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References

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WOODWIND VIBRATO IN THE BAND CLASS

Recognizing good woodwind vibrato and teaching it are necessary skills for a band teacher. Mark C. Ely considers both.

What constitutes a good vibrato? That is a very interesting question. Unfortunately, there is no easy answer. Ask a dozen musicians what a good vibrato is and you will most likely get a dozen different answers. According to Webster's New World Dictionary vibrato is "the pulsating effect of a rapid, hardly noticeable variation in pitch." According to music education researcher Carl Seashore, "A good vibrato is a pulsation of pitch, usually accompanied by synchronous pulsations of loudness and timbre, of such extent and rate as to give a pleasing flexibility, tenderness, and richness to the tone."¹ All things considered, it seems clear that the nature of vibrato as it exists in the musical world is difficult, at best, to define clearly.

Perhaps the most appropriate way of describing vibrato is to say that it is a regular fluctuation of the basic tones of an instrument in pitch or loudness (intensity) that enhances the instrument's basic tone quality in some way. In addition, the processes involved in achieving any type of vibrato also result in timbral changes within a given tone. Sometimes these changes are great enough to become disturbing to the listener, but often they are not consciously discernible by humans.

There are basically four types of vibrato used by woodwind performers. These are (1) diaphragmatic/abdominal vibrato, (2) jaw vibrato, (3) throat vibrato, and (4) lip vibrato. Although there has been no research-based consensus, interviews with performers have indicated that a

combination of two or more types of vibrato is often employed simultaneously, and that the two types most commonly used by woodwind performers are the diaphragmatic/abdominal vibrato and the jaw vibrato. In addition, it appears that the type of vibrato actually used by most woodwind performers is largely dependent on the kind of instrument they play and not on what comes naturally.

Diaphragmatic Vibrato

Diaphragmatic/abdominal vibrato is produced by increasing and decreasing the amount of wind pressure put into the instrument by controlling the movement of the abdominal and diaphragmatic muscles. At slower speeds, these muscles are almost entirely responsible for producing the pulsations. Experimentation has shown, however, that at speeds greater than five pulsations per second, the larynx also plays a major role in this process.[2] Specifically, the role of the larynx increases as the speed of the vibrato increases, to the point that at very rapid speeds, the larynx is largely responsible for producing the pulsations. This physiological shift seems to occur naturally as a performer becomes more proficient at producing vibrato.

Because the pulsations produced by diaphragmatic/abdominal vibrato are produced by changes in wind pressure, there is more variation in loudness than pitch on each tone. Because the pitch of woodwind instruments changes slightly as the wind pressure changes, though, there are also small variations in pitch associated with this type of vibrato. These variations are consistent regardless of the speed of the vibrato. Diaphragmatic/abdominal vibrato is commonly used on flute and oboe. Many bassoonists also use this type of vibrato, but it is common for bassoonists to use it in combination with jaw vibrato.

Jaw Vibrato

Jaw vibrato is a somewhat misleading term. Although the pulsations are facilitated by upward and downward movements of the jaw, it is actually the resultant change in lip pressure against a reed that causes the pulsations in a tone to occur. As a result, some performers do not recognize a distinction between jaw vibrato and lip vibrato.

This type of vibrato involves slight and sometimes imperceptible variations in timbre and intensity, but the most obvious variation occurs in pitch..As the pressure on the reed increases, the pitch rises; as the pressure on the reed decreases, the pitch falls.

Jaw vibrato is commonly used on the saxophone; often, it is used in combination with lip vibrato. Clarinetists who use vibrato when playing certain musical styles also use a jaw vibrato more than any other kind.

Like saxophonists, they often employ a combination of lip and jaw vibrato.

Throat Vibrato

Throat vibrato is produced by tightening and relaxing the throat muscles in a rhythmic fashion. This often results in very quick, quivery pulsations in the tones that resemble a tremolo effect rather than a pleasing vibrato. Although this process does cause variations in pitch, the largest variations occur in intensity and timbre.

