ABSTRACT

The ventilation system is one of the important factors in a building or room to create a comfortable space in terms of physics (temperature, humidity, and air circulation) for its users. Classrooms or meeting rooms are examples of rooms used by many people at the same time. The number of users in the room can increase the levels of carbon dioxide (CO_2) in the room. Classrooms or meeting rooms that use air conditioner (AC) have a higher possibility for disease transmission because doors and windows are closed to maintain temperature stability in the room. In this study a system configuration was designed to measure the levels of carbon dioxide (CO_2) gas in the room. This study aims to determine the effect of installation of ventilating fans and exhaust fans in a room on decreasing levels of carbon dioxide (CO_2) in the room. In this study using a carbon dioxide sensor (CO_2) MQ-135 and a tube of carbon dioxide gas (CO_2) as a substitute for carbon dioxide gas (CO_2) emitted by users of the room. Data retrieval was performed by making four conditions between the ventilating fan and exhaust fan and then will be compared to decreased levels of carbon dioxide (CO_2) which is effective between the four conditions of the fan.

Keywords : comfortable space, ventilating fan, exhaust fan, MQ-135 sensor, carbon dioxide gas (CO_2)