

# Using lights in the age of Globalization to achieve new aims in studios of Interior design.

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## Abstract

These papers present the relation between three main points in Interior of studios design in globalization age include studios designing, lighting and human behavior , these include some types of studios of Interior design and will take the lighting as an essential factor affect directly in human behavior in these studios , the aim is to share the experience of newly practiced studio system in many regions , our approach provides optimal lights source positions as well as optimal shapes for sky light installations in interior architecture models to be suitable for social ,culture and personal needs of individual behaviors ,also will concentrate on faked lighting at surrounding environment and its effect on man health , usage of light for users of spaces , suggest solutions for Interior design of studios , and mention the proposal design for Interior designer studios , suitable well to the behavior of their students and will have a good level of nature light ,all of these were done to enhance the declining sensorial and cognitive skills of students in these studios , also help to create a safe and pleasant environment for students , these papers will be good guide for researcher who search in designing interior spaces of studios in globalization ,as it make link with environment behaviors research to the phenomenon of logical approach to architecture which employs places as central ideas of inquiry.

## 1.Introduction

The studio designs with human behavior considerations is distinguished concept into strict methodology .(4: p25) This consent of studio designs and its relation to lights Consider new technique Which have strong impact on human behaviors which don't interest In the previous researches studies .

This can be done by making good balance between three basic items like studios designing, lighting and human behavior , as we find good studios must select suitable lighting that help in improving behavior of individuals , these lead us to suppose this studying to reach to suitable Lighting for designing studios with good impact in individual behaviors which affect directly on their creative and interesting in the work . 1

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In subject , the first step at beginning of design is how to know the human Behavior and physical tensions of Individuals with its factors with the study of psycho vision by the style of different kind of lights.

For justification this , we must have a deep understanding of individuals , our study must connects notes on social, Psycho, cultural , and environmental needing which give agreed on attention to socialist , the designer must begin at this point with its factors by regarding this diagram in table .(25: p1-408 ).

There are many ideal solutions about good lighting depending on computer processes by good exploitation of spaces for traces of lighting on human behavior ( **Augustine 2009** ) and Interior space at some studies presents psycho extensions we can benefit from balance with usage of good instrument for expression of this by statistical schedules with direct effect on individual behavior at different time of day .How to treat with reflecting lighting problem with many evolutions and accounting measurements by usage of studies ( **Katakana et .al** ).

## 2.The problem

The basic problem is how to design studios interest in Interior design in regard to important role of lighting at creative work with saving of adequate quantity of light to proactive works within by connection of material with social needing by defined methodology in usage of suitable lighting at every studies which create invention , activity with good control of light conformity by certain system at every environment agreed to nature of every surface and size of light by accounting of Influx force from Interior spaces from walls Ceilings , grounds into design studies with entry of regular sun ray.

Diffuse filter with homogenous and tries to applied in transmittance building by using suitable materials and controlled sunlight Which creates a desirable ambient light with skylights which considered as constant emission through an experiment this produces intimate special quality between natural sources and artificial light source overtime . (6: p648-694).

Because they scatter lights homogeny curly can also be considered as lame bestiary emitters, however, the difference between these sources and an artificial Light source are that the emission varies over time.

By good usage of light at every study into ideal distribution which assists in creation of good environments for control of artificial light with its traces of students behavior agreed to reflect surfaces , material from walls, grounds on by factors of furniture within every study .

## 3. Aim of study .

Present solutions to Problems of design in globalization age relate to lighting , study the correct places of Lights source , its direct efficiency , and influx , we suggest to achieve that by fixing photo in different places of studios.

### 3.1 Control in lighting color affect in enhance quality of behaviors at studios for Individuals .

This section suggests the natural light in studios design as shown reflected in the scene (see Figure 4). In a second step, another optimization problem is

solved, ignoring all of the variables and constraints related to the skylights, involving only the variables related with the artificial emitters and considering the panel's constraints, The goal of this problem is to minimize the light power of the artificial emitters (see Figure 4 (b)). In Figure 4(c), it can be seen the position and shape of the skylights and emitters determined using the two-step process are shown.

