

Evaluation Visual Perception of Dezful City's Vernacular Urban Spaces between Expert and Non-Expert Based on Gestalt Theory

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ABSTRACT

Every art-work has a different perceptual aspect that is related to some issues such as aesthetic perception and knowledge of users. The important point is how users get that and the difference between architectural perception and users that is a controversial issue in modern architecture and cause disagreement between users and designers. According to the importance of vernacular architecture and the need to adapt to its pattern with modern architecture, this paper aimed to evaluate principles of visual Gestalt and aesthetics between users and designers (non-experts and experts¹) in the traditional live district in Dezful city in Iran. The methodology of this research is combined with descriptive-surveying methods and field and library studies. So, a semi-structural interview by using a targeted questionnaire was distributed to the experts and non-experts to quantify the differences, and by describing and analyzing these data by SPSS statistical software, the root of the differences between these groups was identified. Due to the analysis of the data, besides searching, studying, and being in that district, two types of questionnaires between users and designers have been used. The result of this study shows that in the ancient city of Dezful, the opinions of experts and users also differ in terms of aesthetic perception so that for users, shape, and context, and experts, symmetry is the first principle. So unexpectedly, it can be argued that sensible visual Gestalt principles, such as symmetry and closure for experts, are of the highest importance, while these principles are of less importance to the user group. The findings of this study made it possible to compare the views and opinions of people and experts. It makes clear the difference between the perception criteria of those who create the landscape and the people who are confronted with and live in the environment.

Keywords: Visual Perception, Aesthetic Perception, Gestalt Theory, Built Environment, Dezful City.

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1. INTRODUCTION

Architectural form is the visual characteristic of a building that gives it a matchless inherency and differentiates it from others. 'Architectural form is the point of contact between mass and space' (Bacon, 1974, p. 16). Aesthetics is the theory of liberal arts, the lower theory of perception, the art of beautiful thinking, the art of intuitive cognition (Baumgarten, 1750). Aesthetics has some concepts and contents. Its content is effective in aesthetic perception. So, it can be said that visual knowledge is important in aesthetic perception. Architect's design according to their ideas and concepts will encourage by experts, while the same design will not percept by users (non-expert). According to the emphasis on vernacular architecture and its principles, which can be used in contemporary architecture, it is important to percept them. The two most important formal factors affecting judgments are order and visual interest that tend toward ambiguity and complexity (Rapoport & Kantor, 1967; Nasar, 1994). Visual aesthetic quality can be viewed from two perspectives assessment approaches: objective and subjective (Lothian, 1999; Daniel, 2001). Ode et al. (2008) had initially developed the framework to describe this visual concept. The visual concept indicates the degree of the significance level of landscape properties, being measured and scaled in identifying the changes and conditions of the landscape (Tveit, Ode, & Fry, 2006). One of the visual perception theories is Gestalt. This theory is a family of psychological theories that have influenced many research areas since 1924, including visual design issues. Gestalt Theory is one of the foundation theories for instructional design. Gestalt psychology helps us to understand the inherent human desire to resolve visual motives into ordered patterns. Gestalt theorists, on the other hand, were intrigued by the way our mind perceives wholes out of incomplete elements (Behrens, 1984; Mullet & Sano, 1995). It is generally accepted that Gestalt theory may be used to improve educational screen design and thereby improve learning (Preece, Rogers, Sharp, Benyon, Holland, & Carey, 1994). The Gestalt laws explain how the individual elements from the environment may be visually organized into fields or structures