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CHAPTER 12

HELPING STUDENTS
DEVELOP MUSIC LITERACY

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Most music educators would agree that helping students develop music literacy should be a primary outcome of music education in schools. This is evidenced by the fact that most K–12 music curricula include a music literacy component. But what exactly do we mean when we say “music literacy?” For many, music literacy likely implies the ability to read music notation. However, we might broaden our concept of music literacy by considering the idea of literacy in terms of language. Rather than focusing on a narrow view of language literacy as simply the ability to read and write, the United Nations Educational, Scientific, and Cultural Organization (2004) advocates a broader view:

Literacy is the ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society. (p. 13)

This definition of literacy focuses not on the mere decoding of printed material into language sounds but the larger goal of understanding by bringing meaning to printed materials and using them as a tool for communication, both sending and receiving. We might apply this definition to music literacy as follows:
[Music] literacy is the ability to identify, understand, interpret, create, communicate and compute [musically], using printed and written [music notation] materials associated with varying [musical] contexts. [Music] literacy involves a continuum of learning in enabling individuals to achieve their [musical] goals, to develop their [musical] knowledge and potential, and to participate fully in their [musical] community and wider society.

This broader conception of music literacy implies that, although the ability to read and write music notation is indeed a component of being musically literate, it is not an end in and of itself. Developing the ability to read and write music notation should serve as a tool for students to achieve the larger goal of participating independently and meaningfully in musical activities in real-life contexts. When an individual is able to use music notation to interact with music in this way, we can say that he or she is musically literate.

Another misunderstanding about music literacy is that of what constitutes the ability to “read” music notation. We would not say that a child could read written language just because he has the ability to name the letters he sees on the page, and yet reading music notation is often misunderstood in this way. Some music educators confuse music reading with the mere ability to name rhythmic time values or pitch letters on the staff and to push the appropriate keys on an instrument. However, as Feierabend (1997) argues, “the ability to identify ‘letter names’ (i.e., F, A, C, E, D-sharp, B-flat, etc.) when looking at notes on a staff and to press the corresponding keys on an instrument should not be confused with true music literacy” (p. 34). Similarly, according to Mills and McPherson (2006), “the functional literacy of knowing where to put your fingers [on an instrument] after having seen a visual cue on a score, represents a very limited form of comprehending staff notation” (p. 158).

In order for students to use music notation in a meaningful way, they should be able to read and write notation in a meaningful
way—with comprehension of the musical sounds that the notation represents. Gordon (2004) refers to this as notational audiation. According to Gordon, notational audiation is the ability “to hear the musical sound and give contextual meaning to what you see in music notation before you perform it, before someone else performs it, or as you write it” (p. 5). Although Gordon coined the term *notational audiation*, the concept existed long before he did so. Kodály referred to music literacy as “being able to look at a musical score and think sound” (Choksy, 1981, p. 15). In addition to Kodály and Gordon, others who have advocated a similar approach include Guido d'Arezzo, Lowell Mason, Sarah Glover, and John Curwen (Feierabend, 1997). Although many would agree that developing the ability to look at music notation and know how it sounds without needing to consult an instrument is ideal, some might consider it a lofty or even unattainable goal for students in school music programs. After all, many music teachers may not have developed this skill until college-level sight-singing and aural skills classes (if at all)! However, the key to understanding the ways in which we might help our students to read and write music notation with comprehension of musical sound lies in the idea of sequential music learning.

**Sequential Music Learning: Music/Language Parallels**

In order to understand the idea of sequential music learning, it is helpful to consider the sequence through which we learn our native language, as it has been theorized that music and language are learned through similar processes (Bluestine, 2000; Burton, 2011; Feierabend, 1997, 2001; Gordon, 1999, 2004). After we are born, we begin learning our native language through listening. We are immersed in the language environment around us and gradually become acculturated to the sounds of our native language. During this time, we develop our “listening vocabulary” for language (Gordon, 1999). Once we have heard a sufficient amount of language and are developmentally ready, we begin to imitate the language sounds we hear. This imitation begins through babble—experimenting and playing with language
sounds—and eventually progresses to the ability to imitate whole words with accuracy. At this point, we are developing our “speaking vocabulary” (Gordon, 1999). As we develop our listening and speaking vocabularies, we begin to think in language and develop the ability to interact with others through conversation, during which we are able to understand the words and thoughts of others and spontaneously respond with thoughts and words of our own. These “conversational interactions” help us develop a larger, richer vocabulary and further develop our readiness for learning to read and write language with comprehension (Burton, 2011). Only after years of developing our listening, speaking, and conversing vocabularies do we begin developing our reading and writing vocabularies, and when we do, we learn to read and write in tandem rather than learning one before progressing to the other. Finally, after we have developed a sufficient reading and writing vocabulary, we begin to learn the theoretical explanations for our language system, such as the parts of speech or the etymology of words.

