ISSN 2348-3156 (Print)
International Journal of Social Science and Humanities Research ISSN 2348-3164 (online)
Vol. 8, Issue 3, pp: (140-146), Month: July - September 2020, Available at: www.researchpublish.com

# Design standards of service indicative signs for people with special needs and their impact on achieving aesthetic and functional compatibility

Amani Ramadan Mustafa Mansour Ali

PhD researcher - Graphic Department - Book Art Division,

Faculty of Fine Arts , Minia University-Egypt

Hopes_hopes22@yahoo.com

***Abstract*: The main purpose of this research Study and analysis the design of the service indicative sign for people with special needs, and the extent to which the principles and design criteria for that mark are taken into consideration, which lead to achieving aesthetic and functional compatibility.**

**Through controlling the symbolic systems represented in the service indicative sign, individuals with special needs can remember, transmit, receive, and understand the service indicative message to an unprecedented degree.**

**Through this paper, The researcher tried to get a cognitive addition with a subjective matter that can contribute to companies and institutions related to the designs of service indicative for people with special needs, and highlighting the basic and pivotal role of the graphic designer in expressing experience and scientific advice in designing service indicative signs that appropriate for people with special needs and achieving the aesthetic and functional compatibility .**

***Keywords:* (service indicative sign - Persons with Special Needs - Aesthetic and Functional Compatibility).**

## 1. INTRODUCTION

Design is one of the human activities which its components aim to achieve the maximum possible satisfaction of human needs and desires, in light of the general considerations and characteristics associated with the targeted design activity, which requires from the designer to study the design elements by understanding the behavior of individuals as users and consumers.

The beauty of the communication process represented in the design of the service indicative sign and the success of the job it performs is the main objective, also it helps in directing and guiding people with special needs and is a reflection of his ideas and interests.

Throughout this Paper The researcher is trying to answer several questions

Is it possible to take advantage of the design criteria of service indicative signs and their effect on achieving aesthetic and functional compatibility?

- ***Research Problem:***

It is limited to the following question: Is it possible to benefit from the design criteria of service indicative signs and their effect on achieving aesthetic and functional compatibility?

- ***Research Objectives:***

1. Studying and analyzing the design of the service indicative sign, and the extent to which the design principles and standards for that mark are taken into account for people with special needs that lead to achieving aesthetic and functional compatibility.

2. Designing service indicative signs that characterized by modernity, uniqueness and originality, and then achieving the communication dimension of the service indicative sign for people with special needs.

- ***Hypotheses:***

- The research assumes that there is a compatibility relationship between beauty and function in designing service indicative sign for people with special needs.

- Do the design criteria of service indicative signs for people with special needs produce or extract a material that can be used and their impact on achieving aesthetic and functional compatibility?

- The research assumes that the theoretical material has an influential role in the designs of service indicative signs for people with special needs and the extent of achieving aesthetic and functional compatibility for them.

- **The importance of research:** The research has a theoretical and an applied importance **.**

***A- Scientific theoretical importance:***

- Enriching Arab studies by identifying the design criteria for service indicative signs for people with special needs.

- This paper can be an introduction to more advanced research studies in the field of design standards for service indicative signs for people with special needs.

- This paper presents results and ideas for the introduction of design of services indicative signs for people with special needs through the identification of design criteria and principles and their impact on achieving aesthetic and functional compatibility for them.

- Reaching a high level of designing service indicative signs and the extent of achieving aesthetic and functional compatibility in order to fulfill all desires and requirements of people with special needs.

***B- Scientific Applied Importance:***

- This research helps decision-makers in institutions and companies to describe methods, foundations and design criteria for service indicative signs for people with special needs that help in achieving aesthetic and functional compatibility for them and to fulfill all the desires and requirements of people with special needs.

- The necessity of emphasizing the complementarity and compatibility of the aesthetic and functional vision in designing service indicative sign for people with special needs in order to fulfill all desires and requirements of them people with special needs.

**Search Limits:**

**Time Limits:** from the beginning of the 20$^{th}$ century until the present day.

**Spatial Limits:** around he world

## 2. RESEARCH METHODOLOGY

The research follows in this study historical, analytical and descriptive method.

