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Remedial Rhythm Reading: A Semester-Long Project in Sixth Grade Band

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Remedial Rhythm Reading

A Semester-Long Project in 6th Grade Band

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Table of Contents:

<u>Abstract</u>	<u>3</u>
<u>Introduction</u>	<u>3</u>
<u>Participants</u>	<u>4</u>
<u>Methodology</u>	<u>5</u>
<u>Instructional Techniques</u>	<u>9</u>
<u>Assessment Methods</u>	<u>13</u>
<u>Analysis</u>	<u>15</u>
<u>Conclusion</u>	<u>20</u>
<u>References</u>	<u>21</u>

Appendix I: Essential Vocabulary

Appendix II: Student Assessment Data

Appendix III: Rhythm Tests and Worksheets

Appendix IV: *Count. Play. Level Up.*

Abstract

The COVID-19 pandemic greatly impacted student outcomes in all disciplines, but especially in the performing arts. As I began clinical teaching, I found my sixth-grade band students, particularly the students not involved in choir (my “small band”), lacked the music literacy and fluency expected for second-year band students. I designed a one semester rhythm-reading unit to address this issue. The overall objective for the unit follows:

“Students will be able to read, write, perform, and compose rhythms containing whole notes, half notes, dotted-half notes, dotted-quarter notes, quarter notes, paired eighth notes, single eighth notes, paired sixteenth notes, and corresponding rests in simple meters at various tempi.”

The goal of this project is twofold: 1) to improve students’ rhythmic fluency and 2) to identify effective instructional materials and pedagogy for rhythmic fluency.

Introduction

Rhythm is the way that sound is distributed across time. Rhythm is notated in many ways, but in the case of wind band music, it is notated using a set of symbols, each representing the length of a sound. (See Appendix 1.) Rhythmic fluency is the ability to read, play, and write rhythms. The correct pitch played at the wrong time is still a wrong note, so rhythm is the first priority when learning music. To improve student independence and sight-reading skills, it was deemed appropriate to start with rhythmic independence. Once that was accomplished, my cooperating teacher and I felt that our band would perform and practice at a higher level and be more confident in their sound overall.

Participants

This project involved thirty sixth-grade band students at a middle school in the Midwest. This class of sixth-grade students has been labeled as “challenging” since elementary school. Anecdotes from various teachers indicated these students, as a whole, struggle academically, socially, and emotionally. These students were also impacted by the COVID-19 pandemic. Beginning fifth-grade band in the students’ school district typically starts in June, the summer before students enter fifth grade. Due to restrictions from the pandemic, these students started beginning band in October, five months later than in previous years. This impacted their performance abilities, and the students are only now, at the end of sixth grade, starting to perform at the proficiency level of previous second-year band students.

The 30 students in the project make up the “small band.” The school’s schedule creates a situation where students who are involved in both band and choir spend the first half of the block class period in band and the second half in choir. The “small band” students are those enrolled in band but not choir. These students are not as skilled as their peers who are involved in both band and choir. Small band music rehearsals had historically been unproductive, as the group lacked proficient, confident players who could independently read rhythms.

Two of the 30 students were classified as High-Ability Learners (HAL)¹ and two received accommodations through 504 plans and individualized education plans (IEPs).²

¹ Students who receive additional academic opportunities to ensure that they are being challenged to the extent of their abilities.

² Required accommodations for students with disabilities as defined by Section 504 of the Rehabilitation Act of 1973 and the Individuals with Disabilities Education Act.



Additionally, three students were identified as having consistent difficulties with reading text.

Several students struggled in band class. A majority of students wrote the letter name of each pitch below their standard music notation.³ Overall, my cooperating teacher expressed significant concern and frustration with the sixth-grade students and, specifically, the small band class.

Methodology

Due to school breaks, block scheduling, and snow days, we totaled 28 days of instruction, spread across 12 weeks. Each instructional day contained 10-25 minutes of instruction on this content.

Pre-tests were distributed to students on January 21, 2022 to determine students' current rhythmic fluency. The pre-test contained two examples of how to write in counting under given rhythmic notation. The examples are shown below:

Example A:	Example B:
 <p data-bbox="435 1453 613 1486">1 (2) 3 + 4</p>	 <p data-bbox="1107 1453 1198 1486">12 3</p>

The pre-test was designed to become progressively difficult over the course of twelve examples.