Now imagine if we were expected to learn our native language by being taught how to read, write, and understand the theory of how language is constructed before we could even speak the language. Few would fail to see the absurdity in this, and yet it is often the very way we expect students to learn music! According to Mills and McPherson (2006),

Many children exposed to a traditional approach to music instruction begin learning notation from the very first lessons. Without being taught to link the sound of musical patterns with notated patterns these children will probably learn to rely on sight vocabulary, going directly from the visual image to the fingering required to execute this on their instrument. This is what Schleuter (1997) refers to as “button pushers” to whom notation indicates only what fingers to push down. (p. 160)

If we compare this process to the one through which we learn language, we can see that the traditional way in which many teach
music—by expecting students to begin learning to sing or play an instrument via music notation and theory—does not fit the sequence through which we learn music—by first developing our musical listening, speaking (i.e., singing, chanting, moving, playing), and conversing (i.e., improvising) vocabularies. By providing our students with extensive experiences and opportunities to develop these first three vocabularies—listening, making music by ear, and improvising—before expecting them to read and write music notation, we will better prepare them to read and write music notation with comprehension of the musical sounds the notation represents rather than training them to be musical “button pushers.” As Bartholomew (1995) emphasizes, before we teach our students music notation, we must help them develop the ability to think in and be responsive to musical sounds and to “develop an inner sensing of the musical relationships present in sequences and combinations of sounds” (p. 7).

**Readiness for Music Notation**

Before a student is ready to read and write music notation with understanding, she must first develop what Campbell (1989) refers to as musical “orality,” the transmission of music through the aural/oral mode. This ability to understand and make music through listening and doing provides readiness for learning to understand and make music through notation. The ability to sing in tune and the ability to move rhythmically are fundamental aspects of this readiness (Feierabend, 1997; Gordon, 2004).

Children first begin developing musical orality through immersion in a rich musical environment (Burton, 2011). Music teachers should provide students with extensive opportunities to be immersed in music and should model singing, chanting, and moving for their students. Teachers should also encourage students to begin imitating the musical sounds that they hear and acknowledge students’ attempts at music-making regardless of their accuracy. (See Chapter Fourteen on preschool curriculum for further details on guiding children’s early musical development.)
Once students are beginning to use their singing voices and move to a steady beat with some degree of accuracy, teachers should encourage further development of their tonal and rhythmic skills. Encouraging students to audiate and sing the tonal "home" of music (i.e., resting tone, tonic, first scale degree) and audiate and move to layers of beat (i.e., macrobeat/microbeat, beat/subdivisions) will help them develop a sense musical context, which will not only improve tonal and rhythmic accuracy but will aid in students' ability to make sense of notation in the future (Henry, 2008; Hodges & Nolker, 2011; Killian & Henry, 2005; McCabe, 2006). Just as children develop a vocabulary of words, teachers should also guide students in developing a vocabulary of tonal patterns and rhythm patterns that they can sing and chant (or play by ear). Once students have developed these basic tonal and rhythm skills, tonal and rhythm solfege/syllable systems can be added, which will help students better understand and retain musical sounds as well as serve as a tool for notation reading and writing in the future (Azzara, 1993; Cassidy, 1993; Colley, 1987; Hodges & Nolker, 2011; Jacobi, 2012; Shehan, 1987). In addition to singing and chanting patterns with these syllables, students might learn to use the syllables as a tool for labeling aspects of music such as meter, tonality, and function. It is also helpful to guide students in developing the ability to apply those syllables to patterns given on a neutral syllable or played on an instrument as further readiness for applying the syllables to music notation. (See Chapter Seven on movement, Chapter Eight on rhythm, and Chapter Nine on singing and tonal audiation for more information on developing children's skills in these areas.)

Finally, it is important that students develop their ability to create and improvise music by ear before learning music notation. "With the achievement of improvisational dexterity, children are ready to bring meaning to music notation" (Gordon, 2011, p. 6). The opportunity to tap into their listening and "speaking" vocabularies and spontaneously create their own music will help students take ownership of their music-making and their ability to express their own musical thoughts rather than relying on music notation as the sole determining factor of
how music should go. Additionally, evidence suggests that experiences with improvisation may actually improve music reading skills (Azzara, 1993; Bradley, 1974; McPherson, 1995). (For more on creative music-making, see Chapter Ten.)

**Developing Emergent Music Literacy: Informal Experiences with Notation**

As students develop their skills in listening, singing, chanting, moving, and improvising, another way in which we can help prepare them for formal music reading/writing instruction is by providing informal experiences with music notation. The purpose of these informal notation experiences is to expose children to music notation before expecting them to read and write it with understanding and correctness. During these informal notation experiences, students can begin to explore notation and develop awareness of important aspects of notation that will better prepare them for formal instruction in notation reading and writing later.

The rationale for providing students with these early informal notation experiences is rooted in a language concept known as emergent literacy. According to Whitehurst and Lonigan (1998), “emergent literacy consists of the skills, knowledge, and attitudes that are presumed to be developmental precursors to conventional forms of reading and writing” (p. 849). Existing research suggests that “children who arrive to beginning reading instruction with well-developed emergent literacy skills progress more rapidly and readily than those who do not have these skills” (Justice, Bowles, & Skibbe, 2006, p. 224). Just as we can better prepare children to learn to read and write by developing their emergent literacy skills, we can better prepare children to read and write music notation by developing their emergent *music* literacy skills through informal experiences with music notation.

