ABSTRACT

In the learning process in the classroom, thermal comfort greatly influences the attitude and performance of students who are doing the learning. However, in reality when students are carrying out the learning process they experience several obstacles that make them not feel comfortable in the classroom such as feeling the room temperature is too hot or the room temperature is too cold. The Indonesian National Standard stipulates that the air temperature for thermal comfort in the tropics can be divided into (1) Comfortable cool, between an effective temperature of 20.5°C - 22.8°C, (2) Optimum comfortable, between an effective temperature of 22.8°C - 25.8°C, and (3) Comfortably warm, between an effective temperature of 25.8°C - 27.1°C. While the relative humidity that is comfortable for humans ranges from 30% -60%.

Usually the cooling system already has a temperature display, but it cannot be accessed remotely and requires manual data retrieval. Therefore, it is necessary to design a tool that can monitor temperature and humidity remotely and can store data automatically to evaluate thermal comfort with classroom objects and their users, and also know the comfort level of most users, in this case students who are in the room. The purpose of the temperature and humidity monitoring system is to monitor temperature and humidity conditions that can be used to find out whether the room is in a comfortable condition or not. In this study, the reference used was the 2001 Indonesian National Standard concerning Procedures for Designing Ventilation and Air Conditioning Systems in Buildings.

Keywords: *Monitoring, Temperature, Humidity, IoT*