Because the process of producing throat vibrato results in noticeable timbral differences in the tone quality, this type of vibrato is generally unpleasant to listen to. In addition, it is not well suited for use on any woodwind instrument because it is difficult to control, tiring to produce, and inhibits appropriate breathing processes.

Lip Vibrato

Lip vibrato is produced by moving the lower lip in a rhythmic manner so that the pressure on the reed is alternately increased and decreased. The result is nearly identical to that produced by jaw vibrato. Lip vibrato, however, is much more difficult to control than jaw vibrato, and it causes embouchure changes that can affect tone quality and intonation. As a result, using lip movement alone is not recommended for woodwind performers.

Although lip vibrato is used by some single-reed performers, it is virtually never used by flutists, oboists, or bassoonists. In addition, because it is unnatural and difficult to move the lower lip alone in a controlled manner, lip vibrato is often used in conjunction with jaw vibrato.

A Good Vibrato

Although there are many factors involved in the production of vibrato, there are a number of characteristics that virtually all musicians believe should be present in a good vibrato.

There should be flexibility in the tone without undue emphasis on the pulsation.

Each tone should have a clearly audible tonal center despite the variations in pitch, loudness, and timbre associated with vibrato.

The pulsations should have an even rate. Exceptions to this occur during performance when this rate may gradually increase or decrease slightly to enhance the musicality of the performance. Although this rate varies from performer to performer, the most commonly desirable rate is between five and seven pulsations per second.

The performer must be able to control the rate of vibrato at all times.

Generally, the extent of variation in pitch, timbre, or loudness should be consistent. However, slight changes often occur to enhance musicality.

When to Begin Using Vibrato

It is very unusual to hear students using vibrato before the high-school level, and most students never use vibrato in their playing unless they study privately. This leads some teachers to suspect that producing vibrato is an advanced technique that can only be mastered by advanced students

studying privately, is conceptually too difficult for most students to understand, or is too physically demanding on the student.

There is no research-based consensus as to when music educators should begin teaching vibrato. It seems important, however, to consider several factors and misconceptions that surround the teaching of vibrato in the public schools. On the one hand, the concept of producing vibrato can easily be grasped by most students at the fifth- and sixth-grade levels, and the physical demands required to produce vibrato are within the physical limitations of fifth- and sixth-grade students as well.

On the other hand, vibrato is an advanced musical technique. Its use requires that students have good fundamental skills in all aspects of tone production, good listening skills, and a mature sense of musicality. Because these skills take time to develop, it would be inappropriate to teach vibrato to elementary-level students in most instances. By junior high school, though, most students will be in their third or fourth year of musical study, and many will have these fundamentals firmly set. This would be an ideal time to begin teaching vibrato to those students who are fundamentally sound on their instruments.

Problems with Teaching Vibrato

There are a number of problems associated with teaching vibrato in the public schools. First, most instrumental classes are heterogeneous; they involve many different kinds of instruments in one class. Since particular types of vibrato are commonly used on the various instruments, different processes would need to be taught during the same class period. Because the amount of time needed to explain each of these processes is rather lengthy, students not involved would be sitting idly or disrupting class. Not only would this be an inefficient use of time, but it would also be virtually impossible to teach vibrato successfully in this type of situation. Therefore, it is necessary to group together students who play instruments that use the same kind of vibrato before attempting to teach it.

Second, even if you are fortunate enough to have like instruments in each class, your students will undoubtedly perform on many levels. Some students will be prepared to learn vibrato and some will not--it is necessary to group your students accordingly. In addition, because students' abilities to learn vibrato will vary greatly within the prepared group, practicing together may become difficult after a period of time. At that point, you may want to divide the group into fast and slow learners, which would maximize learning efficiency--but this would also involve more time on your part.

Finally, students working on vibrato need a lot of feedback from a knowledgeable teacher, especially in the initial stages. Students should be encouraged to practice vibrato in a controlled manner under preset conditions. Using vibrato without proper guidance can be detrimental rather than helpful to tone quality. In addition, your students will want to use vibrato all of the time.