**Awareness that music notation has meaning.** One of the most basic components of emergent literacy is developing the awareness that print carries meaning and is used to communicate (Tompkins, 1997). Parents encourage this awareness when they read to their children,
and literacy teachers help students develop this awareness by modeling the reading and writing of print through activities such as read-alouds. By hearing written words spoken aloud (and even seeing the parent or teacher point to each word as it is read), children begin to understand that the visual symbols they see are connected to the sounds that they hear. Additionally, literacy teachers model the conversion of spoken words to written language; for example, the teacher might lead the students in creating a simple story, which he/she writes on the board as they do so (Pinnell & Fountas, 2011).

Similarly, one of the most basic understandings about music notation that a child can develop is the fact that notation represents musical sounds. As music teachers we can help students begin to develop this awareness simply by modeling the reading and writing of music notation for students. Similar to a read-aloud, you might do a "sing-aloud," during which you show the notation for a song and perform it for the students (or invite them to sing if it is a familiar song) and point along in the notation. You might also lead the students in creating a song and notating it on the board for them as you do so.

In a study of music acquisition in an early childhood music class, Burton (2011) incorporated "rhythm and melody books" she had created. Each displayed the notation for a short melody or rhythmic chant, which she would perform for the class while they looked at the page. Burton also modeled writing familiar rhythm patterns that the children had heard, echoed, and improvised with in class and would even invite the students to dictate patterns for her to write. Burton referred to these as "musical messages," reinforcing the idea that the notated symbols the children saw were intended to communicate musical meaning.

**General concepts about music notation.** A second aspect of emergent literacy involves developing a sense of general concepts about prints, also referred to as "print knowledge" (Justice et al., 2006; Pinnell & Fountas, 2011; Tompkins, 1997). This includes three main types of concepts about print: 1) book-orientation concepts, 2) directional concepts, and 3) letter and word concepts (Tompkins, 1997). Book-orientation concepts encompass such understandings as how to
hold a book, how to turn the pages, and the difference between print and pictures. Directional concepts include left-right directionality—the awareness that we read from left to right—as well as top-bottom directionality. Letter and word concepts involve basic understandings about words and letters, such as the awareness that words are made up of letters, sentences are made up of words, and one printed word matches up with one spoken word.

In modeling the reading and writing of music notation for our students, we can call attention to similar basic concepts about music notation. Students can start to develop a sense of left-right and top-bottom directionality by watching the teacher point along in the notation for a familiar song while they sing it. Students can also exercise their understanding of these directional concepts by being invited to point along in the notation (albeit without an expectation of correctness). For example, Figure 12.1 shows an image that could be used as a handout to accompany the singing of the traditional song "Sally Go 'Round the Sun." The teacher might pass out a copy to each student (as well as displaying it on the board) and lead the students in informally pointing along to each line of the song while singing. (The pictures provide visual cues to aid the students in pointing to the appropriate line.) The teacher could extend this by pointing out (or leading students to discovering) that each line of the song sounds different, therefore each line of the song notation looks different.

Figure 12.1: Song notation for "Sally Go 'Round the Sun."
Similar activities can help students also develop their awareness of note and pattern concepts in music notation. While students are developing their vocabulary of tonal and rhythm patterns that they can sing and chant, the teacher can informally show students the notation for these patterns to develop their awareness that one pattern that they sing or chant is represented by one notated pattern. Similarly, by seeing the teacher point to each note of the pattern while singing or chanting it, students begin to develop a sense that each sound being sung or chanted corresponds with one note in the printed notation. For example, after learning to sing the traditional folk song “Love Somebody” and identifying the pattern Do-Mi-So (which is heard/sung three times in the song), you might show students the notation for that pattern through a visual aid like the one in Figure 12.2. After modeling singing and pointing to each pitch in the pattern, the teacher could model singing the song and pointing to the pattern each time it is sung/heard. Additionally, copies could be made for each student to point along. Another example would be to teach the students to sing a rhythmic ostinato (notated in Figure 12.3) as accompaniment for the traditional song “Donkeys Love Carrots” and then show the visual displayed in the figure while singing and pointing along.

Figure 12.2: Pattern notation for “Love Somebody”
Experimental reading and writing. As students develop their awareness of print concepts, they also begin to experiment with reading and writing. This can include pretending to read and write (Whitehurst & Lonigan, 1998), in which “the child knows that marks on paper represent meaningful language, and he wants to try it for himself” (Pinnell & Fountas, 2011, p. 148). During this time, children “play at” reading and writing and typically make “gross approximations” of letters and words (Pinnell & Fountas, 2011). Activities for guiding and encouraging students’ experimental reading and writing include “shared reading” or “interactive writing” (during which the teacher reads or writes most of the text but invites children to join in on familiar words) as well as creating “literacy play centers” that provide opportunities for students to experiment with reading and writing (Pinnell & Fountas, 2011; Tompkins, 1997).

Similarly, music teachers can encourage students to engage in experimental reading and writing with music notation. This can be as simple as providing opportunities for students to pretend to read and write notation or informally try to copy symbols they see in notation. These “gross approximations” of music reading and writing are
valuable opportunities for children to “play at” music notation. In her study of early childhood music acquisition, Burton (2011) encouraged her students to try reading and writing “musical messages” similar to the ones she had modeled. She found that, although the children may not have used “traditional conventions of musical print,” at least one student often was able to “read” his messages with fluency, demonstrating that “he had conceptualized what he had put into print” (p. 25). Music literacy play centers could provide students with further opportunities to experiment with reading and writing music notation.

