

DIPLOMA OF MECHANICAL ENGINEERING FINAL YEAR PROJECT REPORT FACULTY OF MECHANICAL ENGINEERING MARA UNIVERSITY OF TECHNOLOGY SHAH ALAM SELANGOR DARUL EHSAN

ENERGY – EFFICIENT BUILDING : ILLUMINATION AND VISUAL COMFORT FROM DAYLIGHTING

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Thank you.

ABSTRACT

One of the most exciting aspects to find splendid polychrome drawing and other activities on the wall of burial vault perfectly preserved through the centuries in the dry desert air. One thing is conspicuous in its absence in these windowless rooms through.

In this project we present tools and ideas, which will equipment the student to use that same day light resource to produce pleasing, effective, energy efficient spaces. A cursory look at people's involvement with daylight through the centuries will serve to heighten our awareness of the unique position in which we, at the end of the twentieth century find our selves.

Architects and engineers rushed to implement any half-baked lighting solution, which some one claimed would conserve energy, regardless of impact a visual performance or aesthetics. Fortunately, by the mid – 80's and into the 90's, calm reflection base on solid research and experience took the place of panic reaction.

Today there is an exhilarating proliferation of books data, methods, articles, in short, interest using natural light to its fullest advantages, not just from the economics standpoint, but aesthetically, usually and in response to the conservation ethic. This is truly a renaissance period for day lighting.

1.0 INTRODUCTION

Daylight is the most important source of visual without these sources we cannot do any activities and see anything. This source of daylighting can be use as a lighting design in building. The ancient Egyptians had learned to harness daylight to work for them by positioning soldiers holding polished bronze shields to reflect the sun's rays deep into the tombs and monuments. In this project we present tools and ideas which will equip the student to use that same daylight resource to produce pleasing, effective, energy efficient spaces.

People generally prefer daylight to electric light. Studies show that daylighting can increase comfort and well being. However, care must be taken to avoid the design mistakes that can cause thermal or visual discomfort.

Daylight, in particular, is generally considered to be a very welcome component of interior illumination. Indeed so much has been said and written about the useful contribution that daylight can make to artificial illumination, that its aesthetic contribution is sometimes overlooked.

Reason

Some educators believe sunnier classrooms lead to smarter, happier youngsters, so they had architects' design schools that give students a dose of natural light. Other schools use skylights called light monitors that allow classrooms to be partly sunny yearround without the harsh glare attributed to certain light sources.

Typically, these schools benefit from natural light half of the day. When the sunlight is not bright enough, fluorescent bulbs are activated automatically.

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