



# Associations Between Mathematics Classroom Learning Environments and Achievements in University of PGRI Adi Buana Surabaya Indonesia

Erna Puji Astutik

Mathematics Education Department, University of PGRI Adi Buana Surabaya



## Introduction

In Indonesia, mathematics is one of the compulsory subjects at all school levels in primary and secondary. As a result, professional mathematics teachers are strongly needed to be prepared in order to guide students in understanding, mastering, and applying mathematics in problem solving. One of University in Indonesia especially in Surabaya that has faculty of education and teacher training is University PGRI of Adi Buana Surabaya. Therefore, the lecturers must consider in preparing the capability of teacher candidates by preparing their classroom, not only for delivering the material but also providing the environment where the learning takes place so that it can help students in their learning.

Classroom learning experiences will very much influence students' academic development because they spend enough time during their schooling. There has been a considerable amount of research in the area of classroom environment during the previous three decades and the result indicates that the classroom learning environments strongly influence student outcomes including students' achievement and attitudes in classroom (Fraser, 2007).

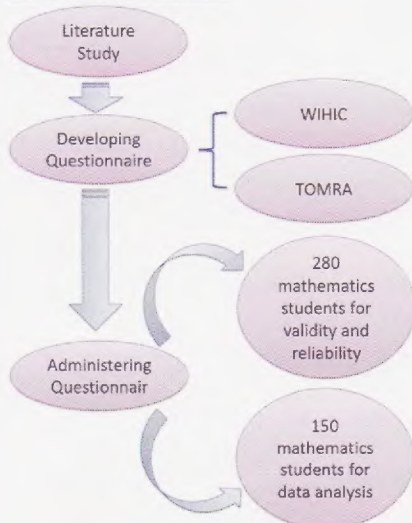
## Objectives

The objectives of this study were to:

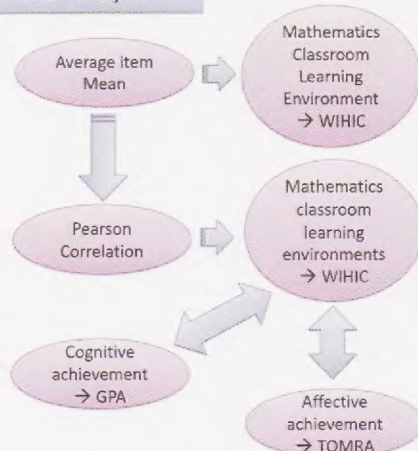
1. describe mathematics classroom learning environment in University of PGRI Adi Buana Surabaya;
2. examine the relationship between mathematics classroom learning environment and students achievements.

## Methods and Materials

### Data Collection



### Data Analysis



## Results and Discussion

Chart 1. Average Item Mean of Mathematics Classroom Learning Environment in University of PGRI Adi Buana Surabaya



SC : Student Cohesiveness TO : Task Orientation  
 TS : Teacher Support CO : Cooperation  
 IV : Involvement EQ : Equity  
 OO: Order and Organisation

Chart 1 shows that students perceived their mathematics classroom learning environments positively in almost all scales. They responded in range between 'sometimes' to 'often' (average item mean between 3 and 4) in scales Student Cohesiveness, Teacher Support, Involvement, Order and Organization, Cooperation, and Equity. The greatest response is on Task Orientation that they perceived more often occurred in their classroom.

Table 1. Associations Between Classroom Learning Environment and Students Achievements

Learning Environments Scale	Pearson Correlation Coefficient	
	Students Affective Achievement	Students Cognitive Achievement
Student Cohesiveness	0.218*	0.060
Teacher Support	0.322**	0.190
Involvement	0.546**	0.227*
Order and Organization	0.322**	0.036
Task Orientation	0.293**	0.208*
Cooperation	0.286**	0.071
Equity	0.391**	0.043

\*correlation is significant at the 0.05 level (2-tailed)  
 \*\*correlation is significant at the 0.01 level (2-tailed)



Chart 2. Associations Between Classroom Learning Environment and Students Achievements

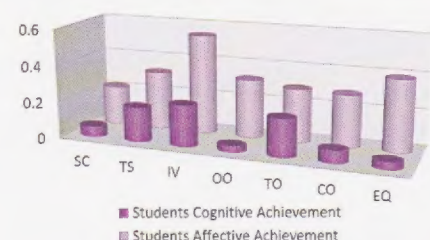


Table 1 and Chart 2 show that there are associations between mathematics classroom learning environment and students achievements. There were two achievements used in this study, cognitive and affective achievements.

Greater correlation occurred between mathematics classroom learning environment and students affective achievement than cognitive achievement, in which significant correlation occurred in all scales and medium correlation occurred in almost all scales except Student cohesiveness, Task Orientation, and Cooperation scales that had small correlation.

However, all scales in mathematics classroom learning environment have small correlation with students cognitive achievement and significant correlation occurred just for Involvement and Task Orientation scales.

## Conclusions

Associations was found between mathematics classroom learning environments and students affective achievement in which all the mathematics classroom learning environments scales was significantly related to students affective achievement.

Associations was also found between mathematics classroom learning environments and students cognitive achievement in which involvement and Task Orientation scales were significantly related to students cognitive achievement. However, for Students Cohesiveness, Order and Organization, Cooperation, and Equity scales had small correlations with students' cognitive achievement.

## Contact

Erna Puji Astutik  
 Mathematics Education Department, University of PGRI Adi Buana Surabaya  
 Jl. Ngagel Dadi III-B No. 37 Surabaya, Indonesia  
 Email: ernamzduta@gmail.com  
 Phone: +6285732475797

## Acknowledgement

University of PGRI Adi Buana Surabaya for supporting and funding this study and the Conference.