

# National Music Standards and Teaching Right-Hand Playing Techniques to Bowed String Instruments Students for Conceptual Understanding

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*"Give a man a fish and you feed him for a day. Teach him how to fish and you feed him for a lifetime."*

- Lao Tzu (died 531 A.D.)

The main difference between the 2014 National Music Standards (NAfME, 2014) and 1994 National Music Standards (MENC, 1994) is that new standards place more emphasis on *musical literacy* and *conceptual understanding*, while the old standards emphasized *knowledge* and *skills*. For example, while both sets of standards identify "performing" as one of the standards or artistic processes in which music students need to be engaged, in the *anchor standard* category labeled "Select" under the second *artistic process* named "Performing," the 2014 standards suggest that when selecting a piece of music, students should be able to "understand their own technical skills" (NAfME, 2014), while the 1994 standards suggest that students should be able to perform "on instruments, alone and with others, a varied repertoire of music" (MENC, 1994). An informal overview of current string method books (Ihas, 2017), reveal that teaching strategies proposed in these books emphasize teaching basic knowledge and skills over musical literacy and conceptual understanding (probably because most of them were written during the time of old music standards) leaving teachers and students to figure out their own ways towards a fulfillment of the new recommendations. The purpose of this article is to provide readers with insights into teaching for conceptual understanding, while teaching string orchestra students right-hand playing techniques that are commonly used in school orchestra literature.

## Conceptual Understanding Explained

In the *Taxonomy of Educational Objectives*, Bloom (1956) placed *understanding* or *comprehension* at the second lowest level of thinking hierarchy, right after the most basic level of thinking that is *knowing*. In the appendix to this seminal work, Bloom explained comprehension as type of "understanding or apprehension such that the individual knows what has been communicated and can make use of material or ideas being communicated without necessarily relating it to other material or seeing its fullest implications" (p. 203).

Constructivist theory of learning expanded the meaning of understanding from the basic ability to classify, describe, and explain to the ability to use and transfer knowledge to new learning and life situations. This happens through a process of evolving basic knowledge into meaningful knowledge that is characterized by *conceptual understanding*.

Ausbel (1963) was an educational psychologist and pioneer in studying meaningful learning and conceptual understanding. He proposed that in order for the learner to attain conceptual understanding, new knowledge must be *subsumed* under a broader, more inclusive, **superordinate knowledge**. For example, the learner will have an easier time to grasp the concept of the poetic form "sonnet" if the learner can position this newly attained knowledge within a broader and more inclusive concept of "poems" to which sonnet is just one of the many forms. Further, the learner will deepen his or her knowledge and understanding by linking it with another type of broad, but less inclusive knowledge, **coordinate knowledge**. Many thinking processes, including comparing and contrasting, can aid the learner in the attainment of coordinate knowledge. To follow up with an example of gaining the conceptual understanding of "sonnet," a coordinate level of understanding would take place when the learner compares sonnet with other types of poetic forms and grasps both, the generalizable and unique characteristics of sonnet form. The final stage in attaining conceptual understanding, **subordinate knowledge**, is when the learner understands the *particular* properties of the matter at hand. That is when the learner is able to write a sonnet based on attained conceptual understanding of the form through reference to subordinate and coordinate levels of knowledge.

Making appropriate links with other types of knowledge, such as experiential knowledge, analogic, causal, and procedural knowledge can also contribute to a meaningful learning and conceptual understanding. It appears that it is exposing learners to a variety of kinds of relevant knowledge and teaching them to make connections between newly attained knowledge and the broader and more inclusive, but related categories of knowledge, what leads to conceptual understanding.

## Application of Principles of Conceptual Understanding

When principles of **constructivists learning theory**, as proposed by Ausbel (1963), are applied to the new national music standards, it appears that music teachers should not only teach students to execute certain playing techniques by rote, but that teachers should also teach students to understand these techniques in the contexts of larger and more inclusive categories of knowledge. These may include things such as right-hand and left-hand playing techniques (superordinate levels of knowledge). To further deepen students' conceptual understanding of their own playing techniques, students should then learn that, for example, right-hand playing techniques are organized in categories such as

bow strokes, bowing patterns, and elements of tone production (coordinate level of knowledge). Finally, students should learn the particulars of each individual right-hand playing category such as *martelé*. This is a short, hammered bow stroke, usually played in the upper middle part of the bow with the pressure (weight) being applied at the beginning of each bow movement and immediately released during the bow travel from the beginning of the note to its end (subordinate knowledge). Students should learn this along with experiencing this bow stroke while playing technical exercises and in the repertoire.

