

5.2 METHODOLOGY

5.2.1 Preliminary Investigation

In order to achieve the aforementioned aim of the study, this study was conducted by determining the total surface area of sound absorption, assessing the reverberation time by using theoretical calculation and proposing the suitable improvement plan for good acoustic comfort.

5.2.2 Surface Area and Surface Absorption of the Room

All classrooms in selected faculty in a public university were selected as the scope of this research as shown in Figure 5.1 (a-b). A total of 29 classrooms and seminar rooms were measured in term of their surface area and surface absorption. The details include the length, height, width of room's wall, door, ceiling, chairs, tables and windows. The dimensions were measured by using distometer and measurement tape. The type of materials or properties were also identified and the value of sound absorption coefficient for frequency of 250Hz, 500Hz, 1000Hz, 2000Hz, and 4000Hz were determined as in Table 5 (b). Sound absorption value is between ranges of greater than zero and less than 1.00. The surface absorption was calculated by multiplying the surface area with its sound absorption.



(a) Typical classrooms