Each example contained a two-, three-, or four-measure rhythmic excerpt.

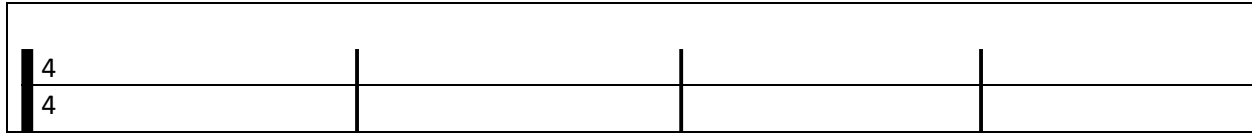
³ This practice is generally discouraged, as it reduces student independence and distracts students from reading the staff notation, which indicates pitch, rhythm, and volume. Writing in letter names (or, in the case of brass players, which valves to depress or which slide position to execute) distracts players from the notation and they miss other vital information.

All students were given the same instructions. Each measure of the pre-test was graded separately, creating a maximum possible score of forty points. Thirty of the forty measures (75%) contained previously taught and familiar content. Six measures (15%) contained content that students had experienced but was not familiar. Four measures (10%) contained new content that few students would have experienced within the school music classroom.

Worksheets were distributed as formative assessments and graded in class. The worksheets guided my teaching and provided insight regarding students needing additional instruction to succeed. The worksheets were identical in appearance and structure to the pre-test but contained different rhythm patterns. Worksheet One contained quarter notes, half notes, whole notes, and the corresponding rests. Worksheet Two contained content from Worksheet One, and paired and single eighth-note rhythms, dotted-half notes, dotted-quarter notes, and eighth rests. Worksheet Three contained content from the two previous worksheets and paired sixteenth-note rhythms.

Composition assignments were created to prepare students for a planned summative assessment which involved composing and performing a two-part rhythmic excerpt with a partner. The two instructors modeled and practiced composing a short rhythmic excerpt as a class activity. Students were shown how to check their work by adding all note values to ensure the correct number of beats in each measure. Students were then given Rhythm Composition One which included a “rhythm bank” of note durations for their compositions.

Rhythm Composition 1												
Create your own four-measure rhythm using any of the following notes and rests.												
Note Bank												
												



The second rhythm composition assignment was similar to the first, but with two adjustments. Three students (10% of the class) scored zero out of four on the first composition assignment. Those students (TB, RA, and AA)⁴ struggle in other classes, and generally need extra support when learning new content. They were given the following simplified version and provided teacher assistance and guidance to complete.


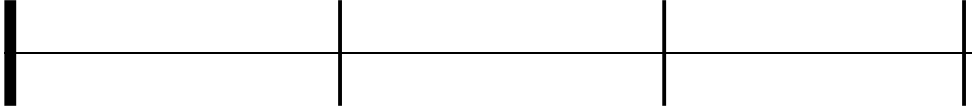
Rhythm Composition 2

Create your own four-measure rhythm using any of the following notes and rests.

Note Bank


All other students received an alternative Rhythm Composition Two, which added the requirement of selecting a time signature to use with their composition. This follows the principles of universal design for learning, where students are given accessible ways to show their knowledge (multiple means of action and expression)

⁴ Throughout this paper, students will be identified with a pseudonym to protect their privacy.

Rhythm Composition 2	
Create your own four-measure rhythm using any of the following notes and rests.	
Note Bank	
	
Choose your own time signature! Be sure to check your work: how many beats should be in each measure?	
	

This assessment strategy is similar to an English-Language Arts class assignment that requires students to write sentences using new vocabulary words while reinforcing content and testing literacy and fluency.

To address the playing component of the objective, several methods were utilized. Students began by rhythms counted aloud and clapped as a class and then transferring them to their band instruments on a unison pitch. This required them to read the rhythms while simultaneously creating sound on their instrument. It also required students to internalize the counting (to count “in their head” rather than aloud). In time, the instructors integrated John McAllister’s *Count. Play. Level Up.*, a free resource for full band sight-reading practice. This exercise used familiar notes and unpredictable rhythms to build students’ rhythmic sight-reading skills. The short excerpts from the first set of ten excerpts required students to count quarter, half, and whole notes and rests.

