber ensembles  
2) The Speech Project using prerecorded audio as a focal point in a piece  
3) Music to Video
The biggest issue I have encountered with student composers regardless of their musical experience is their inability to write a melody. Mostly, I attribute this to lack of melodic material in contemporary popular music. If students aren’t listening to and singing melodies, even if only to themselves, they have very little experience with melodies and have trouble creating them.

This lesson is part of a series on Loops culminating in the Loops Project. This lesson introduces students to editing prerecorded loops and creating melodic material. Have students choose three different loops from the same instrument, in the same key. For instance, in the example below, there are eleven Eastern Storm Oud loops to choose from. Have student’s chose three. The assignment is to create a melody using these loops. Even if you limit the melody to four measures, students have to use all three loops so they will need to edit the loops and repeat a loop.

2a) Creating Melodies with Loops

Grade Level(s): 6-12

Skills Required:
- Navigating the Loops Library
- Basic editing

National Standards:
- 4 - Composing and arranging music within specified guidelines.

Objectives:
- Students will demonstrate their ability to select and use loops by creating a melody using various loops.

Materials:
- Software sequencing program with built in loops library such as GarageBand or Mixcraft

Procedure:
1. Have students create a new file.
2. Name the file “Loops Melody_ _ (their two initials)”.
4. Describe some aspects of melody writing. (i.e. repletion of ideas, rhythmic continuity, etc).
5. Review the Loops Library
6. Show the difference between lengths of loops (i.e. 4 beats, 8 beats, etc.)
7. Review the procedure for editing loops.
8. Have student create a melody using three related loops that are one measure each. Students may edit long loops to one measure or 4 beats. Melodies can be either 4 or 8 measure long depending on your student’s skill level.
Below is a picture of the Loops Library in GarageBand. Related loops are those that share the same name. Notice the list of Eastern Storm Oud and how the loops are labeled by number 01, 02, 03, etc.

Some loops are 4 beats long. Many loops are longer. It may be necessary for students to edit loops to create three one-bar related loops.

Below is an example of an 8 bar melody created using GarageBand’s Eastern Storm Oud 01, 02, and 08.

Extensions:
1. Have students create two contrasting melodies.
2. Have students combine unrelated MIDI (green) loops on the same track i.e. a Southern Banjo with a Southern Dobro played on a Eighties Guitar track

Modifications:
1. Have students create melodies without having to edit the loop by using two 2-bar loops or two 4-bar related loops
2. Have student create one or two 4-bar loops
Drum Beats

This lesson teaches students how to record and quantize drum patterns. They will learn different styles and variations and also how to use the sequencers quantize command. Quantizing is having the computer automatically align notes to a specified rhythmic notation. If they record four measures in “real time” (recording without stopping for all the measures) as recommended then students will also be able to practice recording to the metronome, a challenge for many students especially those who never played and instrument or sang in a chorus.

This lesson is extensive. It can be used over several class sessions or give the more advanced drum beat patterns as extensions for more advanced students. If you have different levels of classes, it can also be divided between these classes. I recommend introducing one or two drum set pattern/style per day. If you have a limited amount of time, I suggest you teach the Techno Beat and the Rock Ballad Beat (We Will Rock You) or the Hip Hop Beat depending on your student’s skill level. Before giving the students the complete pattern, review reading the rhythms necessary for reading and recording the given drum set pattern/style. For instance, the Basic Techno Beat requires students understand how to read and perform quarter and eighth notes. Review those materials before giving the drum set pattern/style to the students. Then review each line of the beat as a class to make sure they can read and perform each line of the drum set pattern/style. The Rock Ballad Beat and Hip Hop Beat requires students to read and understand sixteenth note patterns. Review those materials before giving the drum set pattern/style to the students. Then review each line of the beat as a class to make sure they can read and perform each line of the drum set pattern/style.

It’s a good idea for students to see how a drummer plays these patterns. Having someone perform live is always fun. Try to find a student who plays drums or get a student from the Band or Jazz Band come to your class to demonstrate. If you don’t have the opportunity for a live demo, there are lots of sites or YouTube videos that demonstrate drumbeats. VicFirth.com has many good educational videos.

