

The Universal Design Between Human Physical And Psychological Capabilities Within The Interior Spaces

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Abstract: In light of contemporary developments that covered all fields, the companies struggle to acquire a broad base in consumers for the products offered in the global markets. They depend on the tremendous technological development that contributed to the convergence of the nations and societies. And the designers sought to achieve the universal design that obtains a widespread among broad societal levels and segments, according to its ease of perception from all people with different abilities. The expansion of the application of the universal design includes the buildings' interior design to facilitate the interaction of individuals with the internal elements and to percept its details quickly. Therefore, the need came to define the extent to which the universal design principles can be achieved in the interior design spaces. And if it could deal with the variant human capabilities and whether its application in the buildings' interior may conflict with the fulfillment of different human needs. This research aims to clarify if it can provide the principles of the universal design that may contribute to achieving human comfort, psychologically and physically, in interior spaces, and that is through the analytical and the interpretative studies.

Index Terms: Universal Design, Psychological capabilities, Physical capabilities, Human perception, Human differences, Environmental psychology, Comfortable design.

1 INTRODUCTION

The human perception of the internal space and its contents differs from person to person, not only in the physical elements present in the place but also in the psychological feelings that are formed towards that place. Some may be able to grasp the inner space in its details easily, thereby simplifying adaptation, coexistence, and efficient practice. At the same time, some may have difficulty in recognizing the space that impedes the adaptation and coexistence required to perform its activities at home. This is even worse when people with special needs are. At this point, some sensory receptors may be unable to receive signals from the internal environment while for others or other capabilities are increasing to compensate for this loss. Cognitive and sensory capabilities may vary from person to person due to individual differences and individuals' mental abilities. Environmental psychology, which emerged in the late 1960s, is concerned with studying the psychological relationship between human beings and places. Thus the behavior associated with the practice of different activities in the environment since concern for the human environment is as important as concern for the human person himself. Through it, psychologists test how interactions between man and environment may enhance the well-being, productivity, and physical and psychological health of humans in different areas of internal spaces. [1]

2 HUMAN DIFFERENCES AND CAPABILITIES

Some believe that human ability lies in the mental ability that can control all human abilities to create individual differences among people. The researcher Campbell (1990 b) said, "General mental ability is a fundamentally significant predictor of individual differences in job performance for any job that includes information-processing tasks." [2] This capability is affected not only by one's DNA but also by the social life of individuals, including economic circumstances, background,

and acquired experience, as indicated by a group of research. [2] It led to thinking about the multi-intelligence that can manage more of individuals' strengths. That led to the emergence of the multiple intelligence (MI) concept by Professor Howard Gardner of Harvard, speaking about it as "the potential ability to process a certain sort of information" this concept which reinforces the idea that individuals have multiple intelligence. By adopting a definition of cognitive abilities that includes different types of intelligence, one will be able to identify, appreciate, and nurture more of its strengths. And he determined the number of this multiple intelligence be seven and specified it as Verbal (linguistic), Body (kinesthetic/movement), Musical (rhythmic), Logic (mathematic), Visual (spatial), Interpersonal (relationships with others), and Intrapersonal (self-understanding and insight). [2] The individual differences in the human relationship with the place are particularly evident in the interior spaces of the buildings, and through multiple intelligences based on Gardner's analysis, in the Visual (Spatial) type of quick space recognition. However, the rest of the six types may interfere in individual intelligence. They promote spatial perception if internal designs address verbal (Linguistic) by replacing writing signage with space sounds or smart systems. That relies on one's communication through conversation, and the rest of the other multiple intelligence types do as well, where the individual deals in interior space with its full potential. Hence, the role of interior design in exploiting the full human ability for the recovery of security, comfort, and well-being within internal spaces and the most efficient practicing of various activities is essential. Psychologists have identified intelligence in three abilities: learning, problems recognizing, and finally, problems-solving [2]. These capabilities are linked to human relationships with the internal space through the three steps. That can help speed up awareness of the interior space and distinguish what is essential and most important for the efficient practicing of activities by using the activity tools in conjunction with the ease of adaptation to existing stimuli that promote comfort and convenience. The human enjoys with sensory based on physiological abilities, such as speech, self-expression, spatial vision, mobility and hearing capabilities,

