Towards a better Design: Physical Interior Environments of Public Libraries in Peninsular Malaysia

Suhaila Sufar\textsuperscript{a*}, Anuar Talib\textsuperscript{b} & Haris Hambali\textsuperscript{c}

\textsuperscript{a}Dept. of Built Environment (AP780) Faculty of Architecture, Planning & Surveying, UiTM Shah Alam
\textsuperscript{b}Dept. of Interior Architecture, Faculty of Architecture, Planning & Surveying, UiTM Shah Alam.
\textsuperscript{c}Dept. of Interior Architecture, Faculty of Architecture, Planning & Surveying, UiTM Perak

Abstract

The paper will focus on how to create a better design of physical interior environments in public libraries in Malaysia. The research will consolidate on the interior ambiances caused by selection of lightings, furniture, materials and finishes of public libraries. It will discuss on the previous studies and literature reviews which aimed to evaluate and review their opinions on the influence of physical interior environments on users’ expectations, needs and behaviors on the interior settings. This overview will help the researcher in future study to investigate on the interplay between library users and physical environment, particularly on spatial ambience and the users’ behaviors.

Keywords: Public library; physical environment; interior design; user’s behaviour.

1. Introduction

The public library is an importance as community assets. The subject that is being endlessly debated is about the future of libraries. Nowadays it is a place of knowledge acquisition, communication and socializing with other people. Public libraries and university libraries start to change the “rusty” approach
of a quiet place to a new modern place of meeting other people and using information in groups. We can also see how the architecture and interior in libraries has changed during the time. New shapes, colors and concepts are employed in newest projects and interior solutions in different libraries all around the world. According to Juhnevica & Udre (2010), the needs of users, interior space planning and physical interior environment design should be at the centre of the planning process. Future of libraries should serve multiple roles communities and society. However, the success of the design will be achieved by the user’s satisfactions on how the physical interior environments influence them. Latimer, K. (2007), points out that, user space needs to be well planned, welcoming and attractive as the role of the physical library and the needs of users change in the 21st century. The importance and interest of the study is to show that such issues as interior design and architectural solutions can be important in creating appropriate and friendly place for library users.

2. Background

According to UNESCO (1999), shows that the report of reading habit among Malaysians were only read a couple of books a year. This report shows that, we are far left behind contrast with other developing countries. This obviously shows that the reading habits among Malaysians was still low and need to be generated with more consolidation for improving and in producing knowledgeable society and community. When it comes to the public library scenario in Malaysia, it is very different and far out to libraries in developed countries. This includes the interior design quality, comfort level, satisfaction, customer experience and the characteristics of the physical design of the interior environment. In researcher opinions, now is the time to address the issues in lack of reading habit among Malaysian and to recognize the reason why Malaysian people not interested to visit libraries. It may be related to less attraction to visit, lack of facilities infrastructure and less comfortable in interior space.

UNESCO’s statistics (2009) also placed Malaysia at 11th (of 137 nations) that allocates a huge budget for national education. In the effort to create a society with knowledge, not only formal education comes into focus, instead inculcating reading habits is among the core values of a society with knowledge. Here, the role of the traditional libraries as bookstores of information, a quiet and bored place to visit, now becomes a place of acquiring knowledge: through socialization, communication, in a relaxed interior space. Despite the developments of accessible information and the “online” technology today, the physical library is still important as a public building that facilitates the acquisition of knowledge.

In some countries the library may be the only physical space for learning and sharing information in a non-institutional context. Other societies offer a wide range of possibilities and it becomes crucial for libraries to deal with different partners in lifelong learning and education. High-tech learning centres have the potential to become attractive working environments for the internet generation when they integrate technology in an appealing overall picture with communal and social spaces. The open learning space at last can serve the knowledge societies by offering low intensive and collaborative meeting places for their communities. The ideal way would be a comprehensive, multifunctional space combining all three approaches beneath the same roof. A library built and organized with this in mind could become an attractive place for informational participation and lifelong self-paced learning. (Eigenbrodt, 2009)

Furthermore, the development of library building concepts should be evolutionary with new inspiring design and features appearing as the changing needs of the people. Library design is not only about the exterior envelope but is also about practical and exciting physical interior spaces and environments. One of the most important aspects for designing a library is to consider the physical interior environments which comprises of interior space planning, and interior ambience such as selection of lightings, furniture, materials and finishes.
The research questions of this research are:
- What is the physical interior environment should be considered in designing public libraries?
- What are user’s expectations on physical interior environments in public libraries?
- How well the physical aspects and design of the public library had catered to the needs and expectation of users?
- What are the key criteria to achieve a better design in physical interior environments in public libraries of today and future?

