

Teaching Students in the 21st Century: An Evaluation of Technology in Trumpet Pedagogy

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The 21st-century student is exposed to a significant amount of technology at a young age. As time progresses, educators of both undergraduate and graduate-level students may struggle to stay up-to-date with the latest developments in the field of music technology. Lack of consistent technological awareness in instructors leads students to become self-reliant to stay current with advancements and eventually share their findings with their educators. A balanced curriculum that incorporates 21st-century resources is integral in ensuring students are well-equipped for their future in the field of music.

The notion of staying current with emerging technologies begs the question: what technologies are available to educators and students in trumpet pedagogy, and what is their viability for integration? The following research will explore several ideas that have been the product of evolving technologies. From products like the Mouthpiece Cam and studies on linguistics and vocology, pedagogues can understand emerging ideas and be able to apply them to their teachings. Also, readers will have the opportunity to explore two software through demonstrations of Voce Vista, a real-time spectrographic application, and Zoom, a web-conferencing tool.

Research provided by Professor Jason Dovel informs how the Mouthpiece Cam plays an integral role in the trumpet studio. With the ability to visualize the embouchure, students and teachers can diagnose problems and establish healthy habits. Interdisciplinary studies have been used to inform other specialty areas of new ways of thinking. Linguistics is the field of study that examines the relationship between muscle manipulation and sound production. Linguistics research from Marisa B. Youngs and the practical applications of Voce Vista by David Harris demonstrates that linguistics significantly impacts how trumpet players visualize their music-making. Looking past linguistics, scholars have coined a new musical linguistic field of study called vocology. The field of vocology is, put simply, “the budding world of voice science.”¹ This novel field of study is focused on singers and how their voices work, pinpointing the exact muscular movement and airway control. Much of the information provided by vocologists has excellent potential to be used in trumpet pedagogy, such as the visualization of vowel shapes, manipulation of vowel shapes and their impact on overtones, and the ability to pinpoint specific muscle movements to prevent injury and to promote a strong relationship between the mind and body. Finally, research done by David Camlin demonstrates how virtual music-making impacts

¹ David Harris, “On the Voice,” *The Choral Journal* 59, no. 8 (March 2019): 56.

music education and what educators can do to make each new online experience better for the student.

These ideas propose a paradigm shift that approaches new technologies from an analytical point of view, constantly assessing and evaluating. Teaching today is drastically changing, trumpet pedagogues are now tasked with accessing and categorizing the usefulness of new technologies, paying particular attention to the age, location, and reason for how these new technologies would be integrated. Integrating new technologies and interdisciplinary ideas is the next step in trumpet pedagogy, allowing educators to teach with a heightened level of technological understanding.