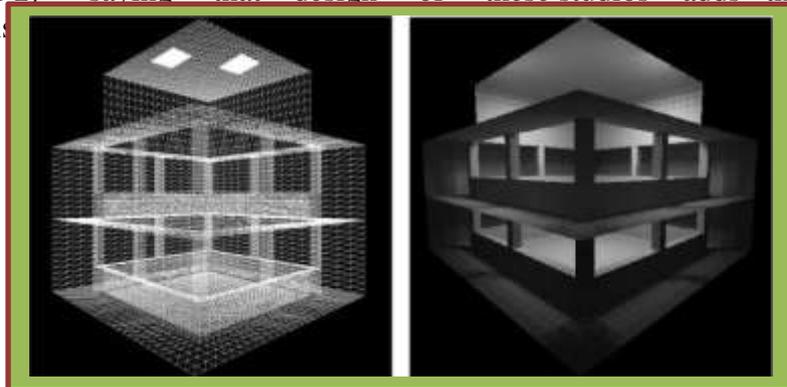
Figure 3 shows the solutions found by the two - step process. The green '+' are the solutions found by this process, and 719 the black '-' set is their corresponding Pareto front. The two -step process was executed 50 times, with 20000 iterations each. (7: p 29-46)

Many of the 50 solutions found using the two-step method are better than (i.e., not dominated by) the -constraint Pareto front solutions, but the two - step method is concentrated in one extreme of the Pareto front . These results show that the Pare to front found contains rather good solutions and good diversity and also show that the two-step method is a very effective approach to finding solutions that meet specific design goals. Close Pare to front solutions can be caused by very different light source configurations. In Figure (3)(b), the two- step Pareto front is located in a narrow range of powers , and Experiment 4 shows that solutions with almost the same light power.

#### 4. points of study .

##### 4.1 Studying good Lights and its affect on create good human behaviors.

There are no studies in this field assist researches to learn the merger of this research and human environmental behavior of individuals . ( **Alexander 1985** ) assured on role of engineer and forces on interior design despite to environmental aspects but development of technology and its digital was against human behavior , we facilitate this missions to be follow by designers at following researches which suit its abilities success that adds human , social aspects to interior design agreed, ( **Hertz buyer 1991**) saying that design of these studios adds the personal style which assi



5:Different impact of lights in studios . Figure

The lighting is the principal rule in studio design which saves good area for new concepts which recalls to re planned Of lighting theory for the success of these items in higher style .

We concentrate at this respect on effect of lighting and its use in Design by suitable distribution Of every space at time of execution with execution of the required missions with the connection between some of natural light and industrial lighting by

saying of ( **Norberg - Schultz** ) about a connection of behavior of environmental studies with a logical method within Interior design . (3: p 81-92)

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#### 4.1.1 Faked lighting at surrounding environment and its effect on man health .

There are many styles of industrial lighting which cause a bad effect as injurious for usage this style on man Health and level of the production , many types of research assumed as usage , of the industrial lighting , but this lighting injures on Man health, but we can use it in suitable style depending on spaces . (25: p 1-408 )

#### 4.1.2 Limitation of Artificial Lightings into Design .

The agency of British health protection issued concepts that the artificial lighting cause a possible injury on family which affects on happening of social healthy problems to individuals ,We show at table (2) summary of these problems on the man health .

|                            |                          |                         |
|----------------------------|--------------------------|-------------------------|
| Aggression                 | Dental caries            | Headaches               |
| ALS                        | Dizziness                | Hyperactivity           |
| Attention Deficit Disorder | Dyslexia                 | Irritability            |
| Autism                     | Dyspraxia                | Learning difficulties   |
| CFS/ME                     | Eczema                   | Lupus                   |
| Cancer                     | Electro-hypersensitivity | Reduced muscle strength |
| Reduced concentration      | Epilepsy                 | MS                      |
| Confusion                  | Eye irritation           | Nausea                  |
| Diabetes                   | Eye strain               | Photosensitivity        |
| Dermatitis                 | Fatigue                  | Xeroderma pigmentosum   |

shows problems that fluoresce

The negative effect of lighting towards health of individuals especially alongside long hours which reflect bad health and reduction of their age .

#### 4.2 The relation between lighting and human behaviors.

Some studies showed traces of lighting on performance standards change and its applications on trouble with semi concordance among scientists since ( **September 1991** ) that necessity of ideal lighting at short , long range for man health .