It is important to remember that there should be no expectation of correctness or immediate understanding when students are engaging in these informal music notation experiences, just as students are not expected to read and write language correctly while developing emergent literacy skills. The purpose of these informal music notation experiences is simply to expose students to notation and help them begin exploring notation so that their emergent music literacy skills can develop. These informal music notation experiences and resultant emergent music literacy skills form a necessary readiness for formal instruction in music notation.

Transitioning to Formal Music Notation Instruction

Once students can aurally sense and perform tonal and rhythmic context (“home” tone and layers of beat), are able to sing and chant tonal and rhythm patterns with accuracy, have some level of comfort with tonal and rhythm solfege/syllable systems, have had opportunities to create and improvise music, and have begun to develop emergent music literacy skills, they are ready to begin formal instruction in music notation. (See Jacobi, 2012 and Junda, 1994 for more on specific readinesses for preparing students to formally learn music notation.) Teachers can help their students learn music notation more effectively by considering three general guidelines: 1) sounds before theory, 2) familiar before unfamiliar, and 3) rote learning before inference learning.

When students begin formally learning to read and write music notation, they should initially do so by associating musical sounds to
the notated symbols rather than learning theoretical knowledge about notation. Music theory concepts, such as letter-names of pitches on the staff or time-value names of notes, are important things for students to know eventually but are not necessary when students are initially learning to read and write notation. In fact, focusing on theoretical concepts can even hinder students' progress, as they easily can become "bogged down" and overwhelmed in trying to understand this superfluous information. Explaining or "talking about" notation should be preceded by focusing on the sounds that the symbols are intended to represent.

It is also important that students begin learning notation by associating it to musical content that is familiar to them, just as children begin reading and writing language through familiar words (Feierabend, 1997; Gordon, 2012; Jacobi, 2012; Mills & McPherson, 2006). According to Mills and McPherson (2006), this provides students "the opportunity to cross-check material they are reading [or writing] with material that they know, and to relate it within an aural system that they already understand" (p. 159). Learning the notation for musical sounds that students have already heard and performed allows them to focus solely on their newly developing reading and writing skills without being forced to learn new content as well (McPherson & Gabrielsson, 2002). Once students have developed sufficient skill in reading and writing familiar material, they will be better able to apply their notation reading and writing skills to unfamiliar material. Initially learning to associate notation to familiar musical examples also enables students to give meaning to the notation because they already have a sense of the sounds the notation represents, rather than trying to use the notation to decipher what the music should sound like. In this way, beginning to read and write notation through focusing on familiar sounds lays the foundation for the development of notational audiation—the ability to mentally hear the musical sounds represented in notation without having to consult an instrument.

Finally, we can encourage students' overall success with notation reading and writing by providing them with ample experiences
to learn notation by rote before expecting them to make inferences. Many teachers present students with a few basic note values (such as quarter notes and eighth notes) and then expect students to be able to read ALL rhythms that use these note values. This scenario forces students to quickly assimilate these note values and immediately make inferences by applying their understanding to new combinations of rhythms. While some students are able to make this leap right away, many are left feeling overwhelmed and frustrated. Initially providing students with numerous opportunities to learn through rote imitation—a process Gordon (2012) calls “discrimination learning”—helps them develop the readiness to figure out new material independently—which Gordon refers to as “inference learning.” When we initially present notation to students, we should model for them how to read and/or write familiar musical examples and have students repeat, recognize, and discriminate between them before we ask students to make inferences by reading and writing what they have not previously seen read/written and have not read/written yet themselves. Once students have had sufficient experiences in which the teacher shows them how to read and write by rote, they will be better equipped to apply their knowledge and skills in figuring out how to read and write new and/or unfamiliar musical examples.

**Formal Music Notation Skills**

When children begin learning to make sense of printed language material, they learn to read and write in tandem. According to Freire and Macedo (1987), “to read and write are inseparable phases of the same process” (p. 47). Similarly, students should not learn music notation through reading alone but in conjunction with writing because these are mutually reinforcing skills (Burton, 2011). Additionally, learning to write along with learning to read music notation helps students realize that notation not only represents sounds but that they have the power to use that notation to represent those sounds within any context and know how it will sound. Waller (2010) explains,
A beginning student who is given the opportunity to write out the very simple melody of “Hot Cross Buns” (or any other manageable melody she knows intimately from her childhood or other experience) learns not merely how to reproduce “Hot Cross Buns” but also that she has the power to visually represent the sound of the musical figure E-D-C (or mi-re-do), for whatever purpose she likes. Whether she then desires to write out (among other endless possibilities) a series of triplets like so: E-D-C E-D-C E-D-C E-D-C, or like so: E-E-E D-D-D C-C-C C-C-C, she knows exactly how those triplets will sound. She is already writing out original music without having to consult an instrument—a hallmark of full music literacy, yet one that is needlessly put off until advanced studies in theory or composition. (pp. 35–36)

Not only does writing reinforce reading (and vice versa) but it also enables students to create and notate new music using the material they have learned to read and write and to do so with notational audiation.