The objectives of the research are:
- To study and explore on the various functions and related of physical interior environments in public libraries.
- To study the factors that related to the user’s expectation on physical interior environments in public libraries.
- To study on user’s perception and behaviors towards the physical settings of interior environments in libraries.

Significance of the study is:
Firstly this study evaluates the physical interior environments through expert views, user’s perception and their needs. Secondly, the study will improving the existing guideline and information which are produced before by the National Public Library, Malaysia (NPN) and Malaysia Public Works Department (JKR) in order to establish a key criteria of physical interior environment to achieve a better design of public libraries in the future. The study also will be based on evidence base design; which study on user’s behaviors towards the ambience of interior environments.

3. Literature review

This paper will begin with a review of the recent literatures in the field of library building design. The discussions will be consolidate on the definitions of public library, what are the criteria of physical environments which regards to the interior ambience such as various functions and importance of physical interior environments in public library, and the impact of the interior ambience and physical interior environments which influence human behaviors and user’s experience.

3.1. Definition of Public Library

Generally, library is the central sources of knowledge and information have the same basic objective of providing services to disseminate knowledge and provide reference materials to customers who need the service. Libraries in the digital age of today, not only physically as a space for knowledge, but also a place for individuals or groups come together to explore, learn, meet, interact, socialize as well as enjoy democratic access to resources and information. Therefore, providing a comfortable space, meet the taste and satisfaction of interior space and physical environment in general is very important to attract users to come and use the library services.

According to UNESCO (United Nations Educational, Scientific and Cultural Organization), a public library is defined as the local centre of information, making all kinds of knowledge and information readily available to its users. The services of the public library are provided on the basis of equality of access for all, regardless of age, race, sex, religion, nationality, language or social status. Specific services and materials must be provided for those who cannot, for whatever reason, use the regular services and materials, for example linguistic minorities, people with disabilities or people in hospital or prison. All
age groups must find material relevant to their needs. Collections and services have to include all types of appropriate media and modern technologies as well as traditional materials. High quality and relevance to local needs and conditions are fundamental. Material must reflect current trends and the evolution of society, as well as the memory of human endeavor and imagination. Collections and services should not be subject to any form of ideological, political or religious censorship, nor commercial pressure.

According to IFLA (Institute Federal Library Association, 2007), a public library is an organization established, supported and funded by the community, either through local, regional or national government or through some other form of community organization. It provides access to knowledge, information and works of the imagination through a range of resources and services and is equally available to all members of the community regardless of race, nationality, age, gender, religion, language, disability, economic and employment status and educational attainment.

McCabe & Kennedy (2003), add that the public library is a place that belongs to everyone. New libraries often are arranged like bookstores, and many offer light refreshments that encourage customers to linger. Libraries are increasingly becoming places for interaction, and most new ones have meeting spaces, seminar rooms, and sometimes performing-arts spaces and galleries. All of these activities and attractions make the library a desired destination and increase the square footage needs for new libraries.

According to Rooney-Browne (2009), she points out that the public library spaces should transform into vibrant, welcoming destinations; exploiting new revenue streams; attempting to establish spaces in virtual communities; and with the help of a SWOT analysis. SWOT analysis is refer to S-strength, W-weakness, O-opportunity, T-threat.

3.2. Physical interior environment

Physical interior environment are one of the major issue that have been continuously debated and discussed in order to create a better design and attraction to the users. McCabe & Kennedy (2003), point out that, a library building must be attractive and aesthetically pleasing to the eye. Internally, it must be functional and current in the use of technology supporting services to its community. Architectural design features provide for the physical appearance. The descriptions that follow will appear to meld issues of attractiveness and effectiveness, because sometimes they are inseparable. The descriptions are applicable both to new buildings and to buildings requiring renovation.