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mental capabilities of memory strength, mathematical issues, numerical abilities, logic, and spatial memory based on the cognitive power of the individual. It also has psychological capabilities. Part of it was said to be a sixth sense or higher cognitive abilities. [3] That may take many forms depending on the individual's personality and social and cultural background. The term clairvoyance expresses one of the psychological abilities of human beings that mean the sense of clarity and acumen, the vision of invisible things, and the meaning of them, which is not aware of our senses as the feeling of what others are toward us. It is the spiritual vision of the hidden things of the levels of perception with the future concerns that it includes: The emotions inherent toward places, people, and unknown reasons for them. [3] Therefore, human capabilities, which are abstracted from human body formulation, could be divided into physiological, psychological, and spiritual capabilities. The physiological one comes from the whole human body like the fifth senses, speech, self-expression, spatial vision and memory, mobility capabilities, and numerical abilities. Etc. The second capabilities, which are psychological, are controlled by the human brain where all the human social life and memories are stored. It contains human personality, thoughts, opinions, and memories with family and work, in addition to his experiences and gained information.etc. As for the spiritual capabilities meet the human emotions and come from the human heart such as his religion, custom and traditions, ethics and values, and the feelings and sentiment. Figure No (1)

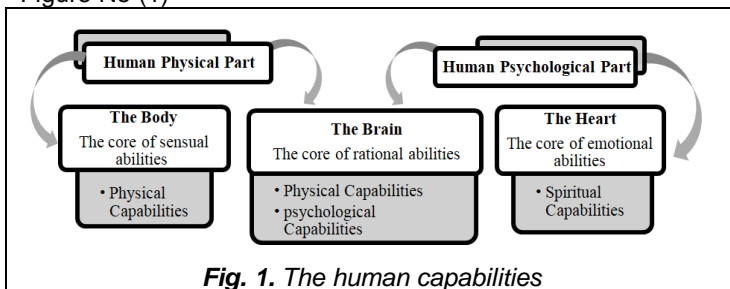


Fig. 1. The human capabilities

2 HUMAN PERCEPTION OF INTERIOR SPACES

The process of perception refers to that by which an individual selects, organizes, and interprets information he received from the surrounding environment. The internal environment of the buildings is recognized through physical communication, the five senses, psychological communication through different intuitive capabilities derived from the social background and experience gained, and spiritual communication through spiritual energies derived from the individual's cultural background. The human may communicate with the interior spaces in one of three ways or use more than one means of communication. It depends on the stimuli of the internal place and the relationship that they have to feel. It is translated by the strength of the receptors' capabilities, the memory of the individual, his social and cultural life. The interior spaces are recognized through three stages as follows Figure No. (2):

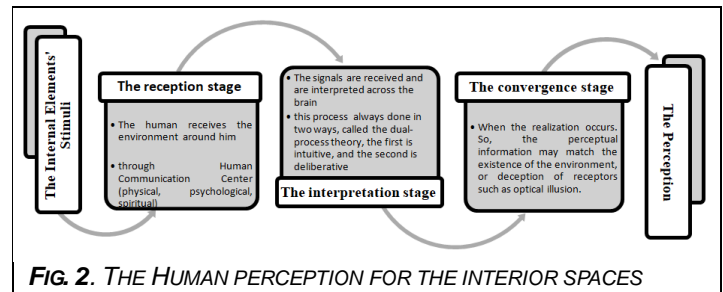


Fig. 2. THE HUMAN PERCEPTION FOR THE INTERIOR SPACES

2.1 The reception stage of information through the human communication center (physical, psychological, spiritual):

The reception stage of information through the Human Communication Center (physical, psychological, spiritual): at which human receives the environment around him. The stimuli of the internal spaces, the shape characteristics of the interior elements, play a significant role in stimulating the different receptors (physical, psychological, and spiritual). It should be noted that at this stage, not all the characteristics of the internal space are received. Therefore the number of attributes of the elements received depends on the human qualities in terms of the level of their abilities (sensory, intuitive and spiritual), age, gender, health status, educational and economical level, social and cultural background, and psychological readiness at the time of the realization of the space.