The next question to address is that of what students should begin to read and write. Many traditional approaches to music reading have students begin with learning individual pitches or durations, which they label with a letter or time-value name and practice reading (or writing) in an isolated fashion. However, this may lead students to read in a note-by-note manner, which research suggests is an inefficient means of music reading. Goolsby (1994) studied eye movement during music reading and found that the eyes of a less successful sight-reader tended to fixate on virtually every note while the eye movement of a more successful sight-reader suggested that he/she tended to process the notation in larger chunks. Similarly, Gromko (2004) found that students whose eyes tended to focus on larger structures or patterns were better sight-readers than those who tended to focus on individual figures. These findings suggest that, rather than teaching students to read in a note-by-note fashion, it may be more effective to help them learn to process music and music notation in “chunks” or patterns.
Experiencing instruction in reading and performing patterns seems to have a positive effect on students’ music reading ability. Several researchers have found that students who had tonal pattern instruction were better sight-readers than students who had not had tonal pattern instruction (Grutzmacher, 1987; MacKnight, 1975; Reifinger, 2012). Similarly, Azzara (1993) found that students who learned tunes by ear, developed a vocabulary of solfege/syllables, and improvised tonal and rhythm patterns performed significantly better when performing prepared and sight-read etudes than students who did not have these experiences. As Hodges and Nolker (2011) point out, “Both basic and applied research support the important role that pattern recognition plays in successful music reading. Teachers should stress knowledge of musical patterns as opposed to note-by-note recognition” (p. 82). Thus, music teachers might prepare students to read more effectively by focusing on rhythm patterns and tonal patterns when beginning formal notation instruction.

**Reading/writing rhythm patterns.** Students can begin formally learning to read and write by associating notated symbols with the sounds of familiar rhythm patterns. In doing so, the teacher should not attempt to explain theoretical information about rhythm (such as note values, time-signatures, etc.) but should simply show the notation for a rhythmic pattern and perform it for the students, inviting them to read and perform it back. Once students have read several rhythms in this manner, the teacher can begin to mix them up, having the students recognize and read these familiar rhythms in new/unfamiliar orders. Students should also practice writing the notation for these familiar rhythms, first by copying and then by notating from memory. Teachers can challenge students to engage in a rudimentary form of rhythmic dictation by chanting or playing familiar rhythms for students to write without having the notation in front of them.

The use of a rhythm syllable system can assist students in learning to read and write rhythmic notation. Whereas researchers have found mixed results as to which particular syllable system may be most effective, the findings of numerous studies suggest that the use of some
form of rhythm syllables can help students learn to read more effectively (Azzara, 1993; Colley, 1987; Hodges & Nolker, 2011; Shehan, 1987). In order to preserve sequential music learning by initially avoiding theoretical explanations of notation, some advocate the use of a system based on beat-function, such as the Froseth/Gordon or Takadimi system, rather than one based on time-values because beat-function systems are based on how we feel rhythm in the body whereas time-value systems relate to note durations and how they are symbolized. By using rhythm syllable systems such as these, the music teacher is able to introduce rhythmic notation in a way that focuses on the sounds of the notation rather than explaining theoretical information such as mathematical relationships of note values, thus facilitating the development notational audiation—the ability to convert symbols to sounds and vice versa. (For more on rhythm syllables, see Chapter Eight on rhythm.)

After students have had experiences reading and writing familiar rhythm patterns by rote (discrimination learning), they can begin to figure out how to read and write unfamiliar rhythm patterns (inference learning). This might involve familiar rhythmic figures/note-values being used in unfamiliar combinations or unfamiliar rhythmic figures/note-values that are incorporated with those that are familiar. In either case, the student uses what he or she learned at discrimination learning to make inferences about the unfamiliar. For this reason, providing students with many initial opportunities to read and write rhythms by rote will better enable them to figure out unfamiliar rhythmic material later.

In order to effectively scaffold the development of students’ rhythm reading/writing skills, teachers should consider the content and difficulty level of the rhythm patterns and the order in which this notation is introduced to students. Table 12.1 outlines one possible sequence for introducing rhythm pattern content to students. In this sequence students would first learn to read and write rhythm patterns in both duple and triple meters that are comprised of only macrobeats and microbeats. Once students demonstrate a basic mastery of reading
and writing patterns containing only macrobeats and microbeats, they could begin learning to read and write rhythm patterns that also include divisions, later adding in macrobeat rests, followed by elongations, and so on. Regardless of the exact sequence used, the teacher can help students continually build rhythm reading/writing skills over time by first introducing simpler rhythms and gradually adding in more complex rhythmic figures.