( **So Ciety For Light treatment and Biological Rhythms, 1991 b-u-s Congress ,1991** ).

With many field tests about the efficiency of shining light as attention for individuals. The Interior light of the eye allows a physical ability of visitor, the human race depends on optical knowledge, by scientific study to optical mechanism recalls

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to improve our sense with surrounding environment like study of **(Binkley 1990)**. **(Asch off,Reiter ,198 , a )**. (5: p293-296)

The environment of lighting is the principal drive for regulation of daily rhythm by a good hormone, Remo response which encourages us to study light traces on functions of organs mood behavior which has the important effect on quality of special production of individuals, as users of these spaces.

Some scientists like **(Score man)** assured on change of sensation standard which affects on students behavior at these studios agreed to the reflecting light on their eyes and their senses. (18: p 39)

But the term (bright) is the optical sense and usage of lighting in multi levels has its effect on vision, but the usage of light 2500 at fresh air is faint in comparison to the time of day in multi degrees.

Some studies concentrate on light traces on males forward green light during light with some experiments with their colleagues on their eyes and results concentrated on efficiency of the light on human hormone - like saying **(Brainaid et . al 1988)** **( Suppression on of melatonin )**.

Some scientists assured on development lighting systems into multi- density on hormone of men at 60-80% which has a negative effect on humans and animals as well about efficiency of the light in our living the biological traces of vision like **( Costa )** saying about traces of light on Individuals behaviors and reflecting of light on vision, eye by efficient usage of spaces. (10: p 89-104)

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#### 4.2.1 Bad effect of Light on Individuals .

Within previous years , studies of light usage related to recovery of depression anxiety like studies of ( **Rosenthal el,1990, Daws on et al ,1989** ) at the field of sleeping troubles recovery by control of light at Interior spaces .

( **Yerevan et al,1986,Kripke et al,1989** ) Some individual suffer depression by traces of light we can use it for reduction of certain pains which effect on organs , some studies concentrated on lighting with reduction of long air trips troubles within studios of ( **Dean and Lewy 1984 .Wever 1985,Cole and Kripke ,1989** ) The principal results may be positive toward Individuals behavior after control of Interior biological of travelers . By the study of work style into many shifts by development of the light strategy for improving performance for laborers . At night ( **Czeisler et al,1990** ) studied system of light at labs agreed to biological conditioning , human performance under different light but 7000-12,000 lux like white florescent during ours of working effect on their biological aspects when they test darkness at night , studies showed that white florescent at certain times effect on stander of performance of laborers and speed of biological clock modification by studies of ( **Society For Light Treatment and Biological Rhythms , 1991, Dj Campbell and Dawson ,1992,Edtmsn ,1990b** )

The principal purpose OF finding as instrument for improving biological clock during the day and benefit of relaxation with experimental Methodology within 3-5 days and tests its efficiency on biological clock within day hours .

Some experimental studies concentrated on direct traces on light of light traces at one night during work and efficiency of lighting on performance , in 1990 some studies concentrated that its efficiency on youth volunteers who use computer for 15 hours in day with short break for meals but for laborers under level lighting under 3000 level between 6-18 hours , the result assured improving at behavioral performance in comparison to other testes .

(21: p 34-79)

