

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/257717130>

Temperature Analysis for Indoor Environmental Quality (IEQ) of UKM Architecture Studio

Article in *Procedia - Social and Behavioral Sciences* · October 2012

DOI: 10.1016/j.sbspro.2012.09.425

CITATIONS

4

READS

200

5 authors, including:



Azalillah Ramdani Musa

Universiti Kebangsaan Malaysia

9 PUBLICATIONS 41 CITATIONS

[SEE PROFILE](#)



Nurakmal Abdullah Goh

University Malaysia Sarawak

47 PUBLICATIONS 411 CITATIONS

[SEE PROFILE](#)



A. I. Che-Ani

Universiti Kebangsaan Malaysia

193 PUBLICATIONS 1,117 CITATIONS

[SEE PROFILE](#)



Norngainy Mohd Tawil

Universiti Kebangsaan Malaysia

130 PUBLICATIONS 685 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



Economic Analysis of Coastal Vulnerability to Sea Level Rise and Cost Benefit Analysis of Climate Change Adaptation Measures in the Coastal Areas [View project](#)



Building Inspection and Management [View project](#)

UKM Teaching and Learning Congress 2011

Temperature Analysis for Indoor Environmental Quality (IEQ) of UKM Architecture Studio

A.R. Musa^a, N.A.G. Abdullah^a, A.I. Che-Ani^{a,b,*}, N.M. Tawil^{a,b}, M.M. Tahir^a

^a*Department of Architecture, Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia*

^b*Centre for Engineering Education Research, Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia*

Abstract

Indoor environmental quality (IEQ) plays an important role in ensuring the conducive studio-based learning environment for architecture students. This paper looks into one of the IEQ parameter namely temperature condition in an architecture studio. Being centralized air-conditioning at all times, the temperature range is very much important throughout the day since the students are learning, discussing and relaxing in the studio. The methodology adopted is two-fold. First by measuring the temperature using the equipment named LM-8100, and second by questionnaire survey in gauging the temperature comfort and humidity level from students' perspective. Temperature reading is taken for 11-hours in 2 days. The IEQ matrix is developed to analyze these 2 parameters concurrently, that also useful to conclude this study. The finding shows that the temperature setting is not within the range of MS 1525:2007. But interestingly, the students perceived it as normal and do not hinder them to stay longer inside their studio. This is somehow good to the learning environment for short term, but in the long run might give negative health effect to the students.

© 2011 Published by Elsevier Ltd. Selection and/or peer reviewed under responsibility of the UKM Teaching and Learning Congress 2011

Keywords: Indoor Environmental Quality; temperature; survey; architecture; studio environment

1. Introduction

Thermal comfort is one of the important aspects in achieving the indoor environmental quality and should be given considerable attention by architects and designers. The indoor temperature affects several human responses, including thermal comfort, perceived air quality, sick building syndrome symptoms and performance at work (Seppänen, 2006).

Indoor environment is important for learning environment because its affects indoor physical environment, subsequently health and quality of life of student (Fisk, 2000). The ideal thermal condition in learning environment has an effect on the mental efficiency of student in situations where students were performing clerical tasks calling for quick recognition and response (Peccolo, 1962). In relation to mental efficiency and thermal conditions, (Canter, 1976) found that human beings work most efficiently at psychomotor tasks when the environment is at a

* Corresponding author. Tel.: +6-03-8921-6299; fax: +6-03-8921-6841.
E-mail address: adiirfan@gmail.com.