<table>
<thead>
<tr>
<th>Rhythm Pattern Content</th>
<th>Examples in Duple Meter</th>
<th>Examples in Triple Meter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Macrobeats/ microbeats</td>
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<td><img src="image2.png" alt="Example" /></td>
</tr>
<tr>
<td>2. + Divisions</td>
<td><img src="image3.png" alt="Example" /></td>
<td><img src="image4.png" alt="Example" /></td>
</tr>
<tr>
<td>3. + Macrobeat Rests</td>
<td><img src="image5.png" alt="Example" /></td>
<td><img src="image6.png" alt="Example" /></td>
</tr>
<tr>
<td>4. + Elongations</td>
<td><img src="image7.png" alt="Example" /></td>
<td><img src="image8.png" alt="Example" /></td>
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</tbody>
</table>

Table 12.1: Sample Rhythm Pattern Content Sequence

It is important that students learn to read in various meters and time signatures as soon as possible. Many teachers stay in one meter and time signature (e.g., duple meter written in 2/4 or 4/4) for weeks, months, or even years before switching to a new meter and/or time signature (e.g.,
3/4, 6/8, or 2/2), which makes transitioning to these new meters and time signatures all the more difficult because students may get “stuck” in that first meter/time signature. For example, many students begin rhythm notation by learning that a quarter note (in 2/4 or 4/4) always gets one beat, which often causes confusion and frustration when later learning time signatures in which this is not the case (2/2, 6/8, etc.). Instead, teachers might avoid the use of time-value names and early on begin introducing the concept of “enrhythmic” notation: that rhythm patterns can look different when noted in different measure signatures/time signatures yet can still sound the same (Gordon, 2004). Table 12.2 provides examples of enrhythmic patterns in various meters and measure signatures/time signatures.

<table>
<thead>
<tr>
<th>Enrhythmic Patterns in Duple Meter</th>
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<tbody>
<tr>
<td><img src="image1" alt="Pattern 1" /></td>
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<td><img src="image4" alt="Pattern 4" /></td>
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<table>
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<tr>
<th>Enrhythmic Patterns in Triple Meter</th>
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<tbody>
<tr>
<td><img src="image7" alt="Pattern 7" /></td>
</tr>
<tr>
<td><img src="image10" alt="Pattern 10" /></td>
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Table 12.2: Examples of Enrhythmic Notation

When introducing the concept of enrhythmic notation to students, you might show them that, just as the word “music” can be written with different symbols that mean the same thing, rhythms can be notated in different ways but still sound the same (see Figure 12.3). It should be
noted that the use of a rhythm syllable system, rather than explaining the mathematical counting of note values, will more readily facilitate students' understanding of enrhythmic notation because it allows students to focus on sound rather than become confused by mathematical counting of note values. Introducing these various meters and time signatures early, as well as initially avoiding theoretical explanations and instead focusing on sound and movement, will help students become more flexible and fluent readers in the long run.

![Figure 12.3: Parallels between different print styles and enrhythmic notation.](image)

**Reading/writing tonal patterns.** Just as the use of a rhythm syllable system can aid students in learning to read rhythm notation, the use of a tonal solfege system can help students learn to read pitch notation more effectively (Azzara, 1993; Cassidy, 1993; Hodges & Nolker, 2011; Jacobi, 2012). In order to preserve sequential music learning by initially avoiding theoretical explanations of notation, some advocate the use of the movable-DO system with a LA-based minor because it is based on pitch relationships rather than on absolute pitch (as fixed-DO is) and does not require discussion of theory/scales (as DO-based minor does). (For more on tonal solfege, see Chapter Nine on singing and tonal audiation.)

If students have had the opportunity to build a vocabulary of tonal patterns that they can sing and improvise with and have developed some
skill in using tonal solfege, they are ready to begin formally learning to
read and write tonal patterns. One effective strategy to introduce tonal
reading to students is the Kodály technique of the “hand staff” (Jacobi,
2012): turning the hand so that the palm faces you and the thumb
points up, which makes the hand resemble the five lines of the staff.
Choose a finger (or space between two fingers) to be Do, and model
singing various tonal patterns while pointing to the appropriate fingers
or spaces between, inviting students to echo. After singing several
patterns, choose a different finger (or space between fingers) to call Do
and repeat the activity. This helps students immediately understand
that do can move, and they begin to sense pitch relationships around it.
Once students understand the concept of the “hand staff,” you can tran-
sition to the traditional staff by laying your hand across it so that they
can see how the five lines are similar to your five fingers. After singing
and pointing to several patterns in this manner, students likely will be
ready to read using traditional pitch notation with note heads.

Students can then begin formally learning to read and write by
associating notated symbols with the sounds of familiar tonal patterns.
In doing so, the teacher should not attempt to explain theoretical infor-
mation about pitch (such as half-steps/whole-steps, key signatures,
etc.). Some refer to the key signature as a DO-signature, explaining
that it indicates where Do is on the staff, and simply show the students
where Do is on the staff for each particular DO-signature (without
explaining what a sharp or flat does, etc.). After identifying where Do
is on the staff, show the notation for a tonal pattern and perform it for
the students, inviting them to read and perform it back. Once students
have read several tonal patterns in this manner, the teacher can begin
to mix them up, having the students recognize and read these familiar
tonal patterns in new/unfamiliar orders. Students should also practice
writing the notation for these familiar tonal patterns, first by copying
and then by notating from memory. Teachers can challenge students to
engage in a rudimentary form of pitch dictation by singing or playing
familiar tonal patterns for students to write without having the nota-
tion in front of them.
After students have had experiences reading and writing familiar tonal patterns by rote (discrimination learning), they can begin to figure out how to read and write unfamiliar tonal patterns (inference learning). This might involve familiar pitches being used in unfamiliar combinations or unfamiliar pitches incorporated with those that are familiar. In either case, the student uses what he or she learned at discrimination learning to make inferences about the unfamiliar. For this reason, providing students with many initial opportunities to read and write tonal patterns by rote will better enable them to figure out unfamiliar tonal material later.