The physical environment encompasses both architectural elements such as physical layout, furniture, and equipment and visual sensory elements such as color, texture, and lighting. These two aspects, in conjunction with ambient factors, create the interior environment. (Bitner M. J., 1990). In an upscale restaurant, for example, patrons expect well-prepared food and attentive service, but they also expect comfortable seating, mood-setting lighting, pleasant or luxurious décor, soothing music, and an opportunity for social interaction. In these situations, the emotional components of the service setting become more important and can strongly influence the consumer’s ultimate assessment of the quality of the service as a whole. (Jiang, 2006).

According to (Anandasivam & Cheong, 2008), the biggest challenge is to gain more teenagers and young adults to the physical library. The library needs to become “cool” and comfortable so that teenagers could consider it as a good place for meetings and hanging out together. Young people prefer comfortable workplaces and more freedom to move around and explore the space; they need a place to use their laptops and different zones to work. Many young people prefer to work in open space workplace together with others but still some of them want to work in silent rooms. There is also a big need of silent rooms in the library, cited in (Juhnevica & Udre, 2010).

Furthermore, the libraries need to have all technological equipment to make working in the library as easy as possible (Childs, 2006). Users need to have approach to printers, scanners and electronic
catalogues. Also the planning of the space in the library is very important so that users would not feel lost. The best approach is to plan all storeys in the same way. There should be different zones for different purposes – reading, web browsing, group works, references and recreation. There are many interesting ways how to make library building more comfortable and cozy, (Juhnevica & Udre, 2010).

3.3. Physical interior environment criteria’s and parameters

In designing a better way of physical interior environments in public libraries, there are several criteria and parameters that need to be taken into account. The physical environment comprises of elements of interior such as physical layout, selection of furniture, and equipment and visual sensory elements such as color, texture, materials, finishes and lighting. These two aspects, in concurrence with ambient factors and creating the interior environment. On the other hand there are modern libraries which have a lot of open space, nice and comfortable furniture like sofas and armchairs, coffee-tables and many computerized places or workspaces for users to work with their laptops. Most of the libraries have free Wi-Fi Internet access, electronic catalogues and other technical equipment to make library functions more available for a greater range of users. It all matters when we look at latest trends in library interior and design. (Juhnevica & Udre, 2010). All senses can be involved – music, nice but not annoying smell, good lightening, comfortable furniture, pictures on the walls and many other things can make users feel welcomed. Variety of different furniture, different zones and places to gather or be alone can provide different types of users with just what they need. The library might become a very good place for exhibiting art and at the same time it could create a special atmosphere and make the library more dynamic (Anandasivam & Cheong, 2008).

3.3.1. Color selection

To begin, as McCabe, G. B. (2003) puts it, should study on the psychological effects of color. Dark colors may subdue excitable behavior, bright color will stimulate. According to Gold Coast City Council Branch Libraries (GCCC), 2007, a contemporary approach to color and materials selection should be adopted so as to evoke an inviting and friendly image with a sense of efficiency, coupled with a stimulating memorable building experience and civic presence. The new library building should demonstrate a clean line aesthetic, backed up by a layered, textural and timeless approach to the colour and materials palate. Colour should be incorporated selectively and based on a neutral ‘background’. Colour may feature on elements such as selected walls and partitions, the fabric selection for furniture and the use of graphic elements to clearly define distinct areas of the library. Colours and finishes should be appropriately selected to reinforce the appeal of the spaces to the designated user age group, while seamlessly meshing with the total concept of the space as an inviting, stimulating place to visit. Nowadays there are more bright colours in the libraries.

3.3.2. Furniture and equipment

Variety of comfortable furniture and different furniture, different zones and places to gather or be alone can provide different types of users with just what they need. (Anandasivam & Cheong, 2008).