Initially, this may affect the overall sound of your performing group in a negative way and may lead to poor performing habits in the various areas of tone production. Therefore, the use of vibrato in the early stages should be limited to the practice room and home.

Finding Time to Teach Vibrato

Most of the problems involved with teaching vibrato in the public schools involve grouping students into small divisions according to their needs--finding the time to accommodate those needs is the biggest dilemma that music educators face. Because of that, it is necessary to determine how much time should be devoted to teaching vibrato and how this time can be made available.

Flutes, oboes, saxophones, and bassoons are the only woodwind instruments on which performers commonly use vibrato. To maximize time efficiency, these instruments should be grouped according to the types of vibrato commonly used on them. Since the flutists, oboists, and bassoonists generally use a diaphragmatic/abdominal vibrato, they can be in one group. The saxophonists, who use a jaw vibrato, can be in another group. This can be done in the same sectional format that you normally employ at various times throughout the year. The only exception is that, because your section leaders will probably not be able to teach vibrato effectively, you will need to bring in someone from an outside source who can assist you. Fortunately, there are almost always musicians who are willing to help if they are asked. If your school is near a university, it is certain that some of the future music educators in the music department would be excited about the opportunity to work with your students. This gives them some valuable teaching experience, and it helps your students at the same time.

In the beginning it is helpful to give your students prepared handouts on how to produce vibrato on their respective instruments. The handouts should be easy to understand, yet detailed, and should contain some beginning exercises for them to work on, as well as ideas on what to listen for when they practice. You should go through the handout with them during the first lesson and make sure they understand what they are supposed to work toward. Since working on vibrato is largely an individual project, it is not necessary to have more than one lesson per week. After five or six lessons, it becomes both practical and advantageous to incorporate some vibrato exercises into the daily warm-up routine.

Some Final Thoughts

Vibrato is a technique that can be used to enhance a performer's tone quality and to increase the musicality of a performance. It should always be used with discretion so that it does not detract from the natural tone quality of the instrument itself. Vibrato must add life and brilliance to a tone without dominating it or becoming the main focus of the listener.

The concept of vibrato is not difficult to comprehend, so there is no "right" age at which educators should begin teaching it to their students. Its success in enhancing musical performance, though,

is dependent on the solidity of fundamental tone-production skills and the musical maturity of the individual using it. Because of this, teachers should only teach vibrato to students who have demonstrated these attributes.

Teaching vibrato in the public schools is a very time-consuming process. However, the benefits it can provide to our students' musical education and to the overall tone quality of an ensemble far outweigh any inconvenience its inclusion may cause. We should therefore make the time to teach it to our students when they are ready. Learning to use vibrato appropriately is just one more step in our students' musical education, and it should not be overlooked.

Notes

1. Carl E. Seashore, *In Search of Beauty in Music*. 1947. Reprint (Westport, CT: Greenwood, 1981).
2. Jochen Gartner, *The Vibrato*, Einos W. Anderson, trans. (Regensburg, Germany: Gustav Bosse Verlag, 1981).

PHOTO (BLACK & WHITE): A group of vibrato instrumentalists.

PHOTO (BLACK & WHITE): A musician demonstrating her skill.

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## TEACHING DIAPHRAGMATIC VIBRATO

There is more than one method of teaching this type of vibrato, but this has proven to be successful with students of all ages.

Without instruments, have your students blow outward as if they are blowing out a candle. It is important that their lips simulate their basic embouchures as they do this so that the resistance will allow them to feel which muscles actually control the expulsion of air. You may have them think of whispering the syllable "hoo" loudly as well. This will give them a reference point to build upon.

Still without instruments, have them connect several "hoo" syllables together in a rhythmic manner. The basic shape of each syllable should follow a pattern of "less air-more air-less air" or "soft-loud-soft." This will happen naturally in most cases. Also, make sure your students are not stopping the air after each syllable; syllables should be connected.

