UNIVERSITY OF WISCONSIN
STEVENS POINT

A Program of Mastery Learning in
Basic Music Theory

A SEMINAR PAPER
SUBMITTED TO THE DEPARTMENT OF MUSIC
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MASTER OF MUSIC EDUCATION

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ACKNOWLEDGMENTS

The successful completion of this paper would not have been possible without the help of my students at Rhinelander High School and my advisor, David Copeland, who, I feel, spent time above and beyond the call of duty helping me prepare the final format for this paper. I must not forget the encouragement and patience of my family, Shelley and Casey, for not only leaving me alone to my work when necessary, but for settling for an absentee husband and father for the past three summers.
CHAPTER I

A STATEMENT OF THE PROBLEM

The purpose of this paper is to apply mastery learning principles to basic music theory instruction. The students in the Ninth Grade Band at Rhinelander High School present a unique problem in terms of their music theory background. Most started band in the seventh grade and share the same approximate level. Due to job opportunities in the community, a considerable number of students have transferred into the school district. These students often have band backgrounds from the sixth or even fifth grade and possess a much more detailed knowledge and background in music theory than students who have begun in the Rhinelander band program. At the other end of the spectrum, there are two private elementary schools in the community, which offer no band, and very little music education other than vocal music. These students begin their band careers in the ninth grade.

Music students arrive in the ninth grade band program with a wide range of knowledge in music theory. It is difficult to introduce and teach the basics of music theory to those students who are
deficient and not lose the interest and attention of those who already understand and can apply those principles. In order to enjoy success as a band, all students must be brought to the same knowledge level as quickly as possible. The time taken from band rehearsal must be of sufficient length for students who are behind to grasp new material while not allowing the rest of the class to become disenchanted by a lack of progress.

Mastery learning is one alternative educational method through which the wide range of knowledge and background may be overcome. The amount of time spent in large group instruction is minimal. Behavioral objectives are presented prior to the introduction of the unit and each student is allowed the time necessary to obtain mastery as established in the objectives.
CHAPTER II

A SURVEY OF THE LITERATURE

There is a great amount of literature presently available on mastery learning. This literature, however, deals with general subjects, and not with music. There is some dated music data available on the subject of programmed sequential learning which does offer some light on the subject, though it does not address mastery learning directly.

The author has chosen two main sources to research mastery learning. The first, Human Characteristics and School Learning, by Benjamin S. Bloom, deals with the psychology of learning which has led to the development of mastery learning. The second, Mastery Learning in Classroom Instruction, is an instructional book, explaining the manner in which mastery learning may be used in the classroom.

The moving force behind mastery learning has been Benjamin S. Bloom, of the University of Chicago. He is the author of much literature in the field of education, the best known being his Taxonomy of Educational Objectives. His book Human Characteristics and School Learning deals with those factors in learning which
have led to the development of mastery learning.

The basic premise of mastery learning is that in spite of all the variables in the education of a child, there are three interdependent variables which can be controlled in our school situation allowing for mastery of 80 percent of the students in any subject. These three variables are cognitive entry behaviors, affective entry characteristics, and quality of instruction.¹

Education up to the present may be considered a rather elitist venture, both in terms of who is allowed to go on to further education, and in terms of grading. Our education of the masses philosophy is based on the premise that though everyone may get an education, not all students may succeed. In fact, half must be at a grade of C or below. Modern society's need for large numbers of well educated people is not being met, as only 20 percent of our students are meeting mastery requirements (grade levels of A or B) under our present educational standards. The time has come where schools may no longer identify the talented 20 percent, but must strive to develop that talent in all students.²

Cognitive entry behaviors are the prerequisites the student has learned which will be used in the new learning experience. One of modern education's problems


²Ibid., p. 17.
is that teachers make the assumption that all students enter with all the knowledge they need. If all students are not brought to the same level before the new learning task begins, there will be great variation in the success that students meet with the task. This variation compounds itself with each step in a series of related learning tasks.  

Mastery learning techniques do not expect the same end results as do traditional teaching techniques. Eighty percent of the students are expected to reach mastery levels and in some areas 90-95 percent is not unrealistic if provided with appropriate prior and current conditions. It becomes obvious what will happen to a curve over a series of related learning tasks. The curve will spread out, but the great majority of the students will be near the "A" side of the curve. Studies have shown that if variation in cognitive entry behaviors is minimized, 50 percent of the variation of student achievement can be eliminated.  

Affective entry characteristics indicate the extent to which the student can be motivated to engage in the learning process. For a student to be an effective learner, he must be open towards what is to be taught, want to learn well, and must have enough confidence in his ability to

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3Ibid., pp. 34-35.
4Ibid., p. 7.
5Ibid., p. 48.
overcome the difficulties in learning, no matter where they occur. A student's success on one learning task will breed confidence on the next, and this positive approach will cause significant improvement in the student's achievement. The student's perception of himself accounts for 25 percent of the variation in cognitive achievement after the elementary school period. This concept is especially noticeable in the extremes. Those that are accustomed to doing well, do well, and those that do poorly, continue to do poorly.

The continued success of a vast majority of students clearly must affect their perception of schools, teachers, and themselves, which can only have positive effects on the entire learning process. A common concern throughout the negative literature on mastery learning is the subject of grade inflation. They feel that such a radical rise in grades must somehow be related to a lowering of standards. The supporting literature warns about a lowering of standards, and insists that performance standards be set before students do the learning units, with expectations for mastery set generally for the A to B grade level. The studies consisting of experimental and control groups have used the same posttest with the same requirements for grades, the method of teaching being the only difference. The experimental groups consistently achieved much higher success.

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6Ibid., pp. 10-11.  
7Ibid., p. 95.
Rather than being pessimistic about higher grades, we posit that given operating mastery learning strategies and criterion referenced grading systems, more students have attained desired knowledge and intellectual skills. Under these conditions, higher grade point ratios appropriately reflect greater cognitive attainment and concurrently suggest more effective instructional systems in operation rather than an intellectually bankrupt system of meaningless symbols.

