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Stidsen, Lone; Kirkegaard, Poul Henning; Jensen, Rasmus Lund; Fisker, Anna Marie

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Lighting quality in wards

Design parameters for a pleasurable light atmosphere

Lone Stidsen
Poul Henning Kirkegaard,
Rasmus Lund Jensen,
Aalborg Universitet
Department of Civil Engineering
Sohngaardsholmvej 57
DK – 9000 Aalborg, Denmark
+45 31 23 70 08
ls@civil.aau.dk

Anne Marie Fisker
Aalborg Universitet,
Department of Architecture and Design
Gammel Torv 6, room 306
DK – 9000 Aalborg, Denmark

ABSTRACT

When constructing and designing hospitals of the future patients, staff and guests are in focus. Designing a healing hospital environment is a very important factor when planning new hospitals. How can the aspects such as design, architecture, arts, lights, sounds and materials support and improve the patients recovery and the satisfaction of staff and guests? Literature and research on this problem is full of contrasting theories, myths and contradictions and a lack of understanding the interplay between different design parameters in an integrated design. [1-5]

The physical settings, the furnishing, the acoustics, the light – daylight and artificial is essential when we evaluate the environmental quality. The light is crucial for the experience of safety, mystery and wellbeing in a physical and psychological way.

Because of the wards complexity, it is an interesting architectural space to design. It has a range of functions to facilitate. There are many users with different needs. The ward is the patients home, the place they have dinner, they sleep, the relatives visit, and at last it is the office where the doctor do the ward rounds. It's a public domain with a lot of references to the design for the private sphere as a home.

DESIGN PARAMETERS FOR A PLEASURABLE LIGHT ATMOSPHERE:

To achieve an attractive experience of the space and to design a qualifying lighting design for the wards, it is important to identify the parameters that influence the experience of light. What are the functional and sensory preferences for the different users, and how can we achieve a pleasurable atmosphere in wards?

Users We use all our senses when we experience and enter a space. We are using all our senses at the same time, and trying to connect the information's from the senses. We try to create a line of sensory information. The body doesn't only rely on the senses, but attempts to form links between the senses - a sensory integration. Lighting design judged excludes only a visual experience, but also the visual light experience conjunction with the other sensory perception. Consciously or unconsciously we decide whether we like being in a room and thus relax, or whether the body must adapt to the surroundings. and the idea of wellbeing, and a sense of safety. The users of the ward can be divided in to three groups: The patients (even more accurate separated in two groups adult and children), the staff (doctors, nurses, cleaning staff), and the visitors (family, friends)

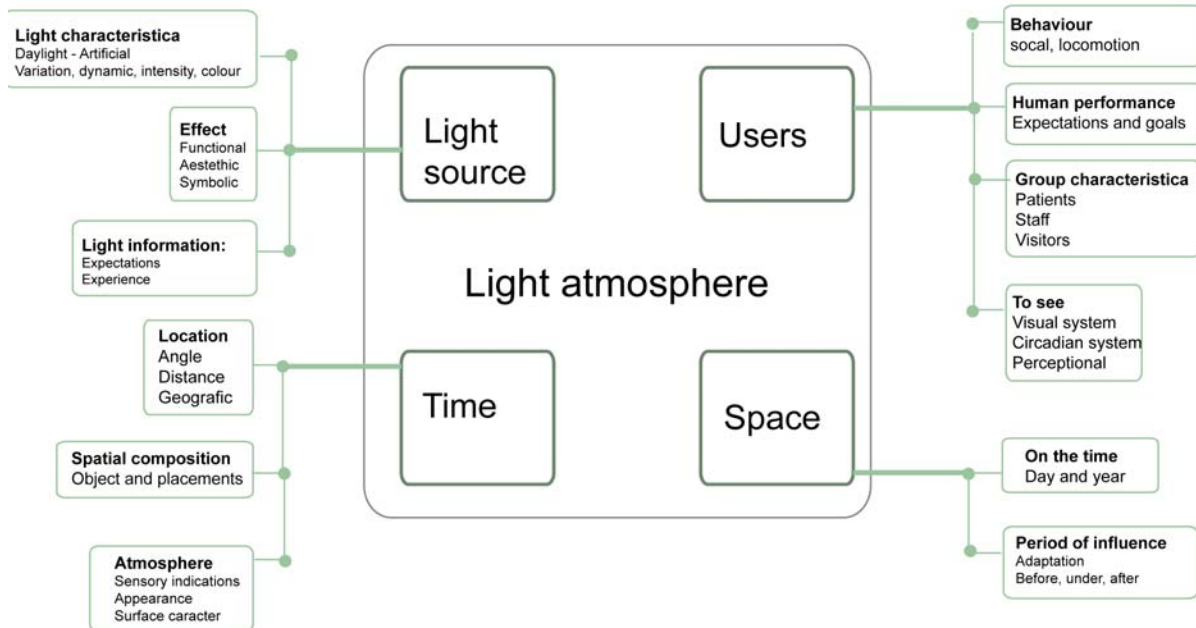
- The patient experience of hospital stay is obvious important. A stay in a hospital contains some fear and uncertainty of the future. The patients have different needs and expectations and the stay should facilitate the patients feeling of anti stress, to be comfortable and safe. They should feel seen, and the surroundings physical effect is important for the patients recover process. The opportunity to be private is important. [3+6]

- The staff. The environment must supports staff professional examination, dialogue and communication with the patients. The staff needs are easy workflow and space to do that job. If there is a space for them, there are more profits and space for the patient.

- The visitors. It is important that visitors have a good feeling about being with the patient in the wards. Different cultures use the wards in different ways. Some have many visitors at the same time, some few.

Space The spatial composition, the connections between the materials, acoustics, the thermal environment and indoor air quality is important for the perception of space and the experience of atmosphere. Material is an important factor because it reflecting the light, and therefore has an influence on sensory perception of the space. The angle, distance and geographic orientations is important to take into consideration.

Light source The artificial light is the substitute for expectations and actual experience of space, and produce



daylight. The effect of light can be divided in different categories: The functional, aesthetic, and symbolic effect. [7] By upgrading the quality of lighting design in wards and promote the sensory similarity, the users mood can change. The ward atmosphere can be changed in relation to users perception and thus provide the user with opportunity to control the surroundings and be "masters in their own house".

The main focus is in the poster presentation is on the dynamic light and the sensory light qualities.

- is there a connection between our daylight experiences and the way we use artificial light in our surroundings? Is there a greater likelihood of achieving wellbeing when we see consistency in the dynamics between daylight and artificial light?

- is the lighting designs effect different between unlike cultural experience of dynamic light?

Our familiar understanding of light and our culture of using the light affect our assessment of the surroundings. To reach attractive surroundings we should acquisitions the consistency between our expectations and our experience.

THE APPROACH

The objectives of the poster presentation are

- to identify the important factors for quality of lighting design at wards using a polyphonic analyses model. To define the importance of the users preferences or task performance correlation in different stages of treatments [8] and choice of light levels [9]

- to present plans for the experience of the physical surroundings in order to achieve consistency between

new knowledge about the art of light sensory qualities and the link between daylight reference and choice of artificial light.

- to outline evidence-based design research results on dynamic lighting design with a focus on the quality of dynamic light rhythms and the sensory factors of lighting design.

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