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**Title of Thesis:** Kinetic Facades as an approach to optimize the environmental performance inside education space using Digital Design tools  
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**Department:** Architectural Engineering Department      **Approval:**-----

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## ABSTRACT

Our Egyptian society suffers serious problems in education. According to the world economic forum report 2015-2016 Egypt ranked the second to last before Guinea from 140 countries in education global competitiveness index.

Education is the main factor for nations' progress, therefore, architects must provide students with all the amenities and factors that raise student's concentration level. Classrooms design should achieve all human requirements and visual comfort.

This Research discusses humanitarian requirements and human comfort rates inside educational spaces, especially classrooms, and studies the effect of lighting on the educational process, and its impact on students' visual performance, mood, and health. The research also presents Kinetic Facades as a type of Environmental treatments that Optimize environmental performance inside classrooms.

This research aims at concluding clear criteria for designing classrooms through setting Design Program. and proposed relevant design model for the primary education level in Egypt. In addition to providing design and implementation methodologies for Kinetic facades that respond to environmental changes to optimize the environmental performance inside education space using digital design tools.

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