Beginner Set Note Durations: 

Count. Play. Level Up. was also used as an opportunity to address student dependence on writing note names/finger numbers/slide positions underneath traditional staff notation. Students were not allowed time to “write in” notes and were told they had the skills and knowledge to read the staff notation without that extra step. Through multiple sessions students slowly discovered their reliance on “writing in” note names/finger numbers/slide positions was unnecessary.

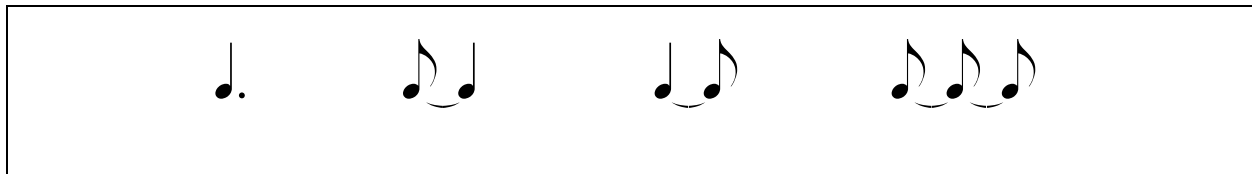
Instructional Techniques

A variety of instructional techniques were utilized throughout this project, including the following: 1) identifying similarities and differences, 2) “chunking.” 3) flexible ability grouping, 4) recognizing and rewarding effort and achievement, 5) modeling, and 6) gradual release of responsibility.

Marzano and colleagues identified four ways to use similarities and differences in the classroom: comparing, classifying, creating analogies, and creating metaphors. Using these four strategies, students connect to their background knowledge and incorporate new knowledge into a cohesive understanding of the subject matter. A meta-analysis from 2012 attempted to find patterns in the effectiveness of these four sub-strategies. The studies analyzed were published between 1998-2008 and included students in grades K-12. The researchers computed effect sizes based on the academic outcomes of control groups and experimental groups. Their analysis showed that guided analogical reasoning

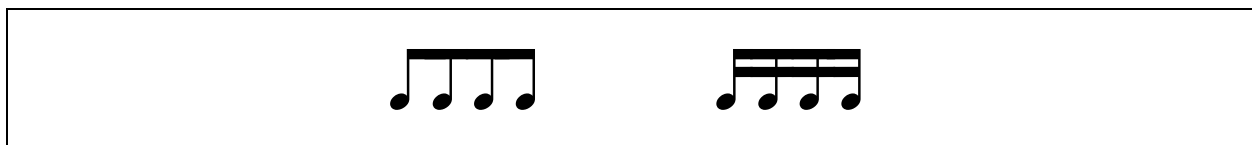
and classification were effective sub-strategies that helped students understand concepts and relationships in content-area instruction (Apthrop et al., 2012).

Identifying similarities and differences helped these students when they were working on visually identifying aspects of musical notation. The same length of note (or same duration of sound) can be notated in a variety of ways. For example, one and one-half beats of sound can be notated as a dotted-quarter note, an eighth note tied to a quarter note, a quarter note tied to an eighth note, or three eighth notes tied together.



Helping students discover and identify this fact and classify all the examples as different ways of writing the same sound makes music notation less complicated and confusing.







Additionally, identifying similarities and differences helped us when analyzing rhythms with both eighth and sixteenth notes. Eighth notes in groups of four are often confused with sixteenth notes in groups of four.



As a class, we discussed the obvious difference between these two notation examples: sixteenth notes have two beams, and eighth notes only have one beam. Likewise, single sixteenth notes have two flags and single eighth notes only have one flag. Eighth notes can

be presented in a variety of contexts and combinations, but students know to classify a note as an eighth note if it has one flag or one beam.

