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The interior design of a music school for persons with vision impairment with the concept of landmark perception in Surakarta, Indonesia

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ABSTRACT

The Law of the Republic of Indonesia, article 5, paragraphs 1 and 2 concerning the education system, states that every citizen has the same right to obtain a good quality education. Citizens who have physical, emotional, mental, intellectual, and social disabilities are entitled to special education, including vision impairment. One of those people with vision impairment skills is their music expertise by maximizing the sense of touch and the sense of hearing. This work aims to realize the Landmark Perception concept by applying dynamic repetition by visualizing the repetition of several elements, such as line, shapes, textures, colors, dimensional gradations, shape gradations, and circulation patterns. These work results are the interior designs for the main facilities, including vocal classrooms, guitar classrooms, Violin classrooms, drum classrooms, piano classrooms, concert halls, and some supporting facilities such as cafeterias and libraries. The results of this work can be a reference for interior designers in designing interiors in a contemporary style based on the needs of people with vision impairment.

KEYWORDS

Interior, Education, Vision Impairment, Landmark Perception, Contemporary.

1. Introduction

Education is one of the services in improving human resources' quality following current time's dynamic development. Education aims to shape humans to be disciplined, tough, determined, humble, respectful, pious, creative, and independent. According to the Republic of Indonesia Law No. 20 of 2003 concerning the National Education System (Indonesia 2003), article 1 states that: education is a conscious and planned effort to create an atmosphere of a learning process so that the students can actively develop their potential to have religious-spiritual strength, self-control, personality, intelligence, noble character, as well as the skills needed by themselves, the community, the nation, and the country. The Law of the Republic of Indonesia number 20 of 2003 concerning the National Education System, in chapter IV article 5 paragraphs 1 and 2 states that every citizen has the same right to obtain good quality education and those who have physical, emotional, mental, intellectual, and social disabilities, have the rights to obtain special education. People with these disabilities getting the rights granted by the country include those with vision impairment.

Many people with vision impairment have hidden talents that exceed familiar people, such as sharper hearing sense, more sensitive touch, more sensitive smell, and stronger memory. With the superior sense of touch and hearing, a skill can be explored by maximizing the existing sense of touch and hearing to be interpreted positively. In this context, music is very close to the sense of hearing (Holmes 2017). Data on the number of people with vision impairment from the Central Agency on Statistics (Badan Pusat Statistik /BPS) in 2010 in Surakarta was relatively high, either those experiencing low or high (severe) difficulty sight levels: 1) Surakarta: 9385 people, 2) Karanganyar: 11,042 people, 3) Klaten: 15,548, 4) Boyolali: 12,821 people, 5) Sukoharjo: 10,393 people and 6) Wonogiri: 20,672 people. Meanwhile, BPS data in 2015 regarding people with vision impairment in every sub-district in Surakarta area are 1)

Laweyan: 23 people, 2) Serengan: 47 people, 3) Pasar Kliwon: 14 people, 4). Jebres: 56 people, 5) Banjarsari: 19 people.

Besides supporting the city of Surakarta as an inclusive city and fulfilling the rights to education for people with vision impairment, as stated in the Republic of Indonesia Law Number 8 of 2016 (Indonesia 2017) concerning people with disabilities, that persons with disabilities are entitled to quality education in academic units in all types, pathways, and levels of education inclusively and specifically, a music school for people with vision impairment in Surakarta is needed. Such a school provides a learning place and a forum for people with vision impairment interested in music to improve their creativity and quality of life in their society. Thus, a particular school for people with vision impairment who have an interest and background in musical arts is urgently needed by providing solutions to one of the public facilities that can accommodate, distribute and foster people with vision impairment, especially in Surakarta. The music school that becomes the setting of this study facilitates vision impairment in Surakarta as a non-formal educational institution, which functions as a substitute for formal education. Thus, the interior design of this school aims to provide a place that supports creativity development and facilitates educational activities related to music, especially for people with vision impairment, as well as for familiar people, as well as for music communities who want to deepen their musical skills or do collaborative performances with other music students or the students with vision impairment. This work aims to realize the Landmark Perception concept by applying dynamic repetition by visualizing the repetition of several elements, such as lines, shapes, textures, colors, dimensional gradations, shape gradations, and circulation patterns.