One additional major influence of mastery learning over affective entry characteristics is that every student receives a list of objectives for each learning unit. This set of objectives is a reliable source for the student, indicating each item over which the student must achieve mastery. The unit and posttest are also built from these objectives so there is consistency throughout the learning experience. Consistency is a trait which eliminates much of a student's apprehension towards any new experience.

Quality of instruction is the final variable that Bloom feels can be controlled from within the school. Of the three, quality of instruction has the least effect on student achievement. If the cognitive entry behaviors and affective entry characteristics are what they should be, quality of instruction is responsible for only 5 percent of the variable in student achievement. If cognitive entry behaviors and affective entry characteristics are not correct, an excellent teacher may correct part but not all of the

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The instructor, according to Bloom, is responsible for four elements. He must provide cues to the student as to what the student is to learn, he must encourage the student to actively participate and not be a passive learner, he must provide the reinforcement, and provide the proper feedback and correction.

An effective manner of succeeding in these four areas is spelled out in *Mastery Learning in Classroom Instruction*, by James H. Block and Lorin W. Anderson. Every mastery learning unit has a list of objectives given to the students before they begin each packet. Along with these behavioral objectives, the student is told what grade will be considered mastery achievement.

Worksheets present an ideal opportunity for the student to practice and take part actively in the learning process. They also provide a means of feedback and correction along with the posttest in each packet.

The process of developing a mastery learning unit is as follows. Mastery must first be defined so that both the teacher and the students have a clear understanding of what is expected. The teacher must plan the course so that all of the students can and will attain

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10Ibid., pp. 113-114.
Most textbooks will be based on a curriculum. In this case, where a textbook was not used, it was necessary to develop a curriculum.

The next step is to formulate the objectives of the unit, and to decide the level of Bloom's Taxonomy for which the students will be responsible. This will safeguard against testing an objective that will not be taught, or including an information item that is not a part of the objectives. A table of specifications may be drawn up at this point so a graphic example of instructional objectives is available for the teacher or the students. The table tells which level of Bloom's Taxonomy the student is expected to reach for each objective.

At this point, a final examination should be developed, carefully testing the objectives. After the test is developed, a standard must be arrived at for a grade of A.

After the entire mastery unit has been devised, the unit must be divided into a series of two to three week units or packets. A table of specifications must be drawn up for each unit, followed by the unit diagnostic test (posttest). Correctives (worksheets) are formulated with supplementary approaches (information sheets) to be

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12 Ibid., p. 13.
presented after the large group instruction that coincides with each packet. At the end of each packet, there should be enrichment activities for students who understand the subject well enough to progress further than the packet allows.\textsuperscript{13}

The presentation of the packet to the students includes some orientation so the students will know in advance what to expect under this learning format. Following this, there is a nine step process for each packet.

1. Present the objectives
2. Present the group based instructional plan
3. Present the group based instruction
4. Administer the diagnostic progress test
5. Identify satisfactory/unsatisfactory progress in student learning
6. Certify those students whose test performance is satisfactory
7. Certify those students whose test performance is unsatisfactory
8. Monitor effectiveness of correction phase
9. Certify those students whose performance is now satisfactory\textsuperscript{14}

Simply stating mastery or nonmastery on the diagnostic progress test will lead students to believe

\textsuperscript{13}Ibid., p. 25.
\textsuperscript{14}Ibid., pp. 46-47.
they can achieve mastery. In this way, the teacher need not be committed to B, C, and D grades until after the final unit test. This will motivate all students to do their best, especially if they see marked improvement in their test scores after working on the correctives.

There is data available concerning individualized learning in music in a report compiled for the National Center for Educational Research and Development. This report, released in June of 1972, is a one year study of thirty-two hundred fifth and sixth grade music students, using individualized learning. While it is not based on mastery learning, it makes use of behavioral objectives and structured sequencing, which are important parts of mastery learning. As the report is quite old, this author will only give a summary of those statistics of interest to this paper.

A pre/posttest format and the same curriculum was used for both the control and experimental groups. At the end of one year, the experimental group made nearly twice the progress as the control group. The instructors felt that listening and physical movement were significantly improved in the experimental group, while there was no difference noted in singing and creative ability.15

Specifically dealing with symbols and rhythm, with which this paper is concerned, there are two items of interest to which the instructors were asked to respond. "This curriculum guide was instrumental in producing in pupils a knowledge of music theory relating to pitch symbols is best described as [ ]". In response to this statement, thirteen experimental teachers rated it very good and good, compared to six rating it average, fair, or poor. The control group answered very good or good twice, while seventeen rated it average or below. "This curriculum guide was instrumental in producing in pupils a knowledge of music theory relating to rhythm symbols is best described as [ ]". The experimental teachers response to this second statement was very good or good eighteen times, as opposed to three in the control group. The experimental answered average or below in only one instance, while the control group responded sixteen times.

As a consequence of this report, the Houston school district revised the elementary music curriculum guides to include behavioral objectives and structural sequencing.

This study indicates that individualized methods similar to mastery learning can be very successful, at

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16Ibid., p. 18.
17Ibid., p. 18.
18Ibid., p. 18.
19Ibid., p. 18.
least in the areas of pitch and rhythm symbols.

While the format has been carefully laid out for educators, even the formulators of mastery learning recognize that strategies of mastery learning must be adapted somewhat to fit different subjects and situations. The key to mastery learning is to provide a situation where all students may meet mastery requirements given enough time, and eventually their success will minimize the learning time differential among most students.

CHAPTER III

Introduction to Packet #1

Packet #1 is made up of those basic terms and symbols which the author finds indispensable in the basic communication of music. These terms are prerequisites to a successful ensemble experience in music, allowing the teacher and students the quickest possible progress in ensemble rehearsal and improvement.
## TABLE OF SPECIFICATIONS

**Packet #1**

<table>
<thead>
<tr>
<th></th>
<th>know</th>
<th>apply</th>
<th>analyze</th>
<th>synthesize</th>
<th>evaluate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>staff</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>treble clef</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>bass clef</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>bar line</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>double bar</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>measure</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>whole note</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>whole rest</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>half note</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>half rest</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>quarter note</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>quarter rest</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>eighth note</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>eighth rest</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td>sixteenth note</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td>sixteenth rest</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>flat</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>sharp</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>19.</td>
<td>natural</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td>leger line</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Objectives

You will know the symbols of the following musical terms and be able to draw them correctly. You will also know the correct definition of the terms. The lowest passing grade on the Post Test will be one wrong, or approximately 96%.

