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on students' satisfaction with the
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Determining the effect of natural light on students' satisfaction with the educational environment

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Introduction

Paying attention to light and brightness is very important in designing architectural spaces. In educational environments, due to the greater amount of visual activity that is done in some cases during the day, attention to light and especially natural light has increased. Activities in dark and dimly lit classrooms can cause physical and psychological problems for users of educational spaces in the long run. They are in a better situation. Research in the United States has shown that the level of students in bright classrooms is higher than that in dimly lit classes in the same schools (Ahadi, et al; 2014).

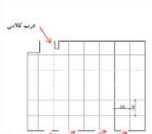
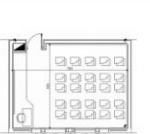
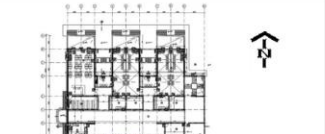


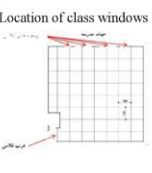
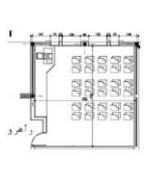
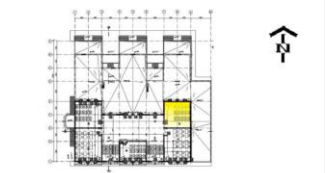

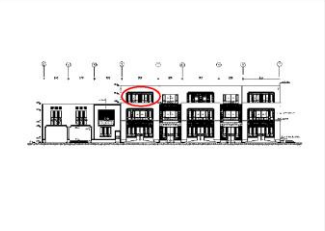
The purpose of this research is to achieve appropriate design in educational spaces. If you have a good climate design in the building, you can not do up to 15% of only JW in the energy required for cooling and heating possible (Rezaei and Majedi, 2020), but in this study, looking for a class is currently observed in the climatic conditions of the region. We know that it feels comfortable and focused that this research needs to be done in their learning and physical health, but the question is how much light is needed to achieve this, although it seems that students in bright classes Prefers.

Materials & Methods

In this research, using a descriptive method, first, relying on valid library and documentary sources, the conditions and characteristics of appropriate daylight in educational spaces have been studied. In order to measure the effect of daylight on students' performance by presenting a questionnaire to high school students questions about their performance in the classroom, and their lighting status and satisfaction

Surveyed by the brightness of the classrooms and the feeling of comfort and focus on the curriculum. Using the quasi-experimental method, the quality of natural light of the sample classes of this article was analyzed and evaluated by computer modeling of two classrooms according to the dimensions of the windows and their handles and the length,

width and height of the classes in Ecotect software. And then controlling its values with a lux meter in the field, the amount of light in each class at the desired times was obtained and the factors that cause undesirable quality of daylight, were investigated and solutions to correct it or not to repeat it in design cases. Educational spaces are provided.

 <p>Location of class windows</p>			<p>South side class position</p>
		<p>Class position in south side view</p>	
 <p>Location of class windows</p>			<p>North side class position</p>
		<p>Class position in north side view</p>	

	<p>The amount of natural light inside the south side classroom at 10:00 AM on November 11, 1997</p>
	<p>The amount of natural light inside the North Side classroom at 10:30 AM on November 11, 1997</p>
	<p>The luxy meter is located at the height of the student's seat when the light is picked up</p>

The condition of the space inside the north and south classrooms

Discussion of Results & Conclusions

In the descriptive data of SPSS software, it was found that most of the students in the south class chose their place of residence near the window. They have felt more relaxed and focused in the first bell, and the amount of light in the first and second bells has been moderate, and in the third bell, they have felt the amount of light a lot, and they have also considered cloudy weather to be effective in feeling focused in the classroom. But the northern class children, in order to see the classroom board better, have chosen more space in front of the board to sit and feel the feeling of concentration and calmness more in the first bell, and they consider natural light as a boring light. And sunny weather is considered effective in feeling calm and focused. The feeling of calm and concentration in both classes was the same in the first bell and the feeling of concentration and calmness of the northern class students in the second bell was more than the southern class students. Class light in the third bell was declared high for most students in the north and south classes, and also in the study of inferential data of SPSS software, it was found that between the feeling of calm in the classroom and the preference of sunny and cloudy weather and also between light in The first and second bells for the southern class and the feeling of calm in the classroom are strongly correlated. In cases such as brightness and feeling of comfort and focus in the classroom, moderate correlation was seen. According to the above findings, it can be concluded that most students prefer natural light to artificial light for the classroom space and they consider artificial light to be effective in feeling tired of the classroom space. As a result, by transferring classes that are practical and require physical activity to acquire skills (such as workshops) to north-facing classrooms that receive northerly light, and transferring more theoretical and non-theoretical focus classes to south-class classrooms (due to Receiving more natural light

during class hours) improved students' performance, and also in designing the windows of the educational space, the same dimensions should not be used for both north and south sides (to maintain the rhythm of the facade), but according to the amount of natural light received, Defined the opening level.

Keywords: Natural light, satisfaction, focus, student, classroom.

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