ABSTRACT

Indoor air pollution is known to be two to five times more dangerous than outdoor air pollution. Poor indoor air quality can affect the comfort, productivity and health of occupants. USEPA has issued a procedure for testing indoor air quality, but the procedure is used for large buildings and in areas that have 4 seasons. For that we tried to develop the procedure so that it can be applied to smaller buildings. By referring to the USEPA BASE assessment procedure which includes profiling, assessment, survey, and analysis, this research is based in Bandung by testing Telkom Education Foundation schools, namely SHS, VHS, JHS, and Tourism-VHS Telkom. The measuring parameters are CO_2, CO, $PM_{2.5}$, RH, and T. Four systems are placed in selected school rooms at potential points with a height of 1 - 1.5 meters above the floor. This study divides the type of room based on the number of occupants and their activities. The results showed that almost all the rooms in the schools measured had CO_2 levels exceeding the quality standard (>1000 ppm). All rooms in Telkom Tourism Vocational School have $PM_{2.5}$ levels exceeding the standard (>35 $\mu g/m^3$). Room with air conditioning had the lowest concentration of $PM_{2.5}$ (34 $\mu g/m^3$). The highest CO concentration was found in the type C room of the Tourism Vocational School (kitchen), which was 13 ppm. At the time of measurement, the kitchen was doing cooking activities. The test results only represent the conditions at the time of measurement because at the time of measurement there is an event. Further research is needed under normal daily conditions and a minimum measurement time of three days. The most effective ways to improve indoor air quality are source control, use of air conditioning, and improving ventilation so that air circulation is smooth.

Keyword: *Assessment, CO, CO_2, IAQ, $PM_{2.5}$*