2.2 The Interpretation stage of information through the human brain:

The stage of interpretation that takes place within the human being and the information gathered from the surrounding environment that begins after signals are received by the receptor center and are interpreted across the brain, psychologists explain this process in two ways, called the dual-process theory, the first is intuitive, and the second is deliberate. The intuitive state or the emotional state is called (the first system) and appears bright, fast, and automatically, and we are not aware of how it works internally. It draws on our experience and a set of simple laws and rules of thumb to give us an immediate intuitive, emotively assessment, such as instinctive feeling, which usually has a steady impact on similar situations and less influence for unusual circumstances. [4] The deliberate and conscious second method is slow and focused, resulting from self-awareness, thinking, and analysis of complex problems and, unfortunately, the latter is quite limited in the amount of information it deals with at one time. [4]

2.3 The congruence / convergence stage:

The stage of congruence or convergence means the process of interpretation is converging, which already done in the previous step, with the reality of the environment surrounding the human being, is when the realization occurs. So, the perceptual information may match the existence of the environment, and the details will be seen as they are, or deception of receptors such as optical illusion may occur when the eye is deceived into something. Then the vision becomes clear to something contrary to reality. It should be noted that the process of perception of the excitement in the inner space takes two forms and is called Absolutes by behavioral psychologists to feel the things in place. The first is an absolute threshold, which determines the difference between

nothing at all and the existence of something concerning stimuli. There is a potential for differences between individuals at the real starting point of stimuli, and continued exposure to the stimuli and steady exposure would make sense of the excitement and adapt to it, the more the exposure to the stimuli increases. It is noted that it will be less felt by its familiarity with it and is called adaptation or addiction to exposure to sensory adaptation. The second threshold is called a different limit, which is called the lowest level of difference that can be detected between two types of similar or quite noticeable differences (J.N.d). The German scientist Ernst Weber discovered in the nineteenth century that the very noticeable difference (J.N.d) between two evokes is an absolute difference in total. Still, a relative difference is due to the severity of the first stimuli known as Weber's law. "The stronger the first stimuli, the more the second stimuli need to be strong or severe to be perceived as well." The perception stages occur at different moments, with various human receptor centers and their health and psychological status. Still, the wide variety of elements of the interior design is of blocks, sizes, spaces, and lines, represented by materials with formal characteristics of colors, tints and patterns extended on the internal walls, ceilings, floors, furniture, and accessory walls. In addition to the environmental effects of lighting, sound systems, cooling and heating systems, and other systems that make it easy to conduct activities in internal spaces. It makes it very difficult to realize all these elements at the moment. As they said, "Joy Monice Malnar and Frank Vodvarka" in their book (Sensory design), "the real world is complex, sending out millions of information signals, we can only be aware of a small portion of them. This information is experienced and recorded as differentials of color, heat, motion, sound, pressure, direction, and whatever else is present and within the range of senses." [5]

3 THE FACTORS THAT AFFECT INTERIOR DESIGN PERCEPTION

The process of realizing the interior design of any space, with its many elements and details, depends on several factors:

3.1 The nature of the person who deals with space:

what he likes and hates, his personality, his social and cultural background, the experiences gained his memories, his scientific and material level, his age, his gender, his health, and his psychological state, and the ability of human communication centers to be represented in (physical, psychological, spiritual) sensors.

3.2 The nature of the recognized space:

The nature of the recognized space; its location, features, and surrounded environment, its elements, natural and mechanical used systems, the type of activity intended to be practiced internally, and the activities' tools, including furniture and pieces of equipment.

3.3 The nature relationship to the space:

The human relationship to the place; he owns or works on it, even just a visitor, or a passing user. It determines the time of stay and the levels of environmental perception required for the details and features of the interior elements. Which affect the strength of the stimuli of personal communication center that help speed up the understanding of the elements of primary importance to facilitate practicing activities.