1. staff
2. treble clef
3. bass clef
4. bar line
5. double bar
6. measure
7. whole note
8. whole rest
9. half note
10. half rest
11. quarter note
12. quarter rest
13. eighth note
14. eighth rest
15. sixteenth note
16. sixteenth rest
17. flat
18. sharp
19. natural
20. leger line
I. Draw the following notes and their rests.

<table>
<thead>
<tr>
<th>note</th>
<th>rest</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. quarter</td>
<td></td>
</tr>
<tr>
<td>2. half</td>
<td></td>
</tr>
<tr>
<td>3. sixteenth</td>
<td></td>
</tr>
<tr>
<td>4. whole</td>
<td></td>
</tr>
<tr>
<td>5. eighth</td>
<td></td>
</tr>
</tbody>
</table>

II. Write down the name of each of these accidentals and tell their function.

6. ▼
   ________-

7. ♯
   ________-

8. ♭
   ________-

III. Draw a staff and place the following symbols on it. Place the correct number by each symbol you have drawn.

9. double bar
10. bar line
11. leger line
12. measure
13. bass clef
14. treble clef
Information Sheet #1

1. **staff**

   A staff is made up of five lines and four spaces. The lines are always counted from the bottom up. (ex. The first line is the bottom line.)

```
<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

2. **treble clef** 🎵

   The treble clef sign is placed on the staff so that the curl goes around the line G. The treble clef is drawn following these five steps.

```
1.   2.   3.   4.   5.
```

3. **Bass Clef** 🎵

   The bass clef is placed on the staff so that the two dots go in the space on either side of F. The bass clef is drawn following these four steps.