The notation below shows the order of drums as would be read on a standard drum chart, bass drum on the bottom and cymbals on top and is presented here so students can become accustomed to reading charts in this manner. A standard drum chart would have all the drums on one stave however, I have found it easier for students to read each instrument on it’s own staff as it also simulates how the tracks are recorded. This way they can pick up any drum book and be familiar with the order of the drums in a standard chart. When recording drums, people often start with the bass drum and snare drum patterns and record the cymbal parts last. In other words, your tracks on in the sequencer may be in the opposite or “upside down” order.

Grade Level(s): 6-12

Skills Required:

- Basic understanding of how to add tracks
- Basic understanding of how to record

National Standards:

1 - Singing, alone and with others, a varied repertoire of music.
4 - Composing and arranging music within specified guidelines.
6 - Listening to, analyzing and describing music.
7 - Evaluating music and music performances.
9 - Understanding music in relation to history and culture.
Objectives:

Students will learn a variety of basic drum patterns and styles by recreating the drum patterns from the notation in the sequencer. It will also reinforce notation reading and how to quantize in the sequencer.

Materials:

- Student Drum Beats Assignment Sheet
- Drum Beats Audio Files
- Drum Beats MIDI Files

Procedure:

1. Review reading rhythm notation of quarters, eights and sixteenths as appropriate for each drum set pattern/style
2. Review reading each line of the drum set pattern/style
3. Demonstrate how to record each line of the drum set pattern/style
4. Drum Beats MIDI Files are included however, it is recommended that you perform and demonstrate live
   - Demonstrate how to quantize each line drum set pattern/style
5. Have students record the given drum set pattern/style
6. For each drum set pattern/style, demonstrate how changing the instrument choices and changing the tempo as given below affect the style/genre.

Extensions:

- Have groups of students perform one line each to play the drum set pattern/style live to the class.
- Have students compose their own variations to the drum set pattern/style
- Have students add other drum or percussion parts to the drum set pattern/style

Modifications:

1. Play the bass drum part for the student and have them play it by imitation. Then have them record it. Repeat this for each track.
2. Have the student record one measure and copy and paste or loop it.

The following is a diagram of where to locate specific sounds on the MIDI keyboard for each drumbeat:
Procedure:
1. Open a new file by choosing File > New
2. Save the file as Drum Beats _ _ (your two initials)
For each of the drumbeats below, follow the same procedures:
3. Add three drum tracks.
4. Set the metronome to 80 -90
5. Choose Control > Count In
6. Record each part on a separate drum track
7. Record as close to the metronome click as possible
8. Record four measures at a time without stopping
9. Do not copy and paste or loop measures
10. Quantize each track before recording the next track. If you play quarter notes, quantize to the 1/4 note.
    If you play eighth notes, quantize to the 1/8 note. If you play sixteenth notes, quantize to the 1/16 note.

1) Basic Techno Beat

This is a very basic drumbeat utilizing quarters and eighths. The variation in the hi hat using an open sound or “splash” (Bb) on the up beats adds a nice color to the groove. Record each part at 80 – 90 to be as close to the metronome click as possible but play back the drum set pattern/style at a Techno tempo of between 126 – 144.

If your original drums sounded like Techno (electronic) drums, change the drum set to a Rock kit and slow the playback tempo to 116. Now you have a Disco beat from the 1970’s!

2) Basic Rock Beat

Choose three acoustic drum kits like a Rock kit. Record at 80 – 90 but play back the beat at 104 – 116.
3) **Rock Beat Variation**

If you leave out the cymbal pattern, this is the basic beat to the Queen song “We Will Rock You”. You may want to set the metronome to 70 - 80 to record the cymbals. Play back tempo = 72 – 92.

4) **Basic Hip Hop or Heavy Metal**

Choose Hip Hop, 808 or 809 drums if you have them. Record the cymbal part first. When you record the bass drum, aim for the eighths in the cymbal. Play back tempo = 88 – 98. Change the drums to a Heavy Metal/Hard Rock kit and speed up the tempo to completely change the style.