3.4 Emotional engagement and spatial familiarity:

The human experience of the place where he uses, that is, being a familiar place for him. That makes the environment, and its various elements within the level of individual excitement are not exposed to an unexpected sudden, uncalculated behavior.

3.5 Motivation or psychological preparedness:

The human is not merely a machine driven by the various influences and stimuli surrounding. These stimuli are only factors that help to release the inner potential of humans, and their effect depends on the organic and chemical state of the body. In his book (personality and mental health), Othman Labib says that stimulator is an unintended effect. At the same time, the motive is a constant readiness that the individual has before the stimulator affects it, and the alarm does not create energy but instead sets it free, shoots it from its place, and stimulates it to work. [6]

4 THE EVOLUTION OF THE UNIVERSAL DESIGN CONCEPT

The first time idea of universal design was to reduce and make use of buildings by the Vietnamese war-disabled after their return to the United States, where the American National Standard Institute published its first edition in 1961, the barrier-free design to facilitate the various activities within buildings by disabilities. Then some ideas demand design solutions for all categories of buildings that suffer from different names such as design for all today by the European Institute for Design and Disability (EIDD). Then the European Commission's Information Society, which relied on the John Hawkes' Definition of sustainability to include cultural, social, environmental, and economic aspects, designed everyone in 2001. That term, design for all, was deployed in Sweden to be Sweden for all in 2010. [7] The term Universal Design was first introduced by Ronald L.Mace in 1989, when he established the federally-funded Center for Accessible Housing, which is now known as the Center for Universal Design, at the School of Design at North Carolina State University in Raleigh. [8] From his words about this design, "The universal design concept increases the supply of available housing by including universal features in as many houses as possible and allows people to remain in their homes as long as they like. Many thoughts follow the concept of Universal design in different parts of the world, and it emphasizes the same direction in design under different names Such as Inclusive design, which was used in the UK on the Universal Design approach and the Design for All. Still, with the addition of the "reasonably" for dispense, some principles are challenging to achieve. [7], thinking that the overall design does not have consistent standards and develops as needed to ensure a beautiful and practical environment, then suggesting a User-Centered Design (UCD) that evolved into a User-Sensitive Inclusive Design (USID). The accessible design focused on developing the product design to facilitate use and access by containing standardized interfaces for all users. it was formed in 2010 and included in its general message "No individual shall be discriminated against on the basis of disability in the full and equal enjoyment of the goods, services, facilities, privileges, advantages, or accommodations of any place of public accommodation by any private entity who owns, leases (or leases to), or operates a place of public accommodation". [7] In Asia, particularly Japan, universal access is widespread,

relying on technology for human-computer interaction (HCI). In the Scandinavian culture of collaboration, the design was developed under the name Cooperative Design, which means engaging users in the design process to ensure that their desires for the products and places they use are met.

5 UNIVERSAL DESIGN PRINCIPLES AND HUMAN ABILITIES

Universal design seeks to achieve fair use among all people for all products by achieving equality the users, flexibility, simplicity, and convergence with human intuition, ease of perception of information, ignoring unintended mistakes, making benefit from the product with the minimum effort, and compatibility in size and space for approach and use. All of this serves those who suffer from some of the problems that hinder the smooth use of products. All the suggestions for applying the universal design within interior spaces recommend respecting the standards of the human dimension and his health conditions by providing adequate spaces for moving with his devices and support units, in addition to preparing the finishes of the interior design elements with different materials and textures to fit the varieties of people's needs. It is dependent on dealing with all people through visual, verbal, tactile, and human senses to maximize the abilities of recognition. Balancing the design is one of the critical humanitarian requirements, especially in public areas, so consider the design characteristics of the interior design elements that may be compatible with a class or group of people but not others, such as using different texture for the floor pattern as an awareness for the blind people [9], or a specific color for the autistics. The idea of universal design has been based on seamless design, with the desired goal of being accessible to use, which prevents stress. It is used by everyone regardless of age, sex, race, and circumstances and suitable for all people of all kinds of health. [10] The universal design principles are based on the enhancement of some senses' recognition skills to compensate for the loss of others. As happens in the blind that have increased hearing and touch abilities, and some studies have also shown that this capacity is growing from ordinary people. [11]. As with the use of tactile paving surfaces on the roads is mandatory to provide warning and guidance for people with visual difficulties. Some tactile paving surfaces provide guidance, while others indicate a potential hazard such as near level change or no curb at the intersection. Care must be taken because improper use of this type of touch surface will convey false and misleading information, which can have serious consequences. [9]

