

Seep, B., et al., (2000) "Classroom Acoustics: a resource for creating learning environments with desirable listening conditions," The Acoustical Society of America, Suite 1NO1, 2 Huntington Quadrangle, Melville, NY 11747-4502,

*Reviewer's comments:*

Available online at <http://asa.aip.org/classroom.html>. This document points out that excessive noise and reverberation interfere with speech intelligibility, resulting in reduced understanding and therefore reduced learning. It points out that in United States classrooms the speech intelligibility rating is 75 percent or less. That means that, in speech intelligibility tests, listeners with normal hearing can understand only 75 percent of the words read from a list. Imagine trying to understand a textbook with every fourth word illegible.

Long reverberation time (RT) is the "common cold" of bad classroom acoustics. However, there is a cure. There are two ways to reduce the RT of a room: either the volume must be decreased or the sound absorption must be increased. Increasing the absorption in a room is accomplished by adding more "soft" materials such as fabric faced glass fiber wall panels, carpet, or acoustical ceiling tiles. (p.5/25). Simply including a sound-absorbing lay-in ceiling and thin carpet on the floor will usually result in good classroom acoustics and low reverberation time. (p. 13/25). The carpet adds some high frequency absorption, but primarily serves to reduce self-noise from the students. The solution is inexpensive for new construction and is also affordable way to renovate existing classrooms.

The booklet provides much helpful and understandable information including examples of "Good and Bad Classrooms." ASA is also about to publish a part II to this booklet which provides a good summary of the rationale behind the ANSI Standard on Classroom Acoustics, ANSI S12.60-2002.

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