Standard Shelving - The consultant and the librarian will calculate the need in linear feet for bound volumes with an allowance for growth. This figure will be converted into shelving units, single or double faced, and in heights ranging from 42", or about 60” to 66”, to full 84” and 90” heights. The shelving preferably should be steel. Some librarians may prefer the lower height shelving choices with very few units, if any, above the 66” height. The preferred unit has the base on the floor with shelves above.
based shelving isn’t recommended for two reasons: losing the lower shelf and the difficulty in cleaning under them. If the ethnic make-up of the area population tends to be people of shorter stature, then the lower Furnishing and Equipping the Library and Its Environ 45 shelving may prove more satisfactory. Capacity in volumes will be lower because of fewer shelves. (McCabe G. B., 2003). According to (Gold Coast City Council Branch Libraries (GCCC), 2007), The maximum height of book-stacks is limited to 1500mm above the finished floor to reinforce the fit-out transparency and to be in line with OH&S and Equitable Access guidelines for staff and customer use.

**Seating:** Seating space is a crucial element in library design. Most public and academic libraries find that space to seat the growing user population is increasingly encroached upon by shelving to house growing collection. Library users should have a variety of seating to choose from to match their learning approach and mood at a particular given time there are essentially three types of seating: 1) Reading benches, 2) Reading tables, 3) Flexible seating. Based on the user feedback on seating, they find it convenient to form informal discussion spaces with the movable seats. Students are attracted to this area by the striking color and “cool” atmosphere. (Anandasivam & Cheong, 2008)

3.3.3. **Lighting**

Lighting can control how the library looks and feels. Good lighting is needed for study, but intimate lighting may be excellent for reflective areas. Use spot lighting for special effects. Planners of both new academic and public library buildings are also concerned with the external appearance of their facilities. In his paper on Flushing Library in New York, Gary Strong praises the curtain wall façade of the building which “allows the public to see library activity within and invites them into the building” (Strong, 2001:127). This concept of transparency remains a popular feature in libraries today, such as the Lanchester Library (Noon, 2004) and the Idea Store in Tower Hamlets, where “large amounts of glazing to enable local people to see what was going on inside were essential” (Wills, 2004:109). At the Hatfield Campus Learning Resource Centre the designers took care to build the glass façade along the northern side so as to reduce solar glare problems for the readers inside (Martin, 2004). However, McCabe (2000) outlines the various issues that arise from using a large amount of exterior windows in a library, including security and safety as well as avoiding glare and overheating. “The earth has its limits, and buildings need to be environmentally friendly as well as handsome and cost-efficient.” (Sannwald, 2007:135) The IC (University of Sheffield, 2007a) is of course one example of this – another is the Lanchester Library (Noon, 2004) which uses lightwells and natural ventilation to reduce the need for artificial light and air conditioning, and has windows carefully aligned to minimize solar gain and glare.

(Pierce 1980, 30) support that, for many years the common understanding when selecting reading surfaces has been to avoid colors or backgrounds that are either too light or too dark. In recent years black and other very dark reading surfaces on tables and carrels have appeared. Why this change? This question is worth investigating, because some serious issues are involved. William Pierce, a well-known consultant, cautions against the extremes of light and dark surfaces as well as glare: “The specifies should be cautioned about using top finishes that are too light or too dark. The too-light top is uncomfortable to the eye of the user and difficult to keep clean; the very dark top provides too great a contrast to paper; thus is uncomfortable to the eyes”.

According to GCCC (2007), lighting design in library should be considered on 1) Make lighting glare-free with a minimum level of 50 lux at ground level. 2) Eliminate glare, illuminate signage and highlight level changes. 3) Provide uniform illuminance levels internally and comply with the requirements for maintenance illumination in all circulation spaces, including publicly accessible areas.
4) Provide a minimum illumination of 40 lux, uniformity of 0.3 and an average maintained value of 120 lux. Provide a graduated level of illumination at building entries and exits to assist people with vision impairment. Provide a minimum of 50 lux outside the entry or exit. (5) Provide adequate focused lighting for sign language interpretation for people who are deaf/hearing impaired in conference rooms, meeting rooms, auditoria and the like.

3.4. Ambient and psychological aspects of the physical interior environment – affect the human behaviours and perceptions.