```
1.   2.   3.   4.   5.
```
1. Copy these five patterns to practice making a treble clef on a staff.

2. Practice drawing five complete treble clefs.

3. Copy these four patterns to practice making a bass clef on a staff.

4. Practice drawing five complete bass clefs.
Information Sheet #2

1. barline

A barline is a single line drawn vertically through the staff. The barline divides the staff into measures.

2. measure

A measure is the space on a staff between two barlines.

3. double bar

A double bar is made up of a pair of vertical lines on a staff and marks the end of a section.
Worksheet #2

I. Draw a line from the definition to the correct symbol.

1. end of a section

2. divides staff into measures

3. space between two barlines

II. Draw the correct symbol to go with the names given.

1. measure

2. double bar

3. barline
Information Sheet #3

1. whole note \( \bullet \) whole rest

The whole note is drawn as an oval and may appear on any line (\( \mathcal{C} \)) or space (\( \mathcal{Z} \)). The whole rest is equal in value to the whole note. It must always be drawn as a rectangular box, hanging down from the fourth line. Remember to count from the bottom up.

2. half note \( \frac{1}{2} \) half rest

The half note looks like a whole note with a stem added. The stem goes on the right if it goes up (\( \mathcal{J} \)) and on the left if it goes down (\( \mathcal{P} \)). Like the whole note, the half note may be drawn on any line or space. The half rest is equal in value to the half note. It must always be drawn as a rectangular box, sitting on top of the third line.

3. quarter note \( \frac{1}{4} \) quarter rest

The quarter note looks like a half note with the center filled in. The stem still goes on the right if it goes up (\( \mathcal{J} \)) or left if it goes down (\( \mathcal{P} \)). The quarter note may also be drawn on any line or space. The quarter rest is equal in value to the quarter note. The quarter rest is drawn centered on the staff by following these three steps.
4. eighth note \( \text{♩} \) eighth rest \( \text{♩} \)

The eighth note looks like a quarter note with a flag on it. Two or more eighth notes in consecutive order may be connected by a beam (\( \text{♩} \)). The stems are the same as a half or quarter note and the eighth note may also be placed on any line or space. The eighth rest is equal in value to the eighth note. The rest is centered in the staff and drawn like a seven.

5. sixteenth note \( \text{♩} \) sixteenth rest \( \text{♩} \)

The sixteenth note looks like an eighth note with two flags. A series of sixteenth notes may also be connected by a beam (\( \text{♩} \)). The stems are placed like the other notes and the notes may be placed on any line or space. The sixteenth rest is equal in value to the sixteenth note. The rest is centered in the staff and is drawn like an eighth rest with two flags.

The notes and rests are nearly always in a constant ratio to one another. As they are given to you on the following page, each note and corresponding rest are one half the value of the note to its left. By the
same reasoning, each note and it's rest are twice
the value of the note to it's right.
Worksheet #3

I. Draw the following notes and rests.

1. whole note

2. whole rest

3. half note

4. half rest

5. quarter note

6. quarter rest

7. eighth note

8. eighth rest

9. sixteenth note

10. sixteenth rest

II. Draw the rest that has the same value as each of these notes.

III. Fill in the one missing note from each of these musical equations.

\[ \begin{align*}
\text{\textbf{o}} &= \text{\textbf{p} +} \\
\text{\textbf{p} +} &= \text{\textbf{e} +} \\
\text{\textbf{p} =} &= \text{\textbf{e} + e} \\
\text{\textbf{e} +} &= \text{\textbf{e} + e} \\
\text{\textbf{p} =} &= \text{\textbf{e} + e} \\
\text{\textbf{o} =} &= \text{\textbf{p} + p + e + e} \\
\end{align*} \]
Information Sheet #4

1. leger line

Leger lines are extra lines (and spaces) that exist above and below the staff. There is an infinite number of leger lines that exist in both directions, but in most cases, the number you will need to know are those which fall within the range of your instrument.

2. flat ♭

A flat lowers a note one half step. Flats may be drawn on any line or space, in front of the note they affect.

3. sharp #

A sharp raises a note one half step. The sharp may also be drawn on any line or space and is placed in front of the note it affects.

4. natural ♮

A natural cancels a sharp or flat. It may be drawn on any line or space and is placed in front of the note it affects.
The flat, sharp, and natural are all called accidentals. Accidentals affect the note they are placed on for the duration of that measure. If that note is repeated at a later point in that same measure, the accidental is still in effect. The only way an accidental may be cancelled in that measure is by the use of another accidental.
Worksheet #4

I. A flat may be drawn in this manner. Draw the following steps on a space and on a line.

II. A sharp may be drawn following this pattern. Draw each of the following steps on a space and on a line.

III. A natural may be drawn in this manner. Draw the following steps on a space and on a line.

Notice that the center of each accidental tells you whether it is on a line or a space.
IV. Leger lines are drawn just wider than the note which appears on them.

\[ \emptyset \ \flat \ \natural \ \sharp \]

Draw each note we have studied using leger lines above or below the staff.

\[ \emptyset \ \flat \ \natural \ \sharp \]

ex.

\[ \emptyset \ \flat \ \natural \ \sharp \]

V. Draw a line from the name to it's correct symbol.

1. flat
2. natural
3. leger line
4. sharp
Enrichment Activity

The notes and rests may also appear one additional way, and that is with a dot. \( \cdot \). These are called dotted notes. (ex. \( \cdot \) is called a dotted whole note.) The dots add one half the original value of the note to the note.

\[
\begin{align*}
\cdot &= \cdot + \frac{1}{2} \\
\cdot &= \cdot + \frac{1}{2} \\
\cdot &= \cdot + \frac{1}{2} \\
\cdot &= \cdot + \frac{1}{2}
\end{align*}
\]

Fill in the one missing note from each of these musical equations.

\[
\begin{align*}
\cdot &= \cdot \\
\cdot &= \cdot \\
\cdot &= \cdot \\
\cdot &= \cdot \\
\cdot &= \cdot
\end{align*}
\]
I. Draw the following notes and their rests.

<table>
<thead>
<tr>
<th>Note</th>
<th>Rest</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. quarter</td>
<td></td>
</tr>
<tr>
<td>2. half</td>
<td></td>
</tr>
<tr>
<td>3. sixteenth</td>
<td></td>
</tr>
<tr>
<td>4. whole</td>
<td></td>
</tr>
<tr>
<td>5. eighth</td>
<td></td>
</tr>
</tbody>
</table>

II. Write down the name of each of these accidentals and tell their function.

6. ♭ __________
7. ♯ __________
8. __________

III. Draw a staff and place the following symbols on it. Place the correct number by each symbol you have drawn.

9. double bar
10. bar line
11. leger line