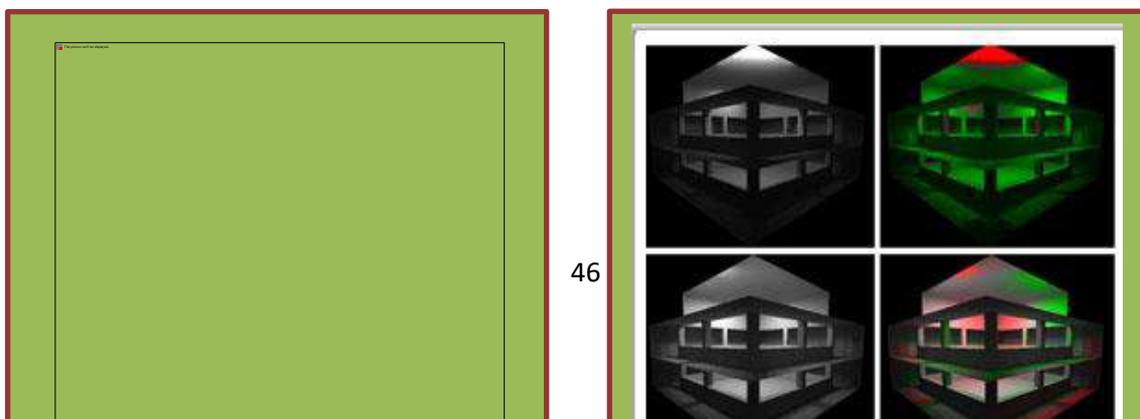


Figure 6: dark lightsFigure 7: bright lights

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The reflecting behavioral traces on individual have the statistical difference on body heat, plasma, levels, melatonin stander during direct lighting .

Other studies indicated to some youth who work 8-21 hours \ day under white lighten 5000 lux expensed better performance in behavioral missions in comparison to other under different extensions . This studies showed the efficiency of lighting on body heat , melatonin and biological change and hormones with exploitation in improving behavior tests, other studies experimented the traces of light as an improving of the performance of individuals . (18: p 44-100)

### **4.3 Design of studies by limited specifications conforms to behaviors , physiological nature of Individuals .**

Some deficits showed from some designers due to developing studies design with concentration on studies structure which needs necessary courses of the art introduction , the engineering required studies .

By execution of little , midi projects designs from students in imitation of surrounding nature at civil area for new designers and interest in this function with factors of boss body , environmental design with other factor like technics show systems of building at pins academic term about Interior design on midi projects design like nursery , small houses and behavior of individual the users for these buildings .( 22: p 231-262)



tabel 3: shows the new curriculum of Interior design courses .

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## **5. Suggestive solutions for Interior design of studios in globalization age.**

Individuals at these age use technology and link it with interior elements in surrounding environment to practice their mission perfectly . We suggests control places that can be created which will have the ability to our pleasant feeling by using nature lighting from open places between studios which help them to have enjoyable time in studios to do their works , comfortable and imagine a small shallow pond by elevated earth covered in grass at center of site could be used as natural item among a variety of views across water which create lighting affecting in good condition , so we carry in choosing in facilities available for students , we aim economical solutions , much light as possible , satisfying could be beneficial across all dark positions at times of the day . ( 26: p 355-364)

In a variety of this work with the account at daylight change this subject is left for future work .

Sunlight which creates desirable ambient light and these kinds of skylight because the scatter light homogeny curly can also be considered Lamedertian is constant emission power (Lee 1967) demonstrates through an experiment , that sloping produces a more intimate spatial quality ) .