Just as teachers must be conscious of how they sequence rhythmic content when teaching rhythm pattern notation, teachers must also decide how they will scaffold the introduction of tonal content when teaching tonal pattern notation. The traditional approaches of Orff and Kodály structure students’ tonal content learning around the pentatonic scale; in these approaches students first learn to read and write the interval So-Mi, and then other pitches are gradually added, beginning with La, then Do, and so on. More recently, Feierabend (2001) has advocated a different sequence through which pitches of the pentatonic scale are introduced in tonal patterns based on those he has found to regularly occur in traditional children’s folksongs. In Feierabend’s approach, students first learn tonal patterns comprised of the pitches Do, Re, and Mi, later adding in So, La, and other pitches one-by-one. Rather than focusing on individual pitches of the pentatonic scale, Gordon (2012) believes students should learn tonal patterns that are arpeggiations of harmonic functions, beginning with tonic and dominant patterns in major and minor and later adding in subdominant and other functions/patterns. Regardless of the sequence used to introduce tonal pattern content, it is important that students learn to read and write those patterns with a focus on how the patterns sound (rather than by talking about the notation, as in labeling letter names of pitches), which can be facilitated through the use of a solfege system.

It is also important that students learn to read in various tonalities and DO-signatures as soon as possible. Many teachers stay in one
tonality and key signature (e.g., major tonality written in the key of C) for weeks, months, or even years before switching to a new tonality (minor, etc.) and/or key signature, which makes transitioning to these new tonalities and key signatures all the more difficult because students may get “stuck” in that first tonality/key signature. By introducing early on the idea that Do can be anywhere on the staff, as well as initially avoiding theoretical explanations and instead focusing on sound and pitch relationships, students will not assume that one particular line or space is always Do, helping them to become more flexible and fluent readers later.

Melodic reading/writing. When students have developed some basic skills in reading and writing tonal patterns and rhythm patterns, they will be ready to begin combining the two aspects in melodic notation. One basic way this can be done is to have students recognize familiar tonal or rhythm patterns within the context of song notation. For example, if students have aurally identified where the pattern Do-Mi-So occurs in the song “Love Somebody” and have learned to read the familiar pattern Do-Mi-So (in the appropriate DO-signature), they can identify where the notated pattern occurs in the song notation (e.g., by circling, as shown in Figure 12.4) and/or point to that pattern in the notation as they sing the song. This could also be turned into a writing activity by removing that pattern from the song notation and having students write the pattern in the spaces where it happens in the song.

![Love Somebody](image)

**Figure 12.4: Identifying the pattern Do-Mi-So in song notation.**
After students are able to recognize, read, and write tonal and rhythm patterns within the context of song notation, they will be ready to begin combining tonal and rhythmic aspects into melodic reading. This can be done in three steps. First, have students read/chant the rhythm for the entire song with rhythm syllables. Then have them read/sing through the tonal patterns of the song on tonal solfege. Finally, take away solfege/syllables and have students read and perform the entire song (on a neutral syllable, such as loo). Once students have had practice reading familiar songs in this manner, they will be ready to try reading unfamiliar songs using the same process.

Students can practice and apply their melodic reading and writing skills through a variety of activities and exercises. In addition to ideas for pattern reading and writing games, Feierabend's (2001) Conversational Solfege series includes melodic pattern notation that the teacher can use to facilitate melodic reading and writing as well as a variety of worksheets in which students can practice notation writing, dictation, and even composing their own music. Jacobi (2012) gives an overview of notation activities for younger children, while Oare and Bernstorf (2010) provide a variety of strategies for notation practice that can be used with both younger and older students.

Music notation and older students. The strategies outlined in this chapter up to this point have assumed that students come to formal music notation instruction with considerable readiness experiences (including sense of tonal/rhythmic context, ability to sing/chant tonal/rhythm patterns, comfort with solfege/syllable systems, opportunities to create/improvise, and beginning emergent music literacy skills) that have enabled them to learn to read and write music notation with an awareness of the sounds that the notation represents. It is also assumed that these readiness experiences have been developed over multiple years. However, it is common for many older students, particularly those beginning in an ensemble, to lack this readiness yet still be expected to read and write notation, presenting a dilemma for the ensemble teacher.

One key factor in resolving this dilemma is communication between the ensemble teacher and the elementary general music teacher. By
sharing with one another the content and skills covered in the curriculum in each setting as well as the manner in which those skills are developed, the elementary general music teacher and the ensemble teacher can gain an understanding of not only how the elementary teacher could most effectively prepare the student for learning in the ensemble setting but also how the ensemble teacher might best tap into and build on what has been learned at earlier grade levels. By communicating with one another their curricular goals and the ways in which these goals are reached, teachers can increase the likelihood that students will transition to the ensemble with the appropriate readiness.