12. measure
13. bass clef
14. treble clef
Introduction to Packet #2

Packet #2 is made up of the five meter signatures most often found in band literature. A basic knowledge of these meters makes progress in rehearsal situations much smoother. The students' reading ability is improved, and they find they can now decipher rhythms by themselves without taking up valuable rehearsal time. This quickening of learning adds greatly to the positive attitude of the students. The 101 Rhythmic Rest Patterns book is a collection of meters and rhythms which the students must play for each lesson. The students count and clap the even numbered studies and play the odd numbered studies on their instrument.
# TABLE OF SPECIFICATIONS

Packet #2

<table>
<thead>
<tr>
<th></th>
<th>know</th>
<th>comprehend</th>
<th>apply</th>
<th>analyze</th>
<th>synthesize</th>
<th>evaluate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>five common meters</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>top and bottom numbers</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>beat</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>label strong beats</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>draw barlines</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>beats per note (rest)</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>dot</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>
Objectives

You will:

1. be able to list the five most common meter signatures.

2. be able to explain what the top and bottom numbers in a meter signature stand for.

3. be able to explain what a dot does to the value of any note or rest.

4. be able to define the word beat.

5. be able to label the strong beats in \( \frac{2}{4}, \frac{3}{4}, \frac{4}{4}, \frac{4}{6}, \) and \( \frac{4}{8} \).

6. be able to draw barlines in the proper places when given a meter signature and a series of notes.

7. be able to tell the number of beats any note receives in the five common meter signatures.

The lowest passing grade will be 80 percent on each section of the post test.
I. Write the best answer to each of the following questions.

1. What are the five most common meter signatures?

2. What does the top number in a meter signature tell you?

3. What does the bottom number in a meter signature tell you?

4. Where are the strong beat(s) in a measure of \( \frac{4}{4} \)?

5. Where are the strong beat(s) in a measure of \( \frac{3}{4} \)?

6. Where are the strong beat(s) in a measure of \( \frac{2}{4} \)?

7. Where are the strong beat(s) in a measure of \( \frac{1}{4} \)?

8. Where are the strong beat(s) in a measure of slow \( \frac{6}{8} \)?

9. Where are the strong beat(s) in a measure of march \( \frac{8}{8} \)?

10. Where do the bar lines go in the following examples? Draw them in the proper places.

\[
\begin{align*}
\text{\( \frac{4}{4} \)} & \quad \text{\( \frac{8}{8} \)} \\
\end{align*}
\]
II. Circle the letter in front of the best answer to the next question.

1. What is a beat?
   a. the rhythm of a song.
   b. a steady underlying pulse.

III. In the examples below, tell how many beats each note gets in the meter signature which precedes it.

\[
\begin{align*}
\text{4} \quad \text{4} & \quad \text{4} \quad \text{4} \quad \text{4} \\
\text{2} \quad \text{4} & \quad \text{4} \quad \text{4} \\
\text{6} & \quad \text{6} \quad \text{6} \\
\text{slow 6} & \quad \text{6} \quad \text{6} \\
\text{march 6} & \quad \text{6} \quad \text{6}
\end{align*}
\]
A meter signature or time signature is usually a set of two numbers, which tell you how to play the music in which it appears. You must know what the numbers mean to be able to understand meter signatures. The top number indicates the number of beats in each measure. The bottom number indicates the kind of note receiving one beat. A beat is a steady underlying pulse that exists in music. When you tap your toe to music, you are usually tapping the beat. When you march to music, you are marching to the beat. Unless all numbers of a musical group keep a steady beat, the ensemble will not stay together.

The most common meter signature is $\frac{4}{4}$, also called common time, and often appears on the staff as a C. The top number, four, tells us that there are four beats in each measure. The bottom number, also four, tells us that a quarter note (not a fourth note) receives one of these beats. This means that in any measure we will find four quarter notes or any combination of notes or rests which is equal to four quarter notes.
Worksheet #18

I. In 4/4, the top number means:

II. In 4/4, the bottom number means:

III. Draw notes for answers in this exercise. Rests may also be used.

1. Divide ₋ into two equal parts. __ __
2. Divide – into two equal parts. __ __
3. Divide ₋ into two equal parts. __ __
4. Divide – into two equal parts. __ __
5. Divide ₋ into two equal parts. __ __
6. Divide ₋ into two equal parts. __ __
7. Divide ₋ into two equal parts. __ __
8. Divide ₋ into two equal parts. __ __

IV. In 4/4, draw the following:

1. the note that gets one count. __ __
2. the rest that gets four counts. __ __
3. the rest that gets one count. __ __
4. the note that gets four counts. __ __
5. the rest that gets one-half count. __ __
6. the note that gets two counts.

7. the note that gets one-half count.

8. the rest that gets two counts.

9. the rest that gets one-fourth count.

10. the note that gets one-fourth count.
Circle as many groups of notes and rests as you can find that equal one measure in the meter signature below. Use each symbol only once as in the example below.
There are other meter or time signatures very closely related to \( \frac{4}{4} \) and C time. These are \( \frac{2}{4} \) and \( \frac{3}{4} \). In both of these meter signatures, the four on the bottom tells us that the quarter note gets one beat. The two tells us that there are two beats per measure in \( \frac{2}{4} \) and the three tells us that there are three beats per measure in \( \frac{3}{4} \). The only difference between them is the number of beats in each measure.

In \( \frac{2}{4} \) we will find two quarter notes, or any combination of notes or rests which is equal to two quarter notes. In \( \frac{3}{4} \) we will find three quarter notes or any combination of notes or rests which is equal to three quarter notes. In \( \frac{2}{4} \) there are only two beats per measure, which means any note which is equal to more than two quarter notes can not be written as it will not fit in a measure. In \( \frac{3}{4} \) there are three beats per measure, which means any note which is equal to more than three quarter notes can not be written; for example, a whole note or rest can not exist in either of these two meter signatures.
VI. In $\frac{3}{4}$, draw the following:

1. the note that gets one-fourth count.

2. the rest that gets one count.

3. the rest that gets one-half count.

4. the note that gets one count.