It also should also consider on how elements of the physical environment influence human attitudes and user’s behaviors. According to Shill & Tonner (2004), points out that some previous studies and surveys on usage and library design have indicated that the design of the physical environment can have significant impact on library usage. Research suggests that the physical setting may also influence the customer’s ultimate satisfaction with the service, productivity, and motivation (Bitner 1990; Harrell, Hut, and Anderson 1980). According to Darly and Gilbert 1985; Holahan 1986; Russell and Ward 1982; Stokols and Altman 1987) in Bitner, M. J. (1992), add that human behaviour is influenced by the physical setting and interior environment in which occurs is essentially a truism. Interestingly, the field of environmental psychology has addressed the relationship between human beings and their built environment. Here, it is assumed that dimensions of the organization’s physical surroundings influence important customer and employee behaviors. According to (Mehrabian and Russell 1974) cited in Bitner, M. J. (1992), that environmental psychologists suggest that individuals react to places with two general, and opposite, forms of behavior; approach and avoidance. Approach behaviors include all positive behaviors that might be directed at a particular place, such as desire to stay, explore, work and affiliate. Avoidance behaviors reflects the opposite, in other words, a desire not to stay, explore, work, and affiliate. (Mehrabian and Russell 1974). In other words, the approach of user’s behaviors in interior space (including enjoyment, exciting, exploration, attractions, stay longer and returning) are depends on the physical setting in interior environments of libraries.

According to (Bell, 2008) the literature shows that the physical environment influences customer behaviour by:

- Creating strong emotions and mood by means of the sensory qualities of the environment (Grossbart et al. 1990; Baker and Cameron 1996; Sherman, Mather, and Smith 1997; Richins 1997; Le Bel 2005; Berry, Wall, and Carbone 2006);
- Influencing personal interactions between patrons and staff and among patrons (Le Bel 2005);
- Creating a pleasurable total customer experience (Berry, Carbone, and Haeckel 2002); and
- Influencing future patronage intentions (Carbone and Haeckel 1994; Ward and Bitner 1992; Berry, Carbone, and Haeckel 2002; Berry, Wall, and Carbone 2006).

Physical environment includes sensory aspects and has the power to affect mood and emotion. Perception of the environment, in its most strict sense, refers to the process of becoming aware of a space by the acquisition of information through the sensations of sight, hearing, smell, touch, and taste. Cognition is the mental processing of this sensory information. This may involve the activities of thinking about, remembering, or evaluating the information. Spatial behaviour refers to responses and reactions to the environmental information acquired through perception and cognition. The designer creates environmental stimuli to direct these psychological stages as well as the secondary processes of motivation, effect and development. Environmental expectations, another determining element to be considered by the interior designer, are developed over time through experience and interaction with the environment. Sensations, in combination with expectations of the environment, define one’s perception of a space. The influence of atmospheric attributes in marketing contexts is based on the premise that the
design of an environment through a variety of means such as temperature, sounds, layout, lighting, and colors can stimulate perceptual and emotional responses in consumers and affect their behavior. (Yildirim, Akalin-Baskaya, & Hidayetoglu, 2007).

3.4.1. Ambient influences

According to (Bell, 2008) cited that ambient influences include the non-visual sensory or atmospheric aspects of a service setting, including sounds, smells, and temperature. The literature clearly reveals that these elements have a strong influence in the perception of service quality in hedonic consumption settings (Hirschman and Holbrook 1982; Reimer and Kuehn 2005; Jiang and Wang 2006). Hedonic consumption is based on appeal to the senses and the quality of the sensory input is directly correlated with the perception of service quality. Because these atmospheric influences can arouse intense emotions and create mood, they strongly contribute to the total customer experience (Carbone and Haeckel 1994; Le Bel 2005).