6 APPLING UNIVERSAL DESIGN PRINCIPLES WITHIN INTERNAL SPACES

The idea of applying the universal design on the interior spaces needs to be more studied and examined; also, it needs time to experience its reflection on the human physically and psychologically. The design of the interior is different from any other product design, and the relations between human and the interior spaces are incompatible, not only with its size, type, components, materials, and elements but also all the characteristics which describe human life. It is not just a three-dimensional space in which people need to practice their activities inside; it is the place that affects the whole human being. This effect is unexpected by occupants through long periods, and until now is under study. In 1943 Winston

Churchill said "We shape our buildings, thereafter they shape us" [12] that identified the importance of the building design and its reflection on human physical and psychological health. By analyzing the universal design principles to examine its suitability for applying it within interior spaces, it seems that universal design focused on human physical body hiding in the fifth senses as follows:

6.1 Equitable use:

Equitable use (The design is useful and marketable to people with diverse abilities). [9] [13]; It comes when the interior design achieves the efficiency of use equally among all people with their different abilities and capabilities by giving one meaning. The equality may be obtained within internal spaces by using the signage system, panels, lighting switches, all features of the internal technical systems, opening hardware, and fittings, to recognize the interior space elements for feeling comfortable while practicing different activities. However, in some cases, It is challenging to design for all people by using the same interface like dwarves and ordinary people. So, the designer must duplicate the dealing interface in another place in an appropriate way to be compatible with all users. This concept is far from the psychological and spiritual meaning and their indications that differ from one person to another, especially when discussing the comfortable features, the privacy associated with the customs and traditions of each society, in addition to the ability to make the place attractive to all.

6.2 Flexibility in use:

Flexibility in use (The design accommodates a wide range of individual preferences and abilities) [13]; The flexibility of use is achieved within internal spaces by providing many and varied aspects, which are related to the user's physical differences, to suit all people. Such as providing the use of existing components for both (the right and left-handed people), and the consequences of the different morphology of a person, his pace and grip. As for the differences stemming from the social and cultural influences and what addresses the soul and the spirit, sufficient flexibility has not been determined in this concept.

6.3 Simple and Intuitive use:

Simple and intuitive use (Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level) [13]; For achieving the simplicity and comfort in use is an essential issue especially being harmonious with the intuitive abilities of the human, which could carry out through compatibility with rational expectations for various purposes in all the interior details. The need for the guarantees distance from any feature that will add complexity with the arrangement and the tidiness of the internal components to correspond to the users' movements while dealing with the internal spaces according to its importance to the human being, the place type, and the practiced activities inside. In addition to relying on technology to provide interaction between the person and the interior design elements through which he can obtain feedback after each interaction if possible. All of the above is easy to achieve for people, depending on their different characteristics, within internal spaces which not address the soul and the spirit.

6.4 Perceptible Information:

Perceptible information (The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities) [13]; Attempting to communicate with the user in the interior design by all means, whether verbally, audibly, or visually .etc, is essential in providing the human comfort inside and facilitating access to all the space elements for the ease of practicing all activities. What makes the interior design more clear in dealing with its users and making it mostly equally for the diverse physical capabilities of all people. In giving different interpretations to clarify all the interior elements and facilitate their use depending on technology primarily to those with limited capabilities.

6.5 Tolerance for error:

Tolerance for error (The design minimizes hazards and the adverse consequences of accidental or unintended actions) [13]; the interior design must provide the elements of safety from all the risks that a person may face when using the activity tools in the internal spaces. And it is necessary to consider safeness as well as in circulation and movement through the inner areas taking into account the various human capabilities, in addition to providing the essential and easy perceptible warnings by everyone. Therefore, if the design contains any ambiguous, confusing, or dangerous appearances, in case of any unintended actions, it must be removed and no reference to be found. It is also vital to protect the users from unintentional human errors, which must have a great extent while dealing with various human capabilities, especially in internal spaces due to the multiplicity of their contents and the different activities that are practiced inside.