### **5.1 The first proposal design for Interior designer studios . ( applied in using sun light in studios )**

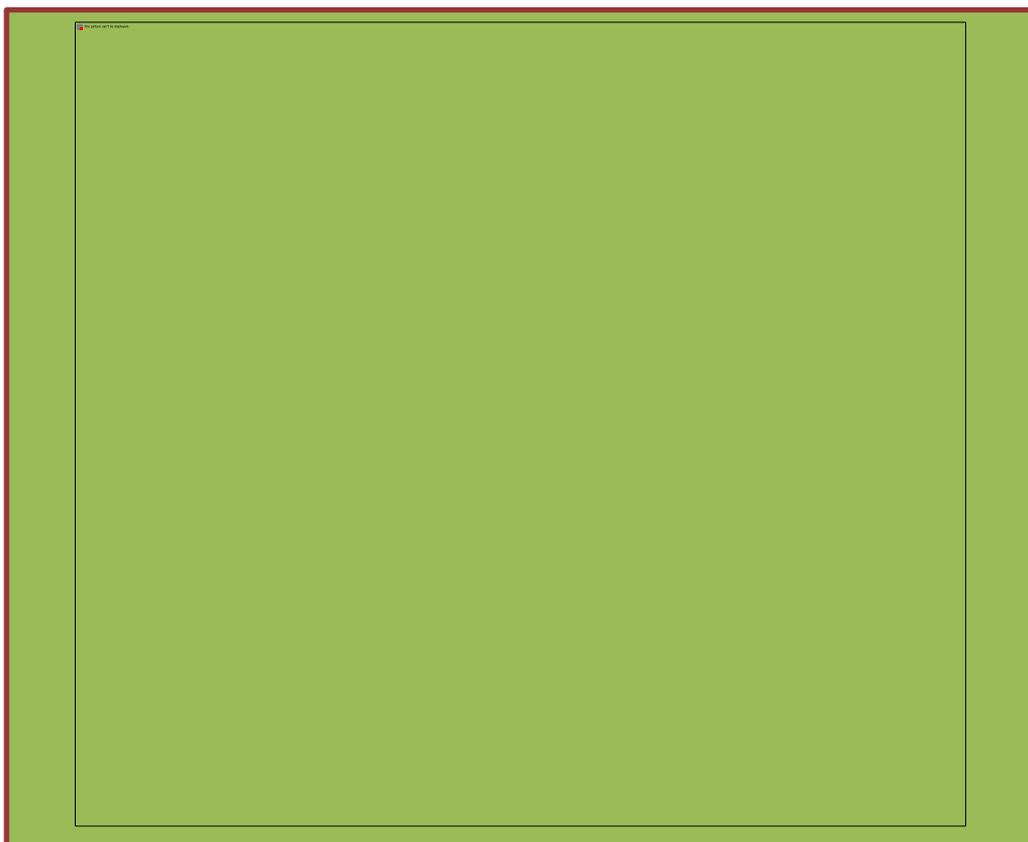
We suggest control places that can be created which will have the ability to arouse pleasant feelings by using nature lighting from open places between studios which will help

Individual to have an enjoyable time as it was also centralized that help individual in studios to do their works very comfortable and can imagine a small shallow pond bounded by a gently elevated earth embankment covered in grass to be in the center of the site . ( 24: p 461-466)

places of studios could be used a natural as possible with surrounding walk away from variety of views across the water , that could create lighting reflections from pond and green areas which help to create good condition for the individuals , so we must be caring in choosing these and must follow by all service facilities to be available for students also the energy goals are also driven in different ways , for artificial lights , We consider

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diffuse environments that are all of the surfaces have perfectly diffuse materials with on specular Component Area light sources are also considered as lambert , with constant emission power for roof – skylight sources , we consider that a diffuse filter with a homogeny Transmittance coefficient is used . This system provides diffuse and Controllable sunlight , which creates a desirable ambient light , these kinds of sky lights , the case they scatter light homogenously , can also be considered as lambert emitters , however , the difference between these sources and artificial light sources is that the emission varies over time . ( 24: p 461-466)



s in studios .

## 5.2 The second proposal using . ( applied in using sky light in studios )

Ideally you would want a North facing window above your easel at about  $35^\circ$  angle from your canvas, so you get directional light on the canvas without getting glare. ( 24: p 461-466)

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Glare is most prominent if you are painting vertically with oil paints. we must aim for the most economical solution, whereas for skylights , in general , we aim to obtain as much light as possible , satisfying geometric restriction , when design daylight system, it`s beneficial to consider the solution across all sun positions ( time of day ) and climatological conditions



Figure 9 :notice the position of the easel in relationship to the window

( sunny or cloudy ) .Although this variation is an important issue for this work , we consider only the average of all of the Intensities , however , our mathematical work can also take into account dynamic daylight changes a further Development of this subject is left for future work . ( 2: p 97)

If you have a large North facing window that is low (like Cezanne’s window light in his studio above) you have to be aware of bounced light. This is where light from outside is coming in from the bottom of the window and then hitting the top of the ceiling in the studio – reflecting light from the ceiling down into the space. ( 8: p 188-195)

If you’re trying to create a strong directional light effect, the reflected light from the ceiling can lessen the strong contrast, also, if you have any colour on the ceiling this will be reflected into your studio.

You just need to add a ‘hood’ over the top of the window to stop the light spilling up into the ceiling. It’s like adding a barn door to a photography studio light – you’re just controlling the light coming into the space. Depending on where you live in the world, the intensity of the light will vary, so a bright summers day in Italy, will be much more intense than a summers day in the UK. ( 10: p 59-78)

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Figure 10 :The side of studio is North facing so 3 large Velux was installed.