According to Bitner (1990), she points out that, although ambient influences are important in hedonic situations, they are only weakly influential in utilitarian settings. Because utilitarian consumption experiences are based on functionality and sensory influences do not typically affect functionality, the use of sensory stimuli in a utilitarian setting is at best peripheral to an assessment of service quality. Ambient music, for example, can be used to create a pleasant background in a utilitarian service setting, but this element would not be likely to strongly factor into a customer’s patronage decision. Ambient influences work in tandem with the visual aspects of the physical setting to create a complete interior environment. Ambient stimuli, by their ability to arouse emotions, are a major influence on the psychological aspects of the service setting and can provide strong clues to service quality (Bebko, Scuilli, and Garg 2006; Berry, Wall, and Carbone 2006).

3.4.2. Psychological influences

Psychological influences include emotion, mood, and attitude. Reference to emotions and mood permeate the service quality literature and customer satisfaction and perception of service quality are strongly affected by consumers’ psychological reactions (Gardner 1985; Hirschman and Holbrook 1982; Reimer and Kuehn 2005; Jiang and Wang 2006). The interior environment has a powerful ability to generate emotions and those emotions influence customers’ perceptions of service quality (Baker and Cameron 1996; Sherman, Mather, and Smith 1997; Richins 1997; Le Bel 2005; Berry, Wall, and Carbone 2006). This is particularly true in hedonic service settings. Although emotions can have an effect on utilitarian encounters, this influence is weak. Consumers’ psychological reactions are closely related to the ambient input available at the service site and the physical qualities of the service environment. Psychological influences are also related to the sense of time and to social interactions.

3.4.3. Important role of public library as a social space

According to (Bell, 2008) he cited that likewise, today’s library encourages more social interactions within the library and offers a range of group and children space. These changes in library use have forced librarians to rethink their approach to the planning and design of the library building. Many writers emphasize the important role that the library (particularly the public library) plays as a social space, and how space planning must reflect this. Lang (1999) argues that “libraries throughout history have been extraordinarily successful socialspaces” (11), and others agree that the library can help to satisfy a
“yearning for informal socialization” (Lushington, 2002:91) and is important as “a public space and meeting place” (Dewe, 2006:21).

The increasing importance of this role, particularly for public libraries, usually results in both open-plan layouts in the main part of the library that maximise contact between different elements of the community and also separate facilities like cafes and meeting rooms for community groups which can help preserve a quiet atmosphere in other parts of the building (Dewe, 2006; Greenhalgh et al., 1995; Lushington, 2002; Sannwald, 2007). In his account of the development of the Lanchester Library Noon stresses that they were creating “a kind of shopping mall where the main attraction was… the Library!” (Noon, 2004:94).

Furthermore, nowadays public libraries becoming learning space and at the same time becoming a place where users come to acquire knowledge, communicate, socialize and take a rest. The new ideas of adding a place for refreshment such as a café or small coffee bar in the public libraries are becoming an issue. Some young people would like to visit the library as they are visiting coffee-shops – have relaxed atmosphere where they can chat, study or have a rest (Pomerantz & Marchionini, 2007). However, as Hurt (2000) admits, this means going against beliefs that are deeply held by many librarians, though she was glad that at George Mason University they “broke some rules that should no longer be automatically accepted” (103), including allowing food into the library. According to Dewe (2006), these and other taboos are being increasingly challenged in 11 public libraries too as “rules about eating and drinking have been relaxed and noise disregarded” (23).

3.5. Understanding on the effects of the physical environment and its relation in producing a better interior ambiances design

Understanding on the effects of the physical environment and its relation in producing a better interior ambiances design can be found in Figure:1. Physical interior environment is one of the most important aspects in enhancing better design in libraries. The researcher found that there are four physical interior environments should be emphasized in providing a better design in libraries such as that the selection of

- Lighting - day lighting (natural lighting) or artificial lighting. The selection of lighting is based on a standard comfortable lux and luminance.
- Furniture - selection of furniture that is appropriate according to the ergonomics of children, adults or a senior citizen. It also should be according to the needs of the group or individual user, a selection of furniture such as types of seating, reading tables, bookshelves and it also must be ergonomic and appropriate to each user.
- Space planning – the interior layout and space requirements,
- Materials and finishes - choice of colours and finishes are appropriate to the furniture, wall, floor and ceiling.