6.6 Low physical effort:

Low physical effort (The design can be used efficiently and comfortably, and with a minimum of fatigue) [13]; Attempts to reduce stress when practicing activities in internal spaces are not limited to the excellent arrangement of the space elements and the provision of appropriate activity tools, It depends on the best choice of methods that help to reduce the exerted effort to its minimum in the body position during use or dealing with the internal space and its contents—the deal which comes through the human senses, whether verbally, audibly, or visually, .etc, Or to be replaced by sensor cells to reduce the users' efforts.

6.7 Size and Space for approach and use:

Size and space for approach and use (Appropriate size and space is provided for approach, reach, manipulation, and use, regardless of the user's body size, posture, or mobility) [13]; The advantages of arranging the space and its contents are not limited to allow the ease of practicing activities for reducing the exerted effort by the area user. However, they extend to achieve secure access and increasing the individual's awareness of the space details and addressing all groups of different ages, genders, sizes and health abilities as well as those with the use of the right and left-handed with Provide adequate spaces for devices and auxiliary elements for them. The benefit of applying this universal design principle with the contents of the void is physical contact. However, it is still not pursued by far from the psychological and spiritual connection of the user.

7 DISCUSSION

The human connection with the environment makes him expose to several stimuli emanating from his surroundings. And the individual may be able to confront these stimuli by adapting with them, regarding to his physical & psychological status, or lose the ability to adjust. So, this ability varies from person to person. The sum of these stimuli is called the environmental load, whether it comes from the natural, urban, and social environment. The application of universal design principles in interior design is based on the idea of analyzing and simplifying the information in the environment with various design and technological methods to facilitate the process of its perception by the sensory receptors. So, using the universal design in the internal spaces differs entirely from any other product. It is not just a place that man deals with its contents to achieve specific goals. It rather an area that contains the person inside the three-dimensional structure that replaces the second skin of humans. In terms of various environmental treatments are combined with the design for providing comfortable and safe conditions inside. Wherein enable human for efficiently practicing all activities indoors. Therefore, applying the principles of universal design in the internal spaces needs a particular type of analysis that begins with defining the followings:

- The type of void and activity that will be practiced inside.
- The period is needed for staying indoors.
- The number of individuals expected to be in the same space.
- The relationship between individuals who use the space.
- The nature of the occupants of the vacuum in terms of age, gender, educational and social level, health status. etc.
- The environment surrounding and the building envelope in all its details

It is the necessity to give the same meaning to the occupants of the internal space by addressing the human senses. That is represented in the different physical capabilities in a manner that guarantees the ease of use for all people without excluding any category and maintaining comfort, privacy, and safety at the same level without neglecting the attractive aesthetic side for all people. Addressing the human soul through the interior design is done automatically during its presence inside the place after the body's sense centers transmit their signals to the brain, which is loaded with memories and situations of social life. The brain instantly starts to translate to the soul, either by reassurance and psychological harmony or by contracting and tension. It is difficult to achieve for all people equally, especially for those who are going through a psychological crisis or a specific mental illness such as Autism spectrum disorder (ASD). This disease impedes social communication, and its patients suffer from excessive sensitivity to sensory stimuli in the environment wherever they are. It requires maintaining some formal characteristics of the interior design elements such as color, texture, lighting, patterns. etc., until a safe environment is provided for them. [14] With the continuous increase of psychological diseases today that lead to mental illness, one study indicates that one of four individuals and a child out of ten suffer from mental health problems. [15] The World Health Assembly has also adopted a resolution on anxiety towards mental disorders at its sixty-fifth session. Stressing the