2. Method.

The stages of the design process in the interior design of the music school for people with vision impairment in Surakarta are carried out based on a process that refers to what is stated by Pamuji Suptandar (Suptandar 1999). The stages of the design process are in structured sequences, which can be shown in the schematic below:

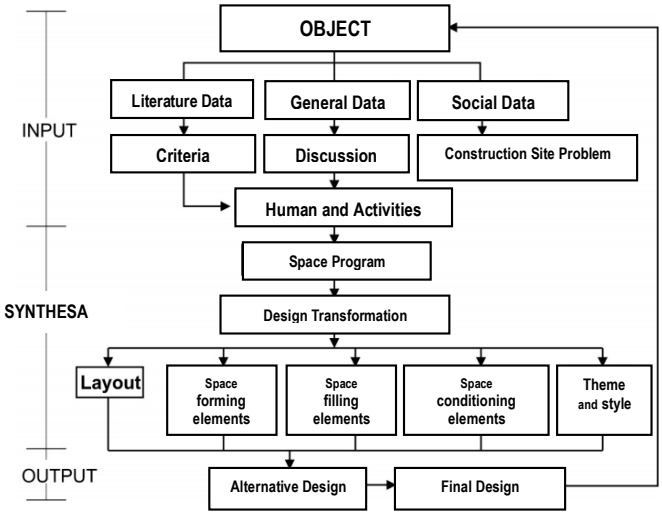


Fig. 1. The Stages of Design Process (Suptandar 1999)

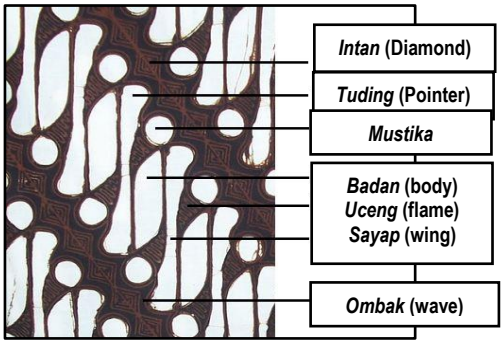
3. Results and Discussion

Schools are educational institutions that create environments where various educational activities occur, including the learning process and educational evaluation (Cleveland and Fisher 2014). The types of education are grouped based on the specificity of the educational objectives of each academic unit. These education types include general, vocational, academic, professional, vocational, religious, and unique education. Based on Time-Saver Standard for Building Types, a music school has several rooms, classified into two types. This classification is based on the functions, either teaching areas or additional

areas (Morreale et al. 2013). Teaching areas are practice rooms, regular classrooms, listening rooms, studios, recital rooms, and combination rooms. Meanwhile, the additional areas include storage areas, music libraries, workrooms, and additional facilities such as toilets, lobbies, elevators, lounge areas, cafeterias.

Dakopoulos noted that people with vision impairment have three fundamental obstacles in them. The first is about the control of the environment and self in their surroundings (Dakopoulos and Bourbakis 2010). They do not know when people enter and leave their room, whether other people are approaching or moving away in their group, and do not know whether other people hear them when speaking. People with vision impairment can neither see the expression of other persons nor use physical eye contact. Mobility, if this limitation is not overcome by conducting special training for people with vision impairment, they will face difficulties in interacting with their surroundings. They will probably have difficulty learning their new environment without others' help, or they will have difficulty identifying particular landmarks that are only described in verbal recognition (Golledge 1993). Based on the level of disability, people with vision impairment are divided into two: low vision, they still have a residual vision in such a way that they can still see a little or can still distinguish dark and light; and no vision (blind), if they cannot see totally, they cannot distinguish light and dark.

Interior design is a system or way of arranging internal spaces that can meet the requirements of convenience, safety, and satisfaction of its users' physical and spiritual needs without neglecting aesthetic factors (Jacobs and Cairns 2008). Design style and concept affect establishing a convenient, safe, and aesthetic room that suits its users' needs. The Music School's interior design for people with vision impairment in Surakarta applies the concept of Landmark Perception (Shin et al. 2017). This concept is expected to provide landmarks or nodes for people with vision impairment and provide perceptions. The process of assimilation of data from the environment occurs through functioning senses such as hearing, touch, kinetic perception of residual vision. The concept of Landmark Perception is realized through the application of Dynamic Repetition (Smith 2015). The repetition can be visualized through the repetitions of lines, shapes, textures, and colors, while dynamic impressions can be visualized through gradations of dimensions, shapes, circulation patterns, and colors (Siltanen 2017). The design transformation in this design adopts the primary form of the parang barong batik motif. This motif means that a king is always careful and can control himself (Kurniadi 2018). This meaning is in line with people with vision impairment's attitude to be careful and control themselves wherever they are. The application of the parang batik motif is transformed into several furniture and decorative elements



with a contemporary style approach.

Fig. 2. The Elements of Parang Batik Motif (Suciati, Pratomo, and Purwitasari 2014)

People with vision impairment have minimal, if no, vision abilities. However, they have other senses that can be optimized to function as a substitute for the sense of sight. Even though they cannot perceive the designs' visuals, they can adequately visualize the environment around them in their minds. The optimization of sense functions in this design is actualized through several ways: braille writing as an optimization of the sense of touch, noise methods as an optimization of the sense of hearing, and color

acuity as an optimization of the minimal sense of sight. In this design, the colors used are contrasting: blue, orange, white, black, and gray. As people with low vision can respond to contrasting colors well, they can be used as markers in certain areas.