5) **Slow Hip Hop**

This is the same as the Rock Beat Variation except the first beat introduces sixteenth notes in the bass drum. Record the cymbal part first at a tempo of 70- 80. When you record the bass drum, listen to the sixteenth notes in hi hat. The first two measures of the bass drum part are written with sixteenth notes and rests so you can see each of the four sixteenth notes of the beat. The second two measures show the traditional way to notate this figure. Play back tempo = 76 – 92.
6) Advanced Hip Hop

This is pretty sophisticated stuff. The first two measures of the bass drum part are written with sixteenth notes and rests so you can see each of the four sixteenth notes of the beat. The second two measures show the traditional way to notate this figure. Set the metronome to 70 – 80 to record the cymbal part first. Play back tempo = 89 – 98.

![Drum Notation]

5d) Composing Your Own Melody (D Dorian)

This will be student’s first attempt at melodic composition. This can be challenging for any student. The reason I chose D Dorian is because students will use this melody in their first piece. D Dorian allows them the easy of using only the white keys and the advantage of not having to know too much about music theory. For the most part, notes all sound good played harmonically in Dorian mode and when students combining or over lap melodies they and you won’t need to be concerned with more advanced music theory.

Grade Level(s): 6-12

Skills Required:

Knowledge of the layout of the piano keyboard

National Standards:

6 - Listening to, analyzing and describing music.
7 - Evaluating music and music performances.

Objectives:

Students will demonstrate their knowledge of the elements of traditional melody writing by composing their own 8 bar melody in D Dorian.

Materials:

Student Assignment Sheet: D Melody

Procedure:

1) Review the elements of traditional melody writing as discussed in the “Evaluating Melodies” lesson.
   a) One note at a time
   b) One or two notes per beat
   c) Move in a step-wise motion
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2) Review the Student Assignment Sheet: D Melody
3) Allow students time to work through ideas.
4) Go around the room and review melodies with each student. You may need to make suggestions, edit and quantize for the student.

Student Assignment Sheet : D Melody Composition

Save file as _D Melody_ _ (your two initials)

Write a simple melody like a folk tune or lullaby. The melody is to be 8 measures long in 4/4 time and will begin and end on the same middle “D”. You are to use only the WHITE keys (D Dorian mode).

Procedure:

1. In the sequencer choose File > New and call the file _D Melody_ _ (your initials)
2. Use the Grand Piano track given
3. Set the metronome to 85
4. You MUST record as close to the click as possible
5. The melody is to be 8 complete measures long
6. You can record in short one or two measure segments
7. Begin and end on the same middle D
8. Use only the white keys
9. Keep it simple
   a) One note at a time
   b) One or two notes per beat
   c) Move in a step-wise motion
   d) If you use leaps (skip a few notes), resolve the leap by step (the next note after the skip is the next higher or lower white key)
   e) The fifth measure (half way point or B section) can start on D or the higher A
   f) The B section can move in an opposite direction of the A section
   g) Repeat smaller ideas (one or two measures).
6) Melodic Variations: Fragments, Augmentations, and Diminutions

Grade Level(s): 6–12

Skills Required:
   - Basic understanding of how to copy and paste in the sequencer
   - Basic understanding of how to edit note duration in the sequencer

National Standards:
   - 4 - Composing and arranging music within specified guidelines.

Objectives:
   Students will demonstrate understanding of melodic variation by creating melodic fragments and altering their rhythms to form variations from their original D Dorian melody.

Materials:
   - D Melody file (created in Lesson 5)
   - Software sequencer

Repeating the same melody over and over can be boring. Remember, we are not writing songs, so there are no lyrics to provide variation and interest to repeated melodies. Therefore we need to come up with ways for students who have very little knowledge of composition and music theory to create interesting variety in an instrumental piece. The easiest way to create melodic variations is by taking short segments of the original melody (melodic fragments) and then altering the rhythm of those segments (rhythmic augmentation and rhythmic diminution). In the lessons that follow, students will create more variations using the elements created in this lesson and assignments. The D Melody created in the Lesson 5, the variations created in this lesson, and the variations to be created in Lesson 7 will be used in a culminating project: the D Piece in Sonata Allegro Form.

This lesson encompasses the next three assignments. The assignments can be reviewed and given all at once so students can work at their own pace to complete the project or, if time and the class size permits, students can complete each of assignment after you explain it. For instance, explain the Melodic Fragments assignment, and then have students create their own melodic fragments as you go around the room and check their work. Done this way, these three lessons and assignments can encompass two or three classes, and you can check students’ work individually as they progress.