Scientists and researchers have resorted to the use of other alternative terms, including abnormal, exceptional groups, and people with special needs to refer to everyone who deviates in his level of performance, in one or more aspects of his personality from the average performance of his normal peers to the extent that it is imperative with it The necessity of providing services such as educational, social or rehabilitative services to overcome their problems, participation and integration according to their capabilities as good citizens in the life of their community [1]

***Disability Discrimination Act (DDA)***

In the late 20$^{th}$ and early 21$^{st}$ centuries, a number of countries have passed laws aimed at reducing discrimination against people with disabilities .these laws have begun to appear as the notion of civil rights has become more influentional globally and follow other form of ant- discrimination and equal opportunity legislation aimed at preventing racial discrimination and sexism which began to emerge in the second half of the 20$^{th}$ century many of these acts aim to reduce

ISSN 2348-3156 (Print)
International Journal of Social Science and Humanities Research ISSN 2348-3164 (online)
Vol. 8, Issue 3, pp: (140-146), Month: July - September 2020, Available at: www.researchpublish.com

barriers for persons with disabilities in the areas of customer service, employment built environment, transportation and communications

The DDA has major implications for wayfinding systems at all healthcare facilities .The aim of organization representing people with disabilities, and also an issue raised by Disability Discrimination Act (DDA), is that sites should be striving to produce a Wayfinding system. People with disabilities should be able to find their way round an environment, along the same routes as everyone else, as easily as people without disabilities. This often proves to be the most cost- effective wayfinding system. [2]

***The International Symbol of Access (ISA)***

The International Symbol of Access (ISA), also known as the (International) Wheelchair Symbol, consists of a blue square overlaid in white with a stylized image of a person in a wheelchair. It is maintained as an international standard, The ISA was designed by Danish design student **Susanne Koefoed** *in 1968. It was first sketched at a radical design conference mounted by the Scandinavian Students Organization (SDO) [3] as shown in the figure(1)

**Figure (1) The original International Symbol of Access, designed in the 1960s by Susanne Koefoed [4]**

The design of this sign aims to remove environmental barriers for people with special needs and provide all services to them and guide and direct them to the designated parking spaces, a sign that indicates pressing the button to operate an automatic door[5] hence the international sign transforms in its design to an interactive sign. **In the figure of** ( 2 )

1. Putting the head forward to denote the movement "The person is the decision maker about movement."
2. Position of the arm to denote dynamic movement using the chair.
3. The wheel design allows the recipient a clearer understanding of the intended message of the sign as it also indicates the movement.
4. Conception of the edges of the body in this sign that it is consistent with the human body and clasped each other to denote the firmness.
5. Position of the leg forward to allow more movement [3]

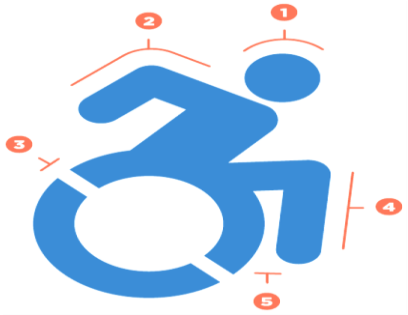


**Figure (2) illustrates the transformation of the international sign in its design into an interactive sign [3]**

* **Susanne Koefoed :** a Danish student graphic designer for this symbol and winner of a competition in 1968. This new symbol was designed in the United States.

ISSN 2348-3156 (Print)
International Journal of Social Science and Humanities Research ISSN 2348-3164 (online)
Vol. 8, Issue 3, pp: (140-146), Month: July - September 2020, Available at: www.researchpublish.com

**Types of service indicative signs for people with special needs are divided into the following:**

***A- Indicative Sign to parking places :***

The sign must not be laid in less than 60 inches above the parking surface, the minimum will be measured by this height to the bottom of the phrase "van accessible" for parking spaces, the height will be measured below the boundaries surrounding the sign, and the sign should be planned so that the wheelchair is visible (Line of the sight) for vehicles in order to ensure the safety of all users of the sign for the activity that it refers to as shown in the schematic diagram ( 3 ) and the sign must give an obvious interpretation of the message that it refers to [6]