Before administering the post-test, we spent most of a class period working on the visual differences between similar elements of musical notation. Examples are given below:

Whole rest: 	Half rest: 
Eighth notes: 	Sixteenth notes: 
Quarter note and two eighth notes: 	Eighth note and two sixteenth notes: 

While these elements may look similar, they represent different lengths of time and are counted and played differently. As a class, we identified the visual and functional similarities and differences between the similar elements of notation. We talked about how the whole rest looks like a hole in the ground and gets a whole four beats, while the half rest looks like a hat and gets half of a whole rest (two beats). In a similar way, we talked about the visual elements of eighth and sixteenth notes that allow one to differentiate between them. We then practiced finding and identifying these pieces of notation in context.

“Chunking” involves breaking a longer musical excerpt into its component parts (“chunks”). One way to do this is to have one group (the melody, harmony, accompaniment, etc.) play their part alone, then add another group with a different part, repeating the process until the whole ensemble is playing. Another option is to remove a layer of difficulty – for example, instead of working on the notes and rhythms together, remove the

pitches and practice only the rhythm. Finally, one can also practice by isolating “chunks” of a few beats or a few measures and refining only those before moving on.

Flexible ability grouping was used as a form of differentiation to ensure student success. Students who struggled with the same concept were grouped together and taught as a small group. This allowed the instructors to assess each individual student and address their points of confusion.

Recognizing and rewarding effort and achievement was used to motivate students. The students were learning difficult material, and I often asked for a volunteer to write in counts or clap a rhythm for the class. I recognized their effort verbally, even if they were unsuccessful or made mistakes. I had students congratulate themselves and each other and thank each other for helping the class.

Modeling is a common practice across disciplines. It aligns with the gradual release of responsibility model, commonly described as a four-step process: I do, we do, you do together, you do alone. Modeling is involved in the first and second steps of this process. During the “I do” step, the teacher models the behavior or task to be executed, often while “thinking aloud” or explaining why they are doing each step. In the “we do” step, the teacher and the whole class or a student volunteer work together to complete the task, often while explaining their thought process. In the “you do together” step, students work as a class or in small groups to complete the task. This gives students an opportunity to peer teach and explain the concepts to each other. Finally, the “you do alone” step serves as a way to assess each individual student’s understanding.

Modeling and gradual release of responsibility were effective throughout the unit, as both strategies supported learners at all levels of comprehension. Students who felt very

confident and independent were encouraged to model for the class or lead the “we do” portions of the lesson. Students who needed more exposure to concepts were able to hear multiple models of each example. This allowed the aural, visual, and kinesthetic learners in the band to make connections between the visual appearance of a rhythm, the action of playing it, the syllables used to count it, and the sound of the rhythm being played.

Assessment Methods

A variety of assessment methods were used throughout this unit, including student self-assessments, composition assessments, individual written assessments, and playing assessments. Student self-assessment engages students in meta-cognitive analysis of their actions and outcomes in the course of a lesson. This can be used as a formative or summative assessment strategy. Students are asked to evaluate their performance generally or using specific criteria. Some self-assessments use rubrics or similar methods to produce quantitative data, while others are less formal and provide immediate feedback to the teacher on student performance and self-perception. This form of informal self-assessment is incredibly useful in the band classroom, where individual students can “hide” their performance struggles behind the large ensemble sound.

Student self-assessment has historically been effective for me to determine student understanding and confidence. Additionally, self-assessments develop students’ capacity to reflect on their own problems. Students who learn to accurately self-assess can advocate for themselves and practice more effectively on their own. Recognizing and reflecting on one’s own successes and shortcomings is an essential part of musicianship at any level, and of being a responsible student and citizen. This strategy gives me information to efficiently

choose and evaluate other instructional strategies. If I ask students to give themselves a score out of five on their rhythmic accuracy in a 12-measure phrase, and all the low reed players give themselves a one or a two, I can model the rhythm or ask those students to count and clap with me.

Seeing visually how successful students felt on a certain metric allows me to target difficulties that I may not have heard in the moment. These continual formative assessments are quick and easy. This allows me to teach more effectively, moving from small group playing to full ensemble playing in 20-30 seconds instead of 2-3 minutes. This reduces time when students are sitting and not playing their instruments, which leads to a more positive classroom environment and more productive learning time for individual students.