Procedure:
   1. Explain to students that they will be using their D Melody file as a foundation to create an entire piece.
   2. Explain the concept of melodic variations and its importance in composition.
   3. Distribute and review Student Assignment Sheets 6.1, 6.2, and 6.3: Melodic Variations. You may address all three at once, demonstrating and showing examples of each process, or present the assignments one at a time and have students work on each one as you monitor their progress. Even if you decide to have them progress with you, it’s a good idea to give an overview of what the final product will be—the D Melody plus three tracks:
      - Track 1: the D Melody
      - Track 2: the melodic fragments
      - Track 3: the rhythmic augmentation of the fragments
      - Track 4: the rhythmic diminution of the fragments
Student Assignment Sheet 6.1: Melodic Variations/ Melodic Fragments

1) Melodic Fragments
A fragment is a portion of a melody. Melodic fragments are used to make pieces more interesting and the melody is not repeated over and over again. Melodic fragments can vary in length.

Procedure:
1. Open your D Melody file (which you created in Lesson 5) in the sequencer.
2. Save this file with a new name File > Save As > D Variations (your two initials).
3. Select a two-measure section of your eight-bar melody. Measures 1 and 2 are suggested.
4. Copy and paste this two-measure segment into a new Grand Piano Track (track 2) at measure 1 and 2.
5. Select a different two-measure segment of your eight-bar melody. Measures 5 and 6, as long as 5 and 6 differ from 1 and 2. If measures 5 and 6 are the same as 1 and 2, select 3 and 4 or 7 and 8, whichever are different from measures 1 and 2.
6. Copy and paste this two-measure segment into a new Grand Piano Track at measure 6 and 7 on track 2.
7. Your file should now look something like this:
Student Assignment Sheet 6.2: Melody Variations/ Rhythmic Augmentation

2) Rhythmic Augmentation
Augmentation means to make something larger. In music you can make melodies or parts of melodies (fragments) longer by increasing the duration of each note. For instance, if you have a note that lasts for one beat, change it to last for two beats. This lengthens the melody or fragment, and the lengthened rhythm is referred to as **augmented**.

**Procedure:**
1. Open your *D Variations * (your two initials) file.
2. Select both two-measure fragments in track 2 and paste them into a new Grand Piano Track (track 3).
3. Expand each of the two regions in track 3 to make each region last for 4 measures (see A in the screenshot below).
4. Double-click on the region to view the notes in the Matrix Edit window.
5. Enlarge the view of the Matrix Edit window by sliding the arrow to the right (see B in the screenshot below).
6. You will now need to manually make each note twice as long (double the duration).
7. Don’t forget to make rests (spaces where there are no notes) twice as long, too.

**TIP:** It might be easier to select all the notes and move them over to the right to make room for the longer notes. Make the first note twice as long, select the second note and move it into place over to the left then make it twice as long. Move the remaining notes into place on the left and make them twice as long, one by one (see C in the screenshot below). If you forget what your original fragment looked like and how the notes were spaced, refer to the fragment in track 2.

8. Your file should now look something like this:
Student Assignment Sheet 6.3: Melody Variations/ Rhythmic Diminution

3) Rhythmic Diminution
Diminution means to diminish or to make something smaller. In music you can make melodies or fragments shorter by shortening the duration of each note. For instance, if you have a note that lasts for one beat, you can make it half as long and it will last for half a beat. Or if you have a note that lasts for two beats, you can make it shorter to last for one beat. This shortens the length of the melody or fragment, and the shortened rhythm is referred to as diminished.

