Using Kansei Engineering to Improve the Physical Environment of the Classroom

Abstract

The physical environment of the classroom plays an important role in students’ motivation and performance. The purpose of this study is to show how to improve the quality of the classroom by capturing the students’ feelings/emotions. For this aim, a Kansei Engineering algorithm was proposed. Collected data were analyzed using an ordinal regression analysis which was suggested versus a linear regression analysis often used in the literature. Firstly, we investigated which classroom components can be improved. The results revealed that the teacher’s desk, lighting, ventilation, and the curtain were the most important components in terms of their contribution to students’ motivation. Secondly, we determined which design goals (features) of the significant components contribute to students’ motivation. Our approach in this study provides an algorithm to measure students’ feelings and demonstrate how to use them to improve the classroom environment.

Key words: Kansei Engineering, quality deployment, classroom design, student motivation, ordinal regression

1. Introduction

It is known that a quality classroom filled with good lighting, comfortable room temperature, decent chairs, etc. contributes to the motivation of the student. Student motivation plays an important role in students’ performance. Research has shown that the physical environment can affect the behavior of both students and teachers.