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Physiology of vocal images in singing: A preliminary project on "online" singing training

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This online program will help students understand the art and science of singing. During voice training, students and teachers may not have the same understanding of certain voice production techniques. While the teacher and student produce the same voice qualities, they may result from different physiological representations. For example, a loud voice can be produced by increasing lung pressure, or by increasing the extent of vocal fold squeezing, where the latter is detrimental to voice production. Learning about the mechanics of speech and voice production can help singers avoid dysphonia and other voice problems. State of the art equipment will be used to decipher the art of singing. It will transcribe artistic images to physiological definitions of voice production by analyzing acoustic, aerodynamic, and kinematic parameters of voice samples. These physiological descriptions, as well as audio samples of teachers' voices will be used to create an online program. Feedback and instruction of vocal tract physiology have proven to be useful in improving the voice of professional singers (Pershal & Boone, 1987). This program will enhance students' learning experience by providing additional feedback. Various studies have been done that support efforts to "integrate curricula in vocal performance and speech-language pathology" (DeBoer & Shealy, 1995) and this online program will be an important step in improving vocal instruction.