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Issues of the Timbro-technical capabilities of the tuba instrument

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Abstract: This article analyzes the timbre and technical capabilities of the tuba instrument and reveals its place in the art of music. The importance of the tuba in orchestral and solo performance, its timbre diversity, technical capabilities and role in the modern performance process are considered. Attention is also paid to the use of the tuba in classical, jazz and pop music, and the expansion of its expressive capabilities through new technical methods. The article analyzes the voicing range of the tuba instrument, intonation purity and trends in the development of performance techniques.

Keywords: Tuba, timbre, technical capabilities, performance, orchestra, solo performance, music art, instruments, jazz, classical music, pop, performance techniques.

Introduction: The world of music has a variety of sound riches, and each instrument in it is distinguished by its own style of expression, timbre colors and technical capabilities. Among them, the tuba is recognized as one of the instruments with a deep and attractive timbre, which is considered the basis and support of the orchestra.

The uniqueness of the tuba is associated with its timbre diversity and wide range. Its soft and deep sounds reflect elegance and power at the same time. This instrument has its place both in the orchestra and in solo performance, and the full disclosure of its capabilities depends on the skill and technical potential of the performer. The tuba serves mainly to create the lower sound layer of the orchestra, but modern performance and compositions are paving the way for this instrument to appear as a means of solo expression.

Today, the tuba is rapidly developing in terms of technical capabilities, and it is used in various genres and styles. The role of the tuba in classical music, jazz, pop music, and even experimental music is increasing significantly. Instrumentalists are mastering new technical methods and implementing complex musical ideas with the help of the tuba. At the same time, its voicing capabilities, purity of intonation and expressive technique serve as an important factor in achieving the highest peaks of performing culture.

One of the important tasks facing performers is to deeply study and develop the timbre and technical capabilities of the tuba. This instrument not only adds weight and depth to the orchestra, but is also distinguished by its attractiveness as an independent means of musical expression. Revealing the capabilities of the tuba even more widely through the combination of art and technique remains one of the important goals facing music creators and performers.

Firstly, the sounds produced by the tuba instrument most often belong to the lower register, and the area of the lips involved in the sound formation process is many times larger than that of the baritone and trombone. In a symphony orchestra, the tuba supports a group of percussion instruments, merging with them into a single whole. Thanks to the tuba, the themes of many symphonic works sound voluminous, bright and expressive, it is the tuba that plays the role of the foundation in percussion instruments and symphony orchestras. When the tuba plays separate bass parts together with double basses, these parts begin to sound better as a result of this harmony.

Secondly, there are no clear recommendations on the position of the mouthpiece on the lips in the tuba, as in

the trombone. Trombone students prefer to hold most of the mouthpiece with their upper lips, and less with their lower lips.

Thirdly, the position of the mouthpiece on the tuba does not have such a significant effect on the timbre of the sound as it does for trumpet players and French horn players. Those learning to play the French horn or trumpet cannot deviate the mouthpiece position from the ideal point by more than 1.5 millimeters to create the best sound. Trombone players can deviate the mouthpiece by 3 millimeters. Good results can be achieved by tilting the mouthpiece up or down by 6 millimeters from the ideal point on the tuba. In this case, it is not necessary to tilt the mouthpiece all the time during the learning process, as this can lead to unstable performance results on the tuba, this idea is presented only to show the difference in the sound production processes on instruments with different reeds. Tuba students are advised to look for the ideal position of the mouthpiece during the sound production process. It is not difficult to determine which area of the lips is the ideal position for sound production, since in such a position it is easier to move from low sounds to high registers and vice versa. The sound of the tuba becomes more expressive, smoother, the pressure inside the mouthpiece gradually decreases. In the tuba, the sound generator is the performer's lips, that is, the area of the lips located on the mouthpiece cup. The air blown into the instrument vibrates the edges of the lips on the mouthpiece, which in turn causes the air column located in the instrument channel to vibrate.

The structure of the skills and abilities of the tuba player is formed by: correct performing breath, individual visual-auditory imagination, a separate process of work of the muscles of the lips and face, coordination of finger movements, specific movements of the tongue and continuous listening analysis. The student's performing activity on the tuba requires the expenditure of strength and emotional energy and is characterized by the active functioning of the entire respiratory system. One of the most important issues in the educational process of a student-tuber is the ability to form his performing skills and abilities. Therefore, at the first stage, great attention should be paid to their correct formation, taking into account the individual characteristics of each student. For a long time, musical and performing pedagogy has been based on the principle of teaching students the personal experience and skills of the teacher. The teacher's demonstration of his musical and performing knowledge and skills in the classroom does not allow taking into account the individual characteristics of students and developing a conscious approach to teaching tuba playing. In the process of teaching tuba playing, the formation of skills and abilities in students should be carried out based on modern methodological guidelines. If students do not understand why such a setting of the playing apparatus is needed, they will not be able to consciously form performing skills and abilities in the learning process. Although many tuba players are virtuosos, if they do not know how to properly set up the playing apparatus, in many cases this situation can lead to various professional diseases. These include lung disease, acute fatigue of the embouchure (the area of the lips involved in sound production), prolonged practice on the instrument, and sometimes even premature loss of performing skills. Based on the above considerations, the purpose of our research is to develop theoretical and methodological foundations and test experimental methods for the formation of performing skills and abilities in students during the educational process of teaching how to play the tuba instrument.

In the process of teaching playing the tuba, the formation of performing skills and abilities should be based on knowledge of the anatomy and physiology of organs and an understanding of psychophysical and psychophysiological processes in each individual case. Without this, it is impossible to achieve correct performance on the trumpet, the student will suffer, the quality of performance will decrease, professional diseases may occur, and even a situation of professional disqualification may occur. Incorrect body position interferes with proper breathing, improper breathing reduces the expressiveness and dynamics of the performance, does not allow for the artistically correct performance of musical phrases, and is harmful to health. A poorly formed embouchure - improper development of the muscles of the lips and face reduces the quality of performance, in many cases does not allow for practicing the tuba at all. In the process of learning to play the tuba, incorrect mouthpiece setting, excessive strain on the muscles of the hands and fingers lead to unevenness in the student's performance technique. After studying the peculiarities of the breathing and embouchure system of a trumpet player-musician, it is necessary to consider which part of them should be given the necessary tension, so that a smooth flow of air to the instrument can be created, while at the same time achieving high-quality sound, the greatest dynamics and expressiveness of performance. Only in this way is it recommended to form performing skills and abilities in trumpet players-students.

CONCLUSION

In the world of music, each instrument is distinguished by its richness of sound, expressiveness and technical capabilities. The tuba is one of the unique instruments that embodies all of these aspects. Its richness of

timbre, deep and impressive sounds are the reason why it occupies a special place in the world of musical art.

In modern music, the tuba is now recognized not only as a supporting instrument of the orchestra, but also as an artistic instrument with wide possibilities for solo performance. As a result of the development of technologies and performance methods, the technical capabilities of this instrument are also expanding, and its new facets are opening up. Today's tuba players are creating innovations in the implementation of complex musical ideas and skillfully applying it in various genres.

Thus, a deep study of the timbre and technical capabilities of the tuba instrument and its further development through the art of performance are one of the important tasks facing modern musicians. Revealing the wider possibilities of the tuba through the harmony of art and technique is one of the goals and tasks of future musicians. Just as each melody of music finds its listener, the deep and attractive sound of the tuba will continue to strengthen its place in the world of art.

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