importance of caring for human mental health, (WHA) stated a principle "no health without mental health," especially with the increase in the rates of mental illness as a result of the global epidemic crisis accompanying COVID 19 epidemic [16]. There is a dire need to pay attention to all factors that help increase health problems concerning inappropriate internal design. [17] Paying attention to achieving individual mental health requirements is the interior design's ultimate responsibility that is not mentioned when referring to Universal Design. As for addressing the soul, it is the greatest challenge in the interior design, where harmony and familiarity are combined with contentment. Addressing the soul is what makes us feel completely comfortable in a certain place once entering it. Human senses are just a link to connect the transmission of signals to the mind, heart and soul. Therefore, it is difficult to communicate between the interior design of the place and the residents in the same way for all people alike, which makes it more difficult to apply this principle in the interior design as a whole that achieves inclusion for humans. All of the above confirms respecting for social identity in the design of interior spaces, in a manner that achieves independence and non-dependence in dealing with the space elements, which is one of the crucial matters that the principles of general design seek to establish. Its application in the interior spaces confirmed the social participation of all users of the area. Edward Steinfeld explained in his book *Universal Design: Creating Inclusive Environments* that the overall design philosophy achieves a creative challenge, in addition to its collaboration with other design aspects. "Through examples and case studies, we look to the past to show the power of universal design, but we study the present and the future to imagine where this design philosophy might lead," he said [18]. That concept needs to be reconsidered on the principles of universal design for all people in different physical and psychological states.

8 CONCLUSION

The role of interior design is to achieve physical and psychological comfort for its occupants. That requires design skill and cognitive abilities about the users' needs from that space and the extent of the variation in their physical, psychological, and spiritual capabilities. To achieve this equation and remove all barriers to physical, psychological, and spiritual contact with the inner space. In this, the designer also plays the role of the artist who tries to penetrate all barriers in the internal space, showing good morals that impose upon him to achieve fair equality for all in employment, coexistence, enjoyment, communication, familiarity, and satisfaction with that place. The human realizes the internal spaces and its minutia as a whole either he is wholly accommodated with it or is alienated from it, and the different human capabilities play an essential role in this process of perception and adaptation to spaces and all its contains. These abilities, which are defined in the physical capabilities of a person's physiological formation (sensory, kinesthetic, or mental) or psychological capabilities are stemming from the psychological composition of a person (psychological or spiritual). And for achieving user satisfaction of interior areas, the design must be compatible with the human physical and psychological capabilities. Whereas, human physical comfort in dealing with the interior design elements is one of the most critical factors that help a person's compatibility and satisfaction, which is what the Seven Principles of Universal Design seek to apply in creating internal spaces to suit the

majority of users. It began with four principles that are fitted all people, regardless of their differences, equally in use, flexibility with compatibility between people, simplicity of design in its convergence with the intuitive feeling of man, and ease of perception for different groups and abilities. As for the last three principles, it addressed the status of use in size and shape, so that the design does not cause user fatigue, as well as providing safety in the event of unintended mistakes. It's all easy to achieve in the interior design by relying on modern technology to address the senses and conform to the physical formation of the human being, as the designer in this transacts tangible things that can be dealt with most of them. As for the achieving of the psychological comfort within interior spaces, it discusses it through the universal design principles. The first four principles explain the psycho-part when asking to make the design appealing for all people (in the first principle), being flexible for human preferences (in the second principle), and matching with human capabilities and intuitions (in the third and fourth principles). And the last three principles deal with the human body comfortable through design. Despite that, it isn't easy to achieve these seven principles to accomplish the psychological compatibility of all people within the internal spaces due to the vast difference in the psychological and spiritual aspects of each person. These aspects are a reflection of human personality, social life, acquired experiences, and cultural background. This matter is difficult to apply for each user in interior design, and it becomes more challenging to deal with people with psychological and mental illnesses. The implementation limits of any new or old design idea will not stop at a specific stage. With experience and practices resulting from the continuous application of design principles, the visions are confirmed, and the opinions are evident in their applicability, compatibility with people, or rejection, and then the need to develop them. Since the psychological aspects related to places are still purely understudied and many of the hidden things are not yet clear, the application of universal design in internal spaces to match the disparity in psychological abilities is something that needs many studies.

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