Procedure:
1) Open your D Variations _ _ (your two initials) file.
2) Select both original two-measure fragments in track 2 and paste them into a new Grand Piano Track (track 4).
3) Double-click on the region to view the notes in the Matrix Edit window.
4) Enlarge the view of the Matrix Edit window by sliding the arrow to the right (see A in the screenshot below).
5) You will now need to manually make each note half as long.
6) Don’t forget to make rests (spaces where there are no notes) half as long, too.
7) Manually move the shortened notes to the left to maintain the spacing between notes as in the original fragment.
8) If you forget what your original fragment looked like and how the notes were spaced, refer to the fragment in track 2.
9) When you have finished making each note half as long and have moved them over, make the region smaller in the Arrange Window (see B in the screenshot below).
10) Your file should now look something like this:
With all the elements in place in the *D Variations* file, students can create a piece using Sonata Allegro Form. I like to compare Sonata Allegro Form to literature and use “Romeo & Juliet” as my example. Most students will know this story and administrators will love how you integrate English into your music classroom! Shakespeare did not create the basic story of Romeo & Juliet but what he does with the characters and the development of ideas is what makes his version a masterpiece. I ask students what happens in the opening scenes of Romeo and Juliet. They begin to describe the exposition. We meet the characters and the basic plot of the story is exposed. Most of the story is development of the characters and how characters interact to develop the story line. The end of Romeo & Juliet is the meeting of the families and a return to the basic idea of the story but transformed because of our understanding of the characters and what has happened to them.

You can explain the whole project in one class or save the explanation and demonstration of some of the development elements (stretto, call & response) and the use of dynamics for the second day. This way you can review the assignment and give more suggestions over time.

**8) Compose with your own Loops: D Melody Piece – Modified Sonata Allegro Form**

*Grade Level(s):* 6-12

*Skills Required:*  
Basic understanding of how to copy & paste in the sequencer

*National Standards:*  
4 - Composing and arranging music within specified guidelines.

*Objectives:*  
Students will demonstrate their understanding of Sonata Allegro Form by creating a piece in this form using their own loops.

*Materials:*  
*D Variations* file

*Procedure:*  
1) Explain that students will be using their own loops to create a piece in whatever style they choose  
2) Explain the basic elements of Sonata Allegro Form, Exposition, Development and Recapitulation  
3) Explain the need for the statement of the original melody twice in the Exposition  
4) Demonstrate some possible combinations they could use in the development section  
5) Explain how they should try many combinations and test them to see if they like them  
6) Explain how dynamics can be used to create interest  
7) Explain how the Recapitulation is the return to the original melody  
8) Demonstrate how students can add the original melody in the Recapitulation without obliterating the melody  
9) Review the Student Assignment Sheet: D Melody Piece
Student Assignment Sheet: D Melody Piece (Project)

You will create a piece of music using your original D Melody, the melodic variations from the Melodic Treatments assignment and the drumbeat you created this semester in the My Beat _ _ file. The piece will be a minimum of 64 measures long. You can use any instruments you like and mix and match them anyway you like.

Procedure:
1. Open your D Variations _ _ (your two initials)
2. Save this file with a new name: File > Save As My D Piece _ _ (your initials)
3. Add three drum tracks of your choice and save this file again
4. Open you’re My Beat _ _ file and copy the contents of the file
5. Open you’re My D Piece _ _ file again and paste the contents of your My Beat _ _ file into your drum tracks. Remember: The sequencer wants to paste into the top track so make sure you put your red scroll bar into a blank track before you paste into your file. You can move the drumbeat to the proper tracks after you paste them into the file.
6. Now you will have all the elements that you need for your My D Piece _ _ your original 8 bar D Melody (track 1), the fragments (track 2), augmentations (track 3), diminutions (track 4), bass line (track 5), higher elements (track 6) and your drumbeat (tracks 7 - 9) all in one file.
7. Save this file again. It will look something like this:

8. The first 8 or so measures will be workspace to save all the elements you now have in this file. Basically, this “workspace” serves as your library of self composed loops in the file. Yes, there is a way to save your loops into the software’s Loop Library but we are not going to do that.
9. Your piece will start at measure 11. You will be selecting an element from the workspace (measures 1 – 8) and copying it into the file starting at measure 11.
10. You can create any style piece at any tempo using any combination of instruments
11. Feel free to change instruments in tracks or add tracks
12. You must have your entire 8 bar D Melody TWICE at the beginning of the piece and ONCE at the end of the piece
13. You do not have to use all of the elements in the first 8 measures but you will need to use several of them
14. You can record new elements into your piece if you like
15. You CANNOT use anything from the software’s Loops Library
16. Your piece needs to be a minimum of 64 measures starting at measure 11. That will take you to a minimum of measure 76