## Right-Hand Playing Techniques: Superordinate Level of Knowledge

Varied string methods and approaches have different views on the role of right-hand techniques in playing string instruments. For example, Galamian (1985) suggested that it is the right-hand that interprets the music on bowed string instruments. On the other hand, Havas (2003) advocated that it is the left-hand that interprets the music and that right-hand just follows what left-hand dictates. For the purpose of this article, we will adopt Galamian's statement: "To understand the function of the bow, one has to realize from the very onset that the whole right arm technique is based on a *system on springs*." (Galamian, 1985, p. 44) as a guiding superordinate principle of right-hand techniques.

## Right-Hand Playing Techniques: Coordinate Level of Knowledge

Galamian (1985) organized basic concepts of right-hand techniques in four categories: (a) fundamentals, (b) tone production, (c) bowing patterns and (d) special bowing problems. Applebaum (1986), on the other hand, organized right-hand techniques in three categories: (a) developing a fine bow arm, (b) the specific bowings and how to teach them, and (c) how to produce a beautiful tone. For the purpose of this article, we will propose following an adapted categorization of right-hand playing techniques that will serve as a coordinate principles of right-hand playing techniques: (a) bow Strokes, (b) bowing patterns and (c) tone production.

## Bow Strokes - Subordinate Level of Knowledge

Bow strokes (bow styles or bow articulations) are the key components of expressive performance on bowed string instruments. For example, playing the same sixteenth notes passage with the bow hair on-string or off-string is going to dramatically change the aesthetic and emotional effect of the passage.

Several inherited difficulties that orchestra teachers and conductors need to be conscious of when it comes to teaching bow strokes for understanding are: (a) the terminology for bow strokes is limited and can be confusing, (b) orchestra scores often don't include appropriate bow stroke articulations, and (c) there is a difference between how the same bow stroke is executed in a solo/chamber music setting versus an orchestra setting.

Varied string pedagogues have proposed various ways of organizing bow strokes. For example, Rolland (2010) proposed three types of bow strokes: (a) swinging, (b) pulling, and (c) pushing bow strokes. In his comprehensive guide to bowing techniques, Kjelland (2003), organized bow strokes into three groups: (a) on-the string, (b) off-the string and (c) off-the String {sic} bow strokes. For the sake of simplicity of this article, bow strokes will be organized in three categories: (a) on-the string, (b) off-the string and (c) expressive bow strokes. Within these categories, only bow strokes that are in use in school orchestras will be examined in more detail.

## Bow Strokes-Coordinate Level of Knowledge

### On-the String Bow Strokes - One Note per Bow Direction

*Détache* (French for *separate*) is a single note per bow, smooth bow stroke with concealed bow changes, usually played in the upper part of the bow for violins and violas and in the middle part of the bow for cellos and double basses. There are three types of *détache*: (a) a simple *détache* that is played with an even and connected stroke and that usually has no specific articulation marking; (b) a *détache lancé* (also known as *détache porte*) that is played with slight separations between the notes and that is in some scores indicated with tenuto line and dot and (c) an accented *détache* that is played with connected bow movements but with additional weight on each note. This type of *détache* is usually marked either with a tenuto line or with a tenuto line and accent. *Détache* bowing is used in music of all periods but it is particularly characteristic of the Baroque Era.

*Martelé* (French for *hammer*) is a single note per bow, short and crisp bow stroke, usually played toward the tip of the bow for violins and violas and in the upper middle part of the bow for cellos and basses. The unique characteristic of this bow stroke is its energetic sound that is produced by the sudden release of the weight of the bow and right-arm at the moment when the bow is moved (weight applied > weight released at the moment of movement > bow stops > weight applied). *Martelé* is usually indicated by staccato dots but sometimes also with accents, wedges, combinations of three or with the term *marcato*. *Martelé* bowing is used in music of all periods and it is an extremely important pedagogical bow stroke to be taught to beginning students as a mean of teaching tone production.

### On-the String Bow Strokes - Two or More Notes per Bow Direction

Group staccato (Italian for *separated* or *discontinued*) is a linked bowing of two or more even completely stopped notes in a single bow direction. The major difference between staccato and *martelé* is that in staccato there is no weight release as in *martelé*. Rather, the weight of the bow and right arm is continuously applied to the strings and is indicated by a staccato dot and slur. This bow stroke is used in all periods, even though its style may vary from distinctly articulated to very smooth, depending on the style of period and character of music.

Portato (Italian for *to carry*) or Loure is also a linked bowing of two or more notes in a single bow direction. Unlike in staccato, where the bow is completely stopped between notes, in portato, the bow