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COMPUTATION OF REVERBERATION TIME USING CARA

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5.1   INTRODUCTION

A high-quality education system is essential to any university. It's requiring good curriculum, better equipment and facilities, and good resources for the students. Facilities such as classroom are not just a place for teaching, but it is also a place for learning where students discuss their problems with their peers and lecturer (Lubman and Sutherland, 2001). One of the important characteristics for classroom that always forgot by the designer is the acoustic comfort.

Most researchers claim that acoustic comfort can be evaluated by using the reverberation time. Hence, optimal reverberation time is required to have good speech clarity between students and lecturer. Reverberation time has been defined as the time required for the sound pressure level in space to decay by 60 dB after the original sound is removed (Web and Bines, 1991). The optimal reverberation time for learning process is between 0.75 second to 1.2 second.

Table 5 (a) show the International Standard for reverberation time of different countries. A non-optimal reverberation time in the classroom can directly affects speech perception, thus, reduces student learning efficiency. A classroom would seem too "dry" to a listener's ears at shorter reverberation times while at longer reverberation times, speech became too blurred and puzzled (Crandell and Smaldino, 2000).