With their instruments, have your students play a tone without vibrato in the middle register with a nice, open tone quality. Explain to them that the tonal center present in this tone must be heard when vibrato is added to it and that the pulsations must be centered around this tonal center

without changing it.

Have your students play the same tone, hold it for two counts at M.M. = 60, and then do one pulsation ("hoo") per beat afterward. Explain that this pulsation must be done evenly over one count, and always have your students use a metronome when practicing vibrato. At slower speeds, it is often good to have your students exaggerate each pulsation. This helps them gain control over the process. This exaggeration may result in the loss of a tonal center, but once control is gained and the speed increased, the width of the pulsations should become more narrow and focused, and the tonal center will be reestablished.

Once your students have mastered one pulsation per beat at M.M. = 60, have them do two pulsations per beat, then three, then four, and so on. Again, remind your students to keep the pulsations even across time so that the vibrato remains smooth and the tonal center is maintained. Also, make sure they use a metronome when they practice.

Have your students practice these pulsations on tones in the middle of their instruments at first. Once they have gotten the hang of it," they can expand this range. Make them aware that vibrato is more difficult to produce in the lower and higher ranges.

After your students have practiced producing pulsations on individual tones, they can begin using vibrato on a whole-note scale of your choosing. In addition, they can begin using vibrato after the initial attack instead of waiting two counts. It is also a good idea to have your students play long tones without vibrato frequently so that they are constantly reminded of the importance of the tonal center. Once this is accomplished, you can have them incorporate vibrato into their performances according to your musical tastes.

With this type of vibrato. it is important that the pitch level of the tonal center be maintained while the differences created by the pulsations are evenly spaced around this tonal center. Furthermore. the intensity levels must also be balanced evenly so that the vibrato sounds smooth and musical.

## **TEACHING JAW VIBRATO**

Once again, there is more than one: way of teaching this type of vibrato. This method, however, works well with students of all ages.

Without their instruments, have students simulate their basic embouchures and say the syllable "wa."

Again without instruments, have students say a series of "wa" syllables in an even manner. Direct their attention to the upward and downward movement of the jaw.

With their instruments, have your students play a tone in the middle register with a nice, open tone quality and without vibrato. Explain to them that the tonal center present in this tone must remain unchanged when vibrato is added to it and that the pulsations must be centered around this tonal center.

Have your students play the same tone, hold it for two counts at M.M. = 60, and then do one pulsation ("wa") per beat for four counts. Explain that this pulsation must be done evenly over one

count anti always have your students use a metronome when practicing vibrato. At slower speeds, it is often advantageous to have your students exaggerate each pulsation. This helps them gain control over the process. This exaggeration may result in the loss of a tonal center. but once control is gained and the speed increased, the width of the pulsations should become more narrow and focused and the tonal center will be reestablished.

Once your students have mastered one pulsation per beat at M.M. = 60, have them do two pulsations per beat, then three, then four, and so on. Again, remind your students to keep the pulsations even across time so that the vibrato remains smooth and the tonal center is maintained. Also. make sure they use a metronome when they practice.

Have your students practice these pulsations on tones in the middle registers of their instruments at first, Once they have gotten the hang of it, they can expand this range. Make them aware that vibrato is more difficult to produce in the lower and higher ranges.

After your students have practiced producing pulsations on individual tones, they can begin using vibrato on whole-note scales of your choosing. In addition, they can begin using vibrato after the initial attack instead of waiting two counts. It is also a good idea to have your students play long tones without vibrato frequently so that they are constantly reminded of the importance of the tonal center.

With this type of vibrato, it is important that the pitch level of the tonal center be maintained while the differences created by the pulsations are evenly spaced around this tonal center, In reality, it is much easier to go below the tonal center than it is to go above it. "Top," or going above the tonal center, gives a tone brilliance. "Bottom," or going below the tonal center, gives a tone depth. Too much "bottom" results in a flat-sounding, dull vibrato, while too much "top" results in a pinched, choppy one. Stress the importance of evenness around the tonal center.

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