If this solution does not prove to be an effective option, it becomes the responsibility of the ensemble teacher to provide students with remedial experiences that will help them gain the readiness for reading and writing music notation with notational audiation. First, the ensemble teacher can help students develop their musical “speaking” vocabularies by giving them opportunities to sing, chant, and move to music before introducing notation, which can include playing instruments by rote and/or by ear. While helping students develop a repertoire of songs and chants, the ensemble teacher can also help students develop a sense of tonal and rhythmic context and provide tonal and rhythm pattern instruction—first without and then with solfege/syllables—that will further develop students’ musical “speaking” vocabularies. It is important that students be provided opportunities to utilize this vocabulary in musical conversing, i.e., creating/improvising. Once students have had these readiness experiences, the ensemble teacher can then proceed to the notation reading/writing activities described previously in this chapter. For more on providing these notation readiness experiences in an ensemble setting, see Weary (2012), Oare and Bernstorf (2010), Azzara (2005), Conway (2003), Martin (2005), Norman (2005), and Conway, Marshall, and Hartz (2014).

It is left to the discretion of the teacher to decide how much time to spend on these readiness activities before beginning formal notation instruction. It might be several weeks, several months, or even a large portion of an entire school year. For example, I know some band
teachers who do not incorporate music notation until the second half of the school year, even performing the winter concert entirely without notation. Although this might seem time-consuming, it is time well-spent because students will be gaining the musical understanding and vocabulary that will enable them to read and write music notation with an understanding of musical sound and an awareness of the degree to which the sounds they produce match those indicated in the notation, thus helping them to reach true music literacy rather than becoming “button pushers’ to whom notation indicates only what fingers to push down” (Mills & McPherson, 2006, p. 160).

Assessment of Music Literacy Skills

In order to ensure that students are developing independent notation reading and writing skills, we must individually assess our students’ mastery of these skills. However, this assessment should not happen in the form of worksheets, quizzes, or tests that simply ask students to identify the time-values of rhythms or pitch-letter names on the staff because this only assesses students’ theoretical knowledge about notation. Figure 12.5 shows an example of such an assessment, which can be found on the website of the Conejo Valley Unified School District (n.d.). Because true music literacy involves the ability to read and write

![Musical Words - Treble Clef I](image)

Figure 12.5: Example of notation assessment that is not skills-based.
notation with a sense of how it sounds, we should assess students’ notation skills in a way that gauges their ability to understand the relationship between sounds and symbols—by asking them to convert symbols into sounds (reading) or sounds into symbols (writing/dictation).

One basic way in which we might assess students’ ability to convert symbols into sound would be to prompt individual students to read and perform tonal or rhythm patterns. For example, the teacher might display a collection of 8–10 patterns on the board and call out numbers of patterns for individual students to sing, chant, or play. Because patterns are short, all students can be assessed in a fairly quick and efficient manner. If the teacher felt it would take too long to get to all individuals in a single class period, this assessment could be broken up over several days. Additionally, alternating between having individuals or the whole class read the patterns can help keep all students engaged.

The teacher also needs to decide how he or she will measure student achievement on this type of task. One option would be a simple checklist in which the teacher indicates a yes/no judgment of whether the student correctly read the assigned pattern. A more informative option would be to develop a rating scale that could be used to measure each student’s progress. For example, a rating scale for use in measuring students’ ability to read and sing a tonal pattern might look like this:

4 = Student accurately reads the pattern, singing with correct pitches and solfege.
3 = Student reads and sings the pattern with correct pitches but incorrect solfege.
2 = Student reads and sings the pattern with correct solfege but incorrect pitches.
1 = Student does not read or sing the pattern with accurate pitches or solfege.

Using a rating scale such as this, the teacher can quickly measure and record the progress of each individual student and use this assessment data to inform future instruction.
Teachers can also assess students’ ability to convert sounds into symbols through a task such as dictation. A simple way of doing this might be to sing or chant short patterns for students to notate; the teacher could perform these patterns with solfege/syllables or could make the task more challenging by performing on a neutral syllable (so that students must also apply the correct solfege/syllables in figuring out how to notate the pattern). It would not take long to have the class notate several patterns from dictation and turn in their notation for you to assess outside of class. Once students have had experiences writing tonal and/or rhythm patterns from dictation, you can challenge them with melodic dictation, requiring students to figure out both the rhythmic and tonal aspects of the example(s) as they notate the melody. In addition to helping ensure that students are understanding notation independently (as opposed to simply imitating others), assessing these snapshots of students’ developing music reading or writing skills can provide the teacher with valuable guidance in planning future instruction.

Music Literacy: The Big Picture

In describing language literacy, Tompkins (1997) states, “literacy is a tool, a way to come to learn about the world and a means to participate more fully in society” (p. 6). Similarly, music literacy enables students to learn about the musical world and participate more fully in musical society. Helping students develop their music literacy skills, specifically the ability to read and write notation with an understanding of the sounds represented by the symbols, is not an easy task. However, it is a task of critical importance if we wish for our students to become independent music makers. Once students can read and write music notation with notational audiation, they have the power to represent music through notation, understand the sounds of music notated by others, and use notation to capture their own musical thoughts as well as communicate them to others. Only when students reach this point can we say that they are truly and fully musically literate, the result of which is that they are enabled and empowered to participate more fully in their musical community and wider musical society.
References


Weary, K. J. (2012). Teaching musical literacy: Developing the independent choral singer. *Choral Director, 12*-15.