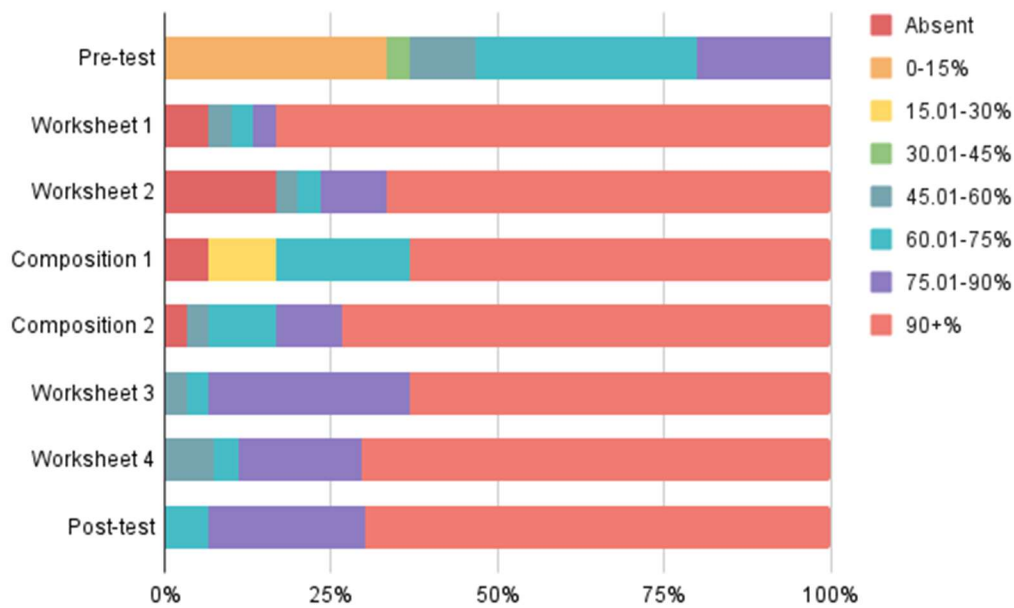
The composition assessments were created to test rhythmic fluency, the students' abilities to create something new from known component. As the goal of this unit was to develop both musical literacy and fluency, it was essential to provide students opportunities to practice their fluency and create new excerpts using rhythms learned in class.

The individual written assessments used in this unit included worksheets and the pre-test and post-test. The pre-test established a baseline of student knowledge before any teaching was done. The worksheets, used as formative assessments, provided data to help target instruction throughout the unit. The post-test served as a summative assessment that tested students' learning and retention over the whole unit.

The playing assessment used in this unit was *Count. Play. Level Up*. This was a fun, approachable way for students to practice actually playing the rhythms learned in class.

Because of the way that *Count. Play. Level Up.* is constructed, errors are obvious. This was simultaneously funny and frustrating to students – they could hear wrong rhythms from themselves or peers but could only fix themselves. Still, they found it rewarding and kept asking to try again. They treated it like a challenging video game and worked hard to “level up.” There was a lot of celebration after each “level.” This assessment was very engaging to students.

Analysis



Analysis chart data shows student outcomes for eight assignments: the pretest, four worksheets, two composition assignments, and the post-test. Assignments are listed on the chart in the order they were given to students. The legend corresponds to the percent of correct measures for each assignment. It should be noted that for the second composition assignment, several students composed rhythms that met all requirements, but made small errors in the

counting written under the notation. These students earned one half of a point (0.5) for the measure rather than a whole point, as the focus of the assignment was on the composed rhythms.

Analysis of the pre-test results showed many students (approximately one-third), were unable to write the counting under the notation. These students scored in the zero-to-four-point range. The examples included the method of “writing counts” that students used in previous classes, so their inability to replicate this method independently showed lack of retention. Some of this can be attributed to students struggling to combine rhythm reading while producing the correct pitches on their instrument. They may have stopped counting the rhythms independently and instead learned the rhythm patterns by rote. This is a common phenomenon in beginning band classes.