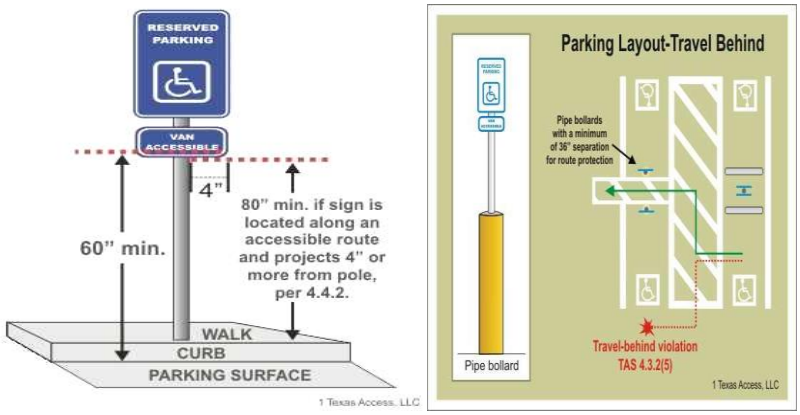


**Figure (3)**Schematic diagram showing a height of 80 inches if the mark is present along the road [7]

***B-Indicative Sign to know the place:***

**Braille*** is the system by which people with a visual disability and total blindness can read. A series of dots are read using the fingers passing across them. Braille has a reputation as being as difficult to learn to read as Russian to learn and read and is currently read only by percent of registered blind people . [8]

The Royal National Institute for Blind People (RNIB) in Uk states that the initiative to invent Braille for reading, guidance and orientation for blind people in places will allow blind and visually impaired people to live and work independently. [9]

**Figure (4) shows the sign of the Royal National Institute for the Blind London Braille sign [9]**

This sign is designed so that the blind can read it, the left part of the top is written in Braille, and the rest of the sign is written and drawn in the normal way the indicative sign is put on one of the sides of the passage, also the floor should have a different feel to make the blind feels that he is next to a special place as shown in **figure**( 5 ). [10]

* **Louis Braille** :born on January 4, 1809 CE, died on January 6, 1852 AD, the developer of Braille writing, a global writing and reading system used by blind people, or those with severe visual impairment, has a French nationality who lost his sight after a childhood accident. In the year of 1824 AD, at the age of fifteen, Braille developed a symbol for the French alphabet.

ISSN 2348-3156 (Print)
International Journal of Social Science and Humanities Research ISSN 2348-3164 (online)
Vol. 8, Issue 3, pp: (140-146), Month: July - September 2020, Available at: www.researchpublish.com


**Figure (5) Braille Signs illustrates a guiding sign of Braille.**[11]

***Hence, when designing the service indicative sign for the visually impaired, it is necessary to do the following:***

1. placement of the signs so that it is easy to read and it is preferable to place it at the level of sight so that it can be accessed closely. As shown in **the figure (7,6 ).**

2. Words and symbols should be colored with contrasting colors with their background and be prominent to help them reading with the touch. Instructions should not be based on using only colors due to the difficulty of reading them by the color- blind for people with color blindness.

3. Its height should not be less than 0.012 m. To help the blind.

4. The signs should be well lit, the surface is not reflective and should not be placed behind glass or other similar materials

5. These signs are an assistant factor in defining the blind about his place and what direction it can be taken to reach his destination, as well as knowing the time of arrival and departure of buses and their schedule. [12]

**Figure (7) Model of a map by touch used at the entrances to the main buildings in Italy**[13]

**Figure (6) shows a model of a map by touch Used at the entrances to main buildings in Italy** [13]

**Service Animals Signs for Handicapped / Disabled**

The Americans with Disabilities Act (ADA) requires companies and institutions that serve the public to allow people with disabilities to bring animals to serve them in all areas (restaurants, hotels, hospitals, etc.) and guide them to the right place and these animals are specially trained to help them and sign is designed as a sign with text and symbol and its message is clear [14]. As shown in **the figure ( 8 )**


**Figure (8) The aim of the mark: to provide assistance to persons with disabilities sign text: Only animals trained specifically to assist a person with disabilities are allowed Occupational Health and Safety Scale**