5. the note that gets two counts.

6. the rest that gets one-fourth count.

7. the rest that gets two counts.

8. the note that gets one-half count.
Worksheet #2a

I. In $\frac{2}{4}$, the top number means:

II. In $\frac{2}{4}$, the bottom number means:

III. In $\frac{3}{4}$, the top number means:

IV. In $\frac{3}{4}$, the bottom number means:

V. In $\frac{2}{4}$, draw the following:

1. the note that gets one count.

2. the rest that gets two counts.

3. the note that gets one-fourth count.

4. the rest that gets one-half count.

5. the note that gets one-half count.

6. the rest that gets one count.

7. the note that gets two counts.

8. the rest that gets one-fourth count.
Circle as many groups of notes and rests as you can find that equal one measure in the meter signature below. Use each symbol only once as in the example below.

\[ \frac{2}{4} \]

\[ \text{Worksheet #2b} \]
Circle as many groups of notes and rests as you can find that equal one measure in the meter signature below. Use each symbol only once as in the example below.

\[ \frac{3}{4} \]
Information Sheet #3

This symbol, $\frac{\theta}{2}$, is the meter signature called cut time. It is a substitute for the meter signature $\frac{2}{2}$, and indicates two beats in a measure, a half note receiving one beat.

\[ \begin{align*}
\text{\textfrac{\theta}{4}} &= \text{one count} \\
\text{\textfrac{\theta}{6}} &= \text{one-half count} \\
\text{\textfrac{\theta}{8}} &= \text{one-fourth count} \\
\text{\textfrac{\theta}{12}} &= \text{one-eighth count} \\
\text{\textfrac{\theta}{16}} &= \text{two counts}
\end{align*} \]

Each note has one-half the value it would have in $\frac{\theta}{4}$; hence the name cut time.

This meter signature is most commonly found in marches in band literature.
Worksheet #3a

I. $\text{ } is equal to the numerical meter signature _____.

II. The top number means:

III. The bottom number means:

IV. In $\text{ }$, draw the following:

1. the note that gets two counts. ____

2. the note that gets one-fourth count. ____

3. the note that gets one-eighth count. ____

4. the rest that gets one-fourth count. ____

5. the rest that gets one count. ____

6. the note that gets one-half count. ____

7. the note that gets one count. ____

8. the rest that gets one-eighth count. ____
9. the rest that gets two counts.

10. the rest that gets one-half count.
Circle as many groups of notes and rests as you can find that equal one measure in the meter signature below. Use each symbol only once as in the example below.
The last meter signature we will study is $\frac{6}{8}$. The top number indicates that there are six beats per measure. The bottom number indicates that an eighth note gets one of those beats. Any combination of notes which is equal to six eighth notes can be placed in the measure. Rests may substitute for their equivalent note.

\[
\begin{align*}
\text{\textbf{6}} & = \text{7} \quad \text{one count} \\
\text{\textbf{q}} & = \text{2} \quad \text{two counts} \\
\text{\textbf{d}} & = \text{3} \quad \text{four counts} \\
\text{\textbf{f}} & = \text{7} \quad \text{one-half count}
\end{align*}
\]

Any note or rest or group of notes or rests which is equal to more than six eighth notes is impossible to write in $\frac{6}{8}$. 


I. In $\frac{6}{8}$, the top number means:

II. In $\frac{6}{8}$, the bottom number means:

III. In $\frac{6}{8}$, draw the following:

1. the note that gets two counts.
2. the note that gets one count.
3. the rest that gets four counts.
4. the rest that gets two counts.
5. the note that gets one-half count.
6. the note that gets four counts.
7. the rest that gets one-half count.
8. the rest that gets one count.
Circle as many groups of notes and rests as you can find that equal one measure in the meter signature below. Use each symbol only once as in the example below.
Information Sheet #5

All notes and rests may be dotted. The dotted notes and rests we will be dealing with appear below.

\[
\begin{align*}
\cdot & \quad \cdot \quad \cdot \quad \cdot \\
\cdot & \quad \cdot \quad \cdot \quad \cdot \\
\cdot & \quad \cdot \quad \cdot \quad \cdot \\
\cdot & \quad \cdot \quad \cdot \quad \cdot \\
\cdot & \quad \cdot \quad \cdot \quad \cdot \\
\cdot & \quad \cdot \quad \cdot \quad \cdot \\
\cdot & \quad \cdot \quad \cdot \quad \cdot \\
\cdot & \quad \cdot \quad \cdot \quad \cdot \\
\end{align*}
\]

A dot added to a note or a rest adds one-half the note's value to it.

\[
\begin{align*}
\cdot & = \cdot + \cdot \\
\cdot & = \cdot + \cdot \\
\cdot & = \cdot + \cdot \\
\cdot & = \cdot + \cdot \\
\cdot & = \cdot + \cdot \\
\cdot & = \cdot + \cdot \\
\cdot & = \cdot + \cdot \\
\cdot & = \cdot + \cdot \\
\end{align*}
\]

Dotted notes may be used in any meter signature, but they have a special significance in \( \frac{6}{8} \). Remember that \( \frac{6}{8} \) means six beats per measure and an eighth note gets one beat. This means one measure of \( \frac{6}{8} \) is:

\[
\frac{6}{8} \quad \boxed{\begin{array}{cccc}
1 & 2 & 3 & 4 \\
\end{array}}
\]

The grouping of three eighth notes can be replaced by a dotted quarter note, because \( \cdot \cdot \cdot = \cdot + \cdot \cdot \cdot \), which equals \( \cdot + \cdot + \cdot \cdot \cdot \). The same process can go one step further as \( \cdot \cdot \cdot \cdot \cdot \cdot = \cdot + \cdot \cdot \cdot \), which equals \( \cdot \cdot \cdot \cdot + \cdot \cdot \cdot \). In this way we can have one note or rest taking an entire measure of \( \frac{6}{8} \).

The special significance of dotted notes in \( \frac{6}{8} \) is as follows: In music where the unit of beat goes very quickly, it is often easier to assign two beats rather than six. As a result of their natural heavier accent, beats one and four are the only ones counted. This substitution leaves us with a dotted quarter note.
getting one beat. This is the only common meter signature in which a dotted note gets one beat.

In $\frac{6}{8}$, $\frac{3}{4}$ = one beat,

$\frac{2}{4}$ = two beats,

$\frac{1}{4}$ = two-thirds of a beat,

$\frac{1}{3}$ = one-third of a beat,

$\frac{1}{6}$ = one-sixth of a beat.

The $\frac{6}{8}$ with two beats per measure often appears in a march. We will call it march $\frac{6}{8}$ from this point on.
Worksheet #5a

I. In \( \frac{3}{4} \), draw the following:

1. the note that gets three counts.

2. the note that gets three-fourths count.

3. the note that gets one and one-half counts.

4. the rest that gets one and one-half counts.

5. the rest that gets three counts.

6. the rest that gets three-fourths count.

II. In \( \frac{2}{4} \), tell how many counts each symbol gets.

1. \( \) __

2. \( \) __

3. \( \) __

4. \( \) __

5. \( \) __

6. \( \) __
III. In \( \frac{3}{4} \), tell how many counts each symbol gets.

1. \( \d \) ___
2. \( \d \) ___
3. \( 7 \) ___
4. \( 8 \) ___
5. \( \ldots \) ___
6. \( \ldots \) ___

IV. In \( \frac{6}{8} \), tell how many counts each symbol gets.

1. \( \d \) ___