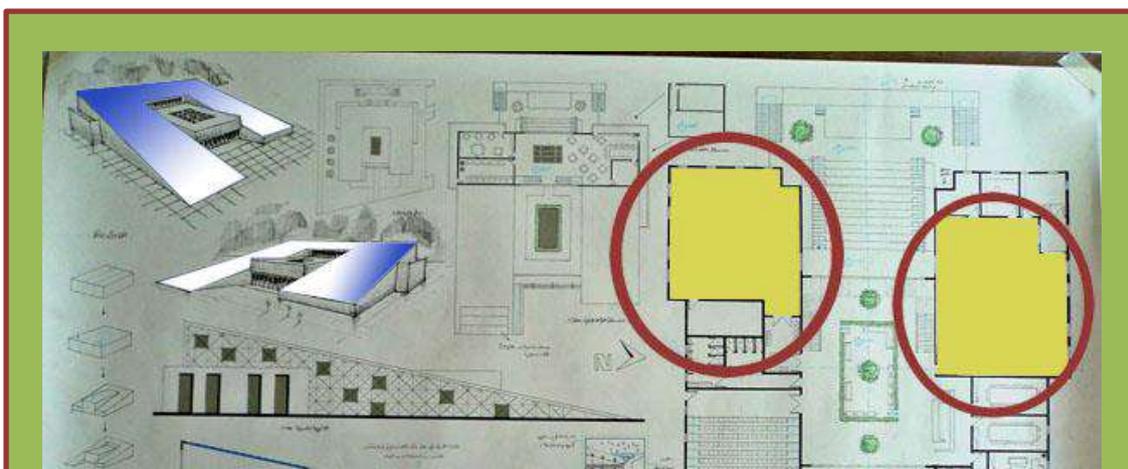


Figure 11: glasses were installed in studios .

The interior model for lighting design which reflects surface are already defined , the user first configures the parameters to find the time solution these parameters specify where put the light sources as well as the variables to optimize ( source position , size, and emission ) . ( 11: p 56-82)

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Tabel 4: Pipeline system( 13. p 529-551)

## 6. The Conclusions

- This study showed new methods of using lights efficiency in globalization age by using lights to serve the human behaviors of individuals in studios of Interior design .

- This study showed models acts for connection method for every student at field of intention design Of users (**Alexander 2002**) . ( 1: p 409)

-The researcher connected the building with peoples for expressing the lost scenes in good design effects on users behavior like colors , voices .

- We concentrate on lighting assist us to space with enforcement the physical talents of individuals by a creation of enjoyable , safe environment . ( 12: p 1253-1259)

- Under concentration on mix of design with nature which help in activities development with much advantages as communication among environment with behavior at logical methodology which enable place, clear audit acquires in concepts approach in regard to social psycho aspect which justifies creative works . ( 13: p 233,667-671)

- The Interior activity is not hindered in pursuing this approach , This paper expenses vigorous lighting by many ideas which require more refinement in dynamic quality in good usage of spaces at the scope of the design .

- We need to deepen another research to establish relations at every study by usage of light available, At every location in regard to social items studies (**Lees 1976**) demonstrate the

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Ideal experiment for best usage of spaces by intimate spatial quality available for students who are conscious for these designs approaches . ( 14: p 55-62)

- In fact it was demonstrated that an Interior`s activities are not hindered in pursuing a research -based approach , a common misconception that determines Interiors to employs researches . ( 19: p 1215-1217)

- The paper acknowledges that the project needed more rigorous testing of the ideas of co-relations assumed in creating individual places , it requires more refinement about how they generate the names and assuaging qualities claimed to be present in the spaces in the scope of the design studio, it requires independent researches to establish relations between design of studios and how to use lights to make good design for the user`s behavior suchJ information is sometimes available but the designer students need guidance to locate such—information when located , they can apply them in design more consciously deliberately and skillfully to address social issues , for example ,(Lee

1976) demonstrate through an experiment, that sloping ceiling produce intimate spatial quality, such information must be more available to the designer students they need to be also taught socially conscious design approaches. (15: p 329-331)

- This study concentrates on studies of a behavioral environment at private studios, subjects of Interior design with suggestions for other researches at this respect about theories of spatial Interior design of surrounding environment with a proposal of special activities in high efficiency. (17: p 342-356)

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