ISSN 2348-3156 (Print)
International Journal of Social Science and Humanities Research ISSN 2348-3164 (online)
Vol. 8, Issue 3, pp: (140-146), Month: July - September 2020, Available at: www.researchpublish.com

**Area of Rescue / Refuge Signs to identify storm shelter areas**

The Use these signs to identify rescue areas and they are easy to read to determine the places that people with special needs can resort to these areas are considered as assistance areas for rescue on the roads to reach them [15]


**Figure (9) The aim of the sign: to respond to emergencies sign text: with the right arrow ADA American Low Standard of Disability [15]**

**Hence, the graphic designer must take into consideration the following in designing service instruction signs for people with special needs:**

- Choosing the locations of the service indicative signs suspension to be characterized by clarity, both inside and outside the buildings, and to be at the level of sight in order to facilitate its reading and visibility and achieve the functional and aesthetic standards of the sign.
- The writing should be in a distinct color and different from the sign background color (contrasting colors) and in the case of illuminating it, should be well lit and its surfaces will not cause any light reflections that impede vision and reading.
- The use of illustration in letters and prominent writing "Braille" for the visually impaired, in addition to the regular means, in the places they visit [16]

## 3. RESULTS

1. The use of simple elements and symbols in the design of the service indicative sign that helps people with special needs in the ease of communicating and recognizing it. Modern color processing helps in the success of designing the service indicative sign for people with special needs.

2. Letter-based signs can be mixed with images-based signs in design.

3. Designing service indicative signs for people with special needs that are compatible with recent developments that help in achieving the aesthetic and functional compatibility of the sign to facilitate people with special needs by remembering, transporting, receiving and understanding the service indicative message with an unprecedented degree.

## 4. RECOMMENDATIONS

❖ ***In Light of previous finding, the researcher recommends:***

1. The use of colored service indicative signs in referring to different activities , services and workplaces, and people with special needs respond to the direction represented by the colored mark.

2. The simplicity and clarity of the design of service indicative signs and choosing their locations should be taken into consideration the writing should be in a distinctive color which is different from background color of the sign (contrasting colors), in case of its illumination, it should be well lit and its surfaces will not cause any light reflections that impede vision and reading.

3. Putting the signs of people with special needs in the places of their services in public buildings, private facilities and public facilities; So it can be used easily, and can be seen, accessed and read easily.

4. The use of illustrations in letters and prominent writings (Braille) for the visually impaired, in addition to the regular means, in the places they frequently visit.

## REFERENCES

[1] Abd al-Muttalib Amin al-Qaraiti: Psychology and Education of people with special needs - The Anglo Egyptian Library 2012. p.30

[2] Wayfinding Effective wayfinding and signing system guidance for health care facilities (2005) Publishing by Tso - London –-P19

[3] http://en.wikipedia.org/wiki/International_Symbol_of_Access4/7/2014

[4] http://accessibleicon.org/17/6/2020

[5] Powell, J.J.W. & L. Ben-Moshe, " The Icons of Access: From Exclusion to Inclusion Stimulus Respond "icon" issue, Autumn p90-95.2009

[6] Building construction- needs of disable people – design guidelines. 1994.

[7] http://www.texasaccess.com/tas_illustrations.htm3/7/2014

[8] James Homes Siedle .(1996). Barrier Free Design Amanual For Buliding designers and managers – Architectural Press – London and New York-P 96. 1996

[9] http://www.bbc.co.uk/london/content/articles/2009/03/09/braille_feature.shtml11/7/201

[10] Maisa Mahmoud Fathi Omar: Design Standards for the Disabled Environment - Unpublished Master Thesis - Faculty of Engineering - Cairo University – 1992

[11] http://braillesignsupplies.com.au/blong/gallery17/7/2014

[12] Traditional Neighborhood Development: street designGuidelines. Institute of Transportation Engineers,Washington, D.C., 1997

[13] http://www.cjwalsh.ie/2011/11/some-interesting-images-from-italy-october-20112/7/2014

[14] http://www.compliancesigns.com/handicap-service-animals.shtml2/7/2014

[15] http://www.compliancesigns.com/NHE-13182.shtml2/7/2014

[16] http://www.gulfkids.com/ar/index.php?action=show_res&r_id=49&topic_id=7815/7/2014