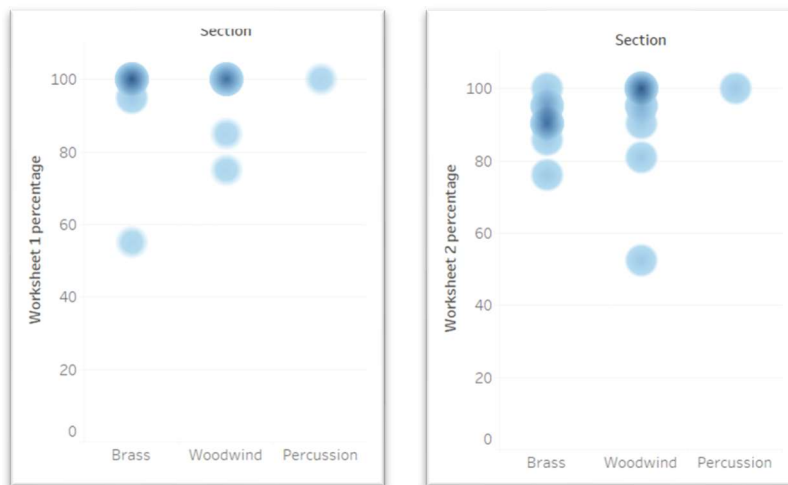
One-third of the students scored between 30-36 points out of 40 (90% accuracy), the maximum expected based on the construction of the pre-test. These students were meeting grade-level expectations and had retained the skills taught the previous year. No students succeeded in counting the sixteenth-note rhythms that were new material.

One-third of the students scored 18-29 points (45-72% accuracy). Most errors were predictable and consistent across the group. They demonstrated some understanding of content but were not successful in executing the task.

Of the students unable to “write in” counts as they had been taught, one student, BA, was incorrect in an interesting way. Under each note, BA wrote the value of the note in relation to the whole note, which corresponds to the name of the note written as a fraction. A replication of a portion of his pre-test is below:

1/16	1/16	1/16	1/16	1/8	1/8	1	1/8	1/16	1/16	1/8	1/8	1
------	------	------	------	-----	-----	---	-----	------	------	-----	-----	---

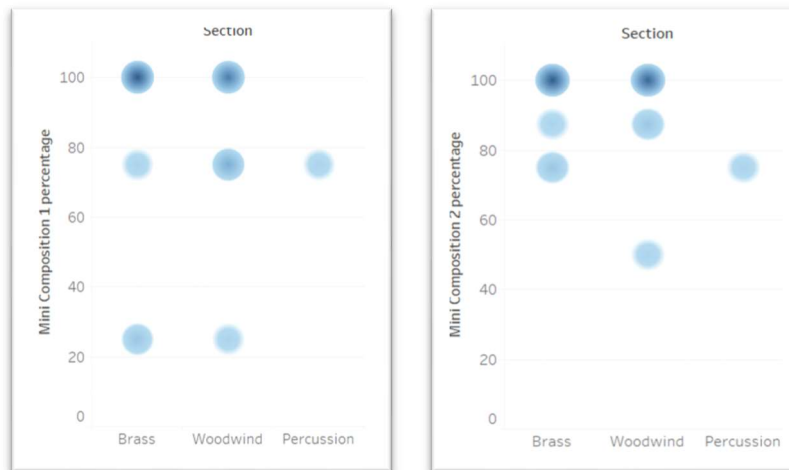
This indicates that BA understood the mathematics of reading rhythms, but not the functional counting tool provided by the teachers. Other students had similar issues, although not to the extent of BA.