The development of regional potential in Surakarta related to service centers in 2007-2027 stipulates that the city of Surakarta consists of six City Area Sections (*Bagian Wilayah Kota* / BWK), therefore, in the Regulation of the Minister of Public Works and Housing Number 17/PRT/M/2009 concerning Guidelines for City Spatial Planning Arrangement is considering city area to be emphasized by determining the center of BWK as Sub City Center. Each sub-city center is clarified by providing direction on service functions by being subdivided into several environmental centers. The Interior Design of the Music School for people with vision impairment with the Landmark Perception Concept in Surakarta is located on Jl. Colonel Sutarto, Jebres Surakarta. The consideration for choosing the location is because the location is area V which refers to the functions of tourism, higher education, and creative industries, with a land area of 20178 m^2. The organizational structure as a design reference is as follows:

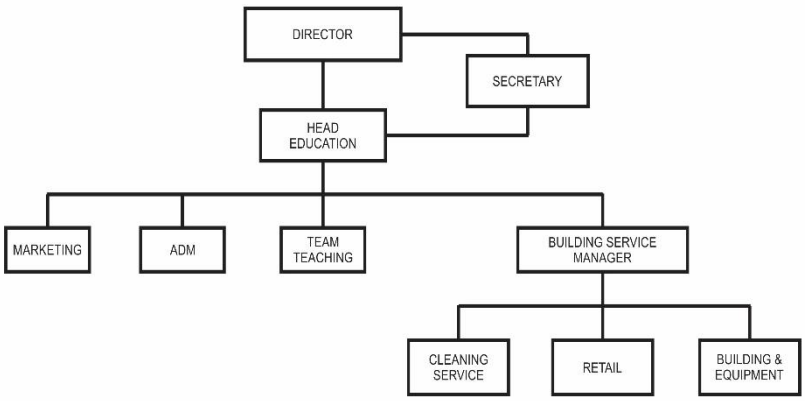


Fig. 3. The structure of the organization (Cosynala 2019)

The layout design is essential in designing a space because it can support all the activities undertaken. The division of space and furniture placement considers the nature of space, activities, and existing circulation patterns so that users' activities are efficient, effective, and productive. The choice of floor material in the Music School's Interior Design for people with vision impairment affects the creation of a functional and flexible room. Parquet floors covered with carpets in classrooms and concert halls have functioned as a sound suppressor, while the supporting rooms use concrete floors. People with vision impairment need good accessibility to facilitate activities in the room. As a helping tool for people with vision impairment in their activities, the Interior Design of this unique music school in Surakarta applies stainless tactile. The ceiling functions as a cover for the upper room, an element of decoration, and a sound suppressor. According to its characteristics, the ceiling can affect people who carry out activities under it, especially at its high and low levels. Besides, it is also influenced by the material, color, and texture of the ceiling. This Music School's interior design for people with vision impairment in Surakarta applies a ceiling design that considers various functions: an element of decoration, support for the room atmosphere, and an acoustic system in several spaces.

Fig. 4. The Results of Design Application at Music School for People with Vision Impairment in Surakarta (Cosynala 2019)

4. Conclusion

The Design of the Music School for People with Vision Impairment applies the Concept of Landmark Perception. This concept aims to foster sense perception among people with vision impairment. There is a process of data assimilation from the environment obtained through the senses that are still functioning, such as hearing, touch, kinetic perception, or residual vision. The realization of this concept is through the application of Dynamic Repetition. Repetition can be visualized through the repetition of lines, shapes, textures, and colors. In contrast, dynamic impressions can be visualized through gradations or gradual changes such as dimensions, shapes, circulation patterns, and the use of colors. This design selects the basic form of the *parang barong* batik motif as a basic design transformation, which is applied to space-filling elements and space-forming elements, and room decoration elements in a contemporary style. The design results are in the form of interior design for: 1) guitar classroom; 2) violin classrooms; 3) piano classrooms; 4) drum classrooms; 5) vocal classrooms; 6) piano classrooms; 7) office; 8) meeting room; 9) cafeteria; 10) concert hall; and 11) libraries. The strengthening of the lack of vision will be maximized by optimizing the perceptual power of the sense of hearing and touch. The sense of touch is maximized by applying tactile following the circulation paths and braille letters that have been installed on the handrails at each end approaching the rooms. Besides, to maximize the ability of those with low vision, the use of contrasting colors applied to interior elements and space-filling elements, such as blue and orange, can help users with low vision by providing landmarks or nodes/marks in certain areas, and their low vision can be maximized. The sense of hearing is also maximized by providing a sound on each door so that the users with vision impairment can hear and know what room is behind the door.

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