What science brings to vocal pedagogy in singing is a huge topic, and most of its influence to date has been positive. One way that science has seriously advanced vocal pedagogy is in enabling objective definitions of features of singing that have traditionally been only subjectively perceived and vaguely understood. The importance of this change is not only in greater understanding, but also in cutting through the barriers that come with personally understood terminology. Language is poor at describing sound, and isolating the decisive physiological adjustments that singers make with such a complex organ as voice is nearly impossible. Thus it is extremely difficult for one singing teacher to explain to another what is accomplished in a given maneuver. Scientific description, and especially feedback provided by technology, while requiring considerable study to be applied effectively in practice, reward teachers with the ability to see and understand the point of another teacher's instruction, instead of being merely baffled by his personal use of terminology.

There are also negative effects of applying voice science to vocal pedagogy. One of the more pervasive of these stems from the nature of science itself: science strives for the highest possible level of generalization. Physics has the highest claim to generalization, and the singing voice cannot violate the "laws" that govern airflow and sound production. The vocal organs, however, have evolved by putting to use what is biologically available. The result is that there is a great deal of variety among singing voices, both in how they are constituted and how they are employed. The great challenge for voice science in describing the practice of vocal pedagogy is to distinguish appropriate levels of generalization.