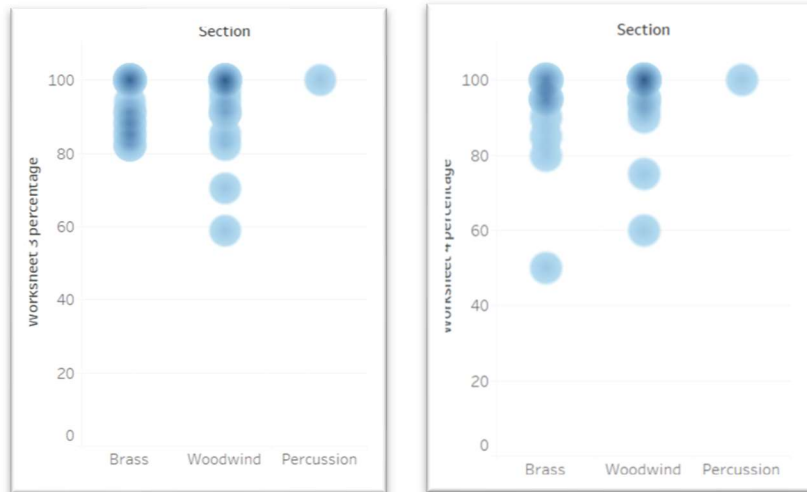
Worksheet One was distributed after reviewing quarter notes, half notes, whole notes, and the corresponding rests. As noted in the chart above, students scored dramatically better, with all students scoring above 45%, and most students scoring above 90%. The instructors noted which students were struggling, conducted error analysis, and re-taught appropriately. All students completed at least one portion of the worksheet successfully, and all students demonstrated some basic conceptual understanding. A few students did display process errors⁵ (e.g., skipped a quarter rest in one measure or forgot to start on beat one in each measure).

⁵ We define “process errors” to mean errors that are inconsistent or infrequent, do not demonstrate a lack of understanding, and could be the result of carelessness, inattention, or a momentary mistake.

Worksheet Two contained new content, which affected student confidence. Even among students who could read and apply the content during class, had process errors on the worksheet. A few students were unsuccessful applying the new content and were given additional instruction. We also conducted error analysis on the worksheet and reviewed the points of confusion with the whole class.

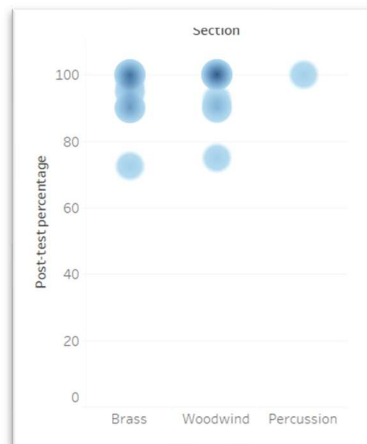


Most students were successful on the first composition assignment, with the exception of three students. We decided they would benefit from small group instruction and a simplified note bank. For the second composition assignment, these students were given an adjusted worksheet that did not include the single eighth note, dotted, and tied rhythms. They received small-group instruction and were able to successfully complete the assignments with the modifications. All three scored 100% on their second composition.



Worksheet three included sixteenth notes, the smallest and least familiar division of the beat that we learned about in this unit. All but one student scored above 60%, and all but two scored above 75%. Most mistakes were not with sixteenth notes but with eighth notes. We attribute this lack of retention to spring break and school disruptions. I re-taught eighth notes for worksheet four, but still saw a lack of retention in some students. We reviewed eighth notes and sixteenth notes one more time before the post-test, and saw improvement for all students. Students seemed to struggle with visually distinguishing sixteenth notes from eighth notes.

Worksheet Four showed improvement for some students, but the class as a whole seemed to be struggling with differentiating between eighth notes and sixteenth notes.



The post-test was administered after reviewing several common points of confusion, as described in the methodology section. As visible in the chart above, all students scored above 65 percent. The majority of students scored in the 90-100 percent range.

The data results show that students benefited and expanded their knowledge of rhythm reading from our instructional process. Students unable to finish all items in the pre-test were able to successfully complete large portions of the worksheets and the post-test. All students demonstrated significant growth over the course of the unit.

Conclusion

This rhythm reading unit was successful. The students achieved the unit objectives, and the 6th grade small band and full band improved their overall sound. The unit was completed shortly before the 6th grade band concert on April 21, which was very successful. After the concert, students were asked to sight-read a new piece and did extremely well. I attribute this partially to the increased independence and confidence of the small band students. Not only can they read rhythms faster, but they have also had much more experience with sight-reading. These students have shown remarkable progress in their musical literacy and abilities. Almost all current students will continue into 7th grade band next year. The instructors attribute this largely to the feelings and experiences of success that students had leading up to and after the concert. We are excited to watch their progress and see how this year's learning is retained and used into next year.

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