The researcher also found that there are some aspects that affect emotions, mood and user’s experiences. It also influenced human behaviors and perceptions through aspects of ambient, aesthetics and ergonomic factors. Those aspects affect users to come back to the library, to stay longer and find that the library is a fun and exciting place to explore and visits.
Fig. 1. Understanding on the effects of the physical environment and its relation in producing a better interior ambiances design.

There are also some comparisons of old and new approaches of the physical library interior aspects of past and present, or the digital age. Summary of the characteristics of the old and new of the library interior are included in Table 1. The comparison is carried out by using observation of the libraries and doing source research (Anandasivam, K. & Cheong, C. F. 2008; Childs, P. 2006; Hulse, P. 2007; Pomerantz, J. & Marchionini, G. 2007; Tseng, S. 2008) cited by Juhnevica & Udre, (2010). It can be described with the research finding studied by several criteria to be considered, include the concept of the library, the interior space, lighting, colors, finishes and furniture selection.
Table 1. Comparison of old and new approaches of the physical library interior aspects. Source: (Juhnevica & Udre, 2010)

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Old libraries</th>
<th>Current/digital age libraries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept of the library</td>
<td>Silent place for studying and working</td>
<td>Active place for retrieving information and socializing with other users</td>
</tr>
<tr>
<td>Space in the library</td>
<td>Much closed space, furniture close to each other</td>
<td>A lot of open space, space to move around between furniture</td>
</tr>
<tr>
<td>Rooms in the library</td>
<td>Big silent reading rooms, separated computer rooms</td>
<td>Big active reading rooms to use personal laptops with free Wi-Fi Internet access, and socialize with other users; separated silent reading rooms; additional computers in the library; special rooms for group-works</td>
</tr>
<tr>
<td>Lighting</td>
<td>Dark reading rooms with little lamps and extra lamps on reading desks</td>
<td>Bright reading rooms with a lot of light and extra lamps on reading desks. Design features where appropriate are the use of atria and skylights and using glass windows for maximizing the use of natural lightings.</td>
</tr>
<tr>
<td>Colours</td>
<td>Dark colours (brown, gray, beige, gold, deep red, deep green)</td>
<td>Bright colours (orange, blue, yellow, green, white, silver)</td>
</tr>
<tr>
<td>Furniture material</td>
<td>Heavy wood, chipboard</td>
<td>Plastic, textiles</td>
</tr>
<tr>
<td>Desks</td>
<td>Heavy, unmovable, made of wood</td>
<td>Light, easy to move, made from different materials</td>
</tr>
<tr>
<td>Chairs</td>
<td>Heavy and hard wooden chairs, may be with leather seats</td>
<td>Easy portable and comfortable chairs with soft padding</td>
</tr>
<tr>
<td>Shelving</td>
<td>Big and heavy shelves, very tall ones with additional ladders</td>
<td>Easy-to-reach shelves, movable shelves, automatic shelves</td>
</tr>
</tbody>
</table>

4. Conclusion

It is important to understanding of the role of the physical interior environment on users’ perceptions of creating a better design. In researcher opinions and understanding, to achieve a better design of public libraries, aspects of physical and environmental criteria should be emphasized from the beginning of the planning space.

By understanding all of the influences on the perception and expectation of users on creating a better design, decision makers can ensure that their approaches to those ambient and physical elements within their expertise appropriately interact with and enhance the other influences on the total user’s experience and behaviors. It is more than just the functionality and aesthetics of the ambient and physical design, but also temporal affects, social interaction and psychological consequences. Therefore, to create and to achieve a better design for future public libraries, the various aspects of physical interior environments and interior ambience should be consider such space planning, selection of furniture, lightings, material and finishes. According to (Bell, 2008), the interior environment comprises two of these influences – physical and ambient – and strongly affects the remaining functional, temporal, emotional, indicative, and social influences. Each of these influences affects customer response both directly and indirectly through
its affects on the other influences. The physical setting is one of the most prominent and pervasive of these influences. In many ways, this statement sums up the service quality literature as it has evolved to its present state. Although physical environments comprises many factors, including the ambient, interior environment, that interact and influence each other in numerous ways, ultimately, the focus must be on the users – his or her expectations, desires, needs, and experience.

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