2. \( \d \) ___
3. \( \d \) ___
4. \( \d \) ___
5. \( 0 \) ___
6. \( \d \) ___
7. \( 7 \) ___
8. \( \ldots \) ___
9. \( 0 \) ___
10. \( 8 \) ___
11. \( \ldots \) ___
12. \( 9 \) ___
13. \( 7 \) ___
14. \( \ldots \) ___

V. In march \( \frac{6}{8} \), tell how many counts each symbol gets.

1. \( \d \) ___
2. \( \d \) ___
3. \( \d \) ___
4. \( 7 \) ___
5. \( \ldots \) ___
6. \( 8 \) ___
7. \( \d \) ___
8. \( 8 \) ___
Circle as many groups of notes and rests as you can find that equal one measure in the meter signature below. Use each symbol only once as in the example below.

\[ \text{\footnotesize \( \frac{6}{8} \) \footnotesize } \]

\[ \begin{array}{cccccc}
\text{.} & \text{.} & \text{.} & \text{.} & \text{.} & \text{.} \\
\text{.} & \text{.} & \text{.} & \text{.} & \text{.} & \text{.} \\
\text{.} & \text{.} & \text{.} & \text{.} & \text{.} & \text{.} \\
\text{.} & \text{.} & \text{.} & \text{.} & \text{.} & \text{.} \\
\text{.} & \text{.} & \text{.} & \text{.} & \text{.} & \text{.} \\
\text{.} & \text{.} & \text{.} & \text{.} & \text{.} & \text{.} \\
\end{array} \]
Circle as many groups of notes and rests as you can find that equal one measure in the meter signature below. Use each symbol only once as in the example below.

\[ \frac{3}{4} \quad \frac{3}{4} \quad \frac{3}{4} \]
Worksheet #5d

Circle as many groups of notes and rests as you can find that equal one measure in the meter signature below. Use each symbol only once as in the example below.

\[ \text{Circle groups of notes and rests equal to one measure.} \]
In all the meter signatures, barlines are used to separate the proper number of beats into measures. The first beat of each measure has the strongest natural accent. The samples below will show you where the natural accents are in each measure. The heaviest accent is indicated by /, secondary accents by _ and weak beats by the symbol O.

\[
\begin{align*}
\begin{array}{c}
\text{1/4} \\
\hline
\text{2/4} \\
\hline
\text{3/4} \\
\hline
\text{march}
\end{array}
\end{align*}
\]
Worksheet #6

I. Practice drawing barlines in the proper places in each of the examples. Put the correct number under the strong beats in each measure.

1. \( \frac{4}{4} \)

2. \( \frac{2}{4} \)

3. \( \frac{3}{4} \)

4. \( \frac{6}{8} \)
Enrichment Activity

Begin work on counting in your 101 Rhythmic Rest Patterns book for practice with counting and meter signatures.
I. Write the best answer to each of the following questions.

1. What are the five most common meter signatures?

2. What does the top number in a meter signature tell you?

3. What does the bottom number in a meter signature tell you?

4. Where are the strong beat(s) in a measure of $\frac{4}{4}$?

5. Where are the strong beat(s) in a measure of $\frac{3}{4}$?

6. Where are the strong beat(s) in a measure of $\frac{2}{4}$?

7. Where are the strong beat(s) in a measure of $\frac{7}{4}$?

8. Where are the strong beat(s) in a measure of slow $\frac{6}{8}$?

9. Where are the strong beat(s) in a measure of march $\frac{8}{8}$?

10. Where do the bar lines go in the following examples? Draw them in the proper places.

    \[ \frac{4}{4} \quad \text{[example 1]} \]

    \[ \frac{6}{8} \quad \text{[example 2]} \]
II. Circle the letter in front of the best answer to the next question.

1. What is a beat?
   a. the rhythm of a song.
   b. a steady underlying pulse.

III. In the examples below, tell how many beats each note gets in the meter signature which precedes it.

\[
\begin{align*}
4/4 & \quad \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \\
2/4 & \quad \cdot \quad \cdot \quad \cdot \quad \cdot \\
6/4 & \quad \cdot \quad \cdot \quad \cdot \\
6/8 & \quad \cdot \quad \cdot \quad \cdot \\
6/8 & \quad \cdot \quad \cdot \quad \cdot
\end{align*}
\]
Introduction to Packet #3

Packet #3 is basically a review packet for most students, as it covers the note names. There are actually two packets, one for bass clef, and one for treble clef. The student uses the packet in which they play their instrument. If the student scored a perfect test on the pretest, they were asked to complete the other packet.
TABLE OF SPECIFICATIONS

Packet #3

<table>
<thead>
<tr>
<th>know</th>
<th>comprehend</th>
<th>apply</th>
<th>analyze</th>
<th>synthesize</th>
<th>evaluate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>

1. Note names  x  x  x
Objectives

You will know the names of the notes on the lines and spaces (leger lines included) for the clef sign in which your instrument plays. The lowest passing grade on the Post Test will be one wrong, or approximately 88%.

I. Bass Clef
   1. bassoon
   2. trombone
   3. baritone
   4. tuba
   5. tympani

II. Treble Clef
   1. piccolo
   2. flute
   3. clarinet
   4. saxophone
   5. oboe
   6. trumpet
   7. french horn
   8. baritone
   9. bells
  10. xylophone
  11. marimba
Pretest

name

1. Name the lines in the bass clef.

2. Name the spaces in the bass clef.

3. Letter names of notes are printed below. Draw each note on the staff without using leger lines.

\[
\begin{array}{cccccc}
& B & D^\# & F & A^\flat & C \\
\end{array}
\]

4. Spell the word face with notes in the bass clef without using any spaces.

5. Spell the word bag with quarter notes.

6. Spell the word faded with sixteenth notes.

7. Spell the word feed with half notes. Use E in two different places.

8. Within the staff, write the notes from low G to high G in alphabetical order using quarter notes.
Bass Clef

In our music system, we use seven note names, A, B, C, D, E, F, G, which may all appear as naturals, sharps, or flats. The notes are in alphabetical order reading upward and after G, we start over with A. As the notes go up on the staff, note names are in alphabetical order. As you read down the staff, the notes go in the opposite order. The notes may be flatted, and also may be sharped.

One of the easiest ways to memorize the note names is to learn the lines and spaces separately. The spaces can be remembered by taking the first letter from each word in the phrase All Cows Eat Grass. The lines can be remembered by taking the first letter from each word in the phrase Grandma Bakes Doughnuts For Alice.
When leger lines are used above the staff, the notes continue up on alternating lines and spaces in alphabetical order. Reading downward below the staff, they are in the opposite order.

\[ \text{\texttt{C D E E D C}} \]
Worksheet #1

1. Using letter names, label the lines on this staff.

2. Write the phrase that helps you remember this.

3. Using letter names, label the spaces on this staff.

4. Write the phrase that helps you remember this.

5. Write the names of these notes in the blanks below.

6. Write the words these notes spell.
Enrichment Activity

Complete the packet for treble clef.
Post Test

1. Name the lines in the bass clef.
2. Name the spaces in the bass clef.
3. Letter names of notes are printed below. Draw each note on the staff without using leger lines.

```
\begin{center}
\rotatebox{90}{\scalebox{0.5}{$G$}}
\end{center}
```
\begin{center}
B D\# F A\# C E E B\# D F\#\end{center}

4. Spell the word face with notes in the bass clef without using any spaces.

```
\begin{center}
\rotatebox{90}{\scalebox{0.5}{$G$}}
\end{center}
```

5. Spell the word bag with quarter notes.

```
\begin{center}
\rotatebox{90}{\scalebox{0.5}{$G$}}
\end{center}
```

6. Spell the word faded with sixteenth notes.

```
\begin{center}
\rotatebox{90}{\scalebox{0.5}{$G$}}
\end{center}
```

7. Spell the word feed with half notes. Use E in two different places.

```
\begin{center}
\rotatebox{90}{\scalebox{0.5}{$G$}}
\end{center}
```

8. Within the staff, write the notes from low G to high G in alphabetical order using quarter notes.

```
\begin{center}
\rotatebox{90}{\scalebox{0.5}{$G$}}
\end{center}
```
1. Name the lines in the treble clef.
2. Name the spaces in the treble clef.
3. Letter names of notes are printed below. Draw each note on the staff without using leger lines.

   \[ \text{B D}^\# F A^\# C E B^\# D F^\#} \]

4. Spell the word face with notes in the treble clef, without using any spaces.

5. Spell the word bag with quarter notes.

6. Spell the word faded with sixteenth notes.

7. Spell the word feed using half notes. Use E in two different places.

8. On the staff, write the notes from low F to high F in alphabetical order using quarter notes.
In our music system, we use seven note names, A, B, C, D, E, F, G, which may all appear as naturals, sharps, or flats. The notes are in alphabetical order reading upward. After reaching G, we start over with A. As the notes go up on the staff, note names are in alphabetical order. As the notes go down the staff, the note names are in the opposite order. The notes may be flatted, and also may be sharped.

One of the easiest ways to memorize the note names is to learn the lines and spaces separately. The spaces are easily remembered, because from the bottom up, they spell the word face. The lines can be remembered by taking the first letter from each word in this phrase, Every Good Boy Does Fine.
When leger lines are used above the staff, the notes continue up on alternating lines and spaces in alphabetical order. Reading downward below the staff, they are in the opposite order.

\[
\begin{array}{cccc}
A & B & C & C B A \\
\end{array}
\]
Worksheet #1

1. Using letter names, label the lines on this staff.

2. Write the phrase that helps you remember this.

3. Using letter names, label the spaces on this staff.

4. Write the names of these notes in the blanks below.

5. Write the words these notes spell.
Enrichment Activity

Complete the packet for Bass Clef.
Post Test

1. Name the lines in the treble clef.
2. Name the spaces in the treble clef.
3. Letter names of notes are printed below. Draw each note on the staff without using leger lines.

B D# F A♭ C E B♭ D F♯

4. Spell the word face with notes in the treble clef, without using any spaces.

5. Spell the word bag with quarter notes.

6. Spell the word faded with sixteenth notes.

7. Spell the word feed using half notes. Use E in two different places.

8. On the staff, write the notes from low F to high F in alphabetical order using quarter notes.
A study of the final results from these three learning packets allows the author to make several generalizations regarding the use of mastery learning in Rhinelander. It shows substantial improvement in student's grades from the pretest to the posttest in nearly all the student's work. It was generally observed that students who showed little or no improvement failed to take advantage of what mastery learning offers. That is, they did not spend time on worksheets and correct them far enough in advance to eliminate their deficiencies before the posttest, and following their nonmastery performance on that test, did not make use of the correctives made available to them. Mastery learning offers the instrumental music teacher a method of presenting very specific background material in music theory without consuming valuable rehearsal time for group presentation of the material. The time between presentation and the posttest is sufficient for the slowest student to reach mastery or near mastery with enough effort on his or her part.

Packet one shows an improvement in the number of students achieving mastery. Eleven students reached
mastery with the pretest while a total of thirty-three obtained mastery following the posttests. After the first packet was completed, the pretest format for the following packets was altered slightly. In the author's estimation, this change would not drastically alter the final statistics. The original pretest to packet one may be found in the Appendix.

The material taught in the first packet is very basic, and had been familiar to most of the band students for at least two years. There was a significant rise in both the mean (82.5%-97.5%) and the median (87.5%-100%). One interesting difference between the examination scores of the three packets is the consistent rise in the lower extreme of the test results from the first packet (30%-75%). This can be explained by the relative ease of material in this packet and a rather feeble effort by some students in packet three.

Packet two also displays significant improvement in the mean and the median scores. The greater difficulty of material is most easily seen in the median score, which is only 87.5%. In both packets one and three, the final median is 100%. There is also the smallest percentage of students reaching mastery in this packet, 76.3%. Another example of the difficulty is seen in the upper mean. In this packet alone, no student scored 100% on the pretest. The mean (50%) and the median (50%) also start much lower on this pretest. There is some improvement on the lower extreme, but it is inconsistent,
as the pretest (17.5%) is higher than the first post-test (7.5%). The lower extreme has risen to 32.5% with class completion of the packet. These test results indicate that although there was improvement, additional worksheets should be developed for practice in the areas of meter and rhythm.

Tests from packet three show substantial improvement in both the median (67.5%-100%) and the mean (60%-88.5%). The author believes the wider gap between the final mean and median (12.5%) can be explained by the lack of effort by two students obtaining scores of 0% and 25% respectively. Every other student reached mastery at 87.5%.

The author believes that mastery learning presents a valuable teaching tool in basic music theory, which can save band instructors considerable time during ensemble rehearsal. The initial time expense to develop these units is very great. Through the use of mastery learning, however, ensemble rehearsal time can best be served pursuing musical principles beyond basic theory.

The author has found mastery learning techniques to be advantageous over traditional methods of teaching music theory in ensemble rehearsal and intends to develop four more packets to be incorporated into the band program this fall.
## Test Results in Percentages

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APPENDIX

Pretest

I. Circle one example of each of the following terms on the following page. Write the number of the term by your circle.

1. staff  
2. treble clef  
3. bass clef  
4. bar line  
5. double bar  
6. measure  
7. whole note  
8. half note  
9. quarter note  
10. eighth note  
11. sixteenth note  
12. flat  
13. sharp  
14. natural  
15. ledger line

II. Circle one example of each of the following terms on the second page following. Write the number of the term by your circle.

1. whole rest  
2. half rest  
3. quarter rest  
4. eighth rest  
5. sixteenth rest
UNIT ONE
TECHNIC (UNISON)

A. Exercises 1, 2, & 3 may be played together for independent counting drill.

Scale Study

Rhythm Study

Chord Study

B. Use the following examples on scale ex. 1 for tonguing and rhythm development.

E.L. 348
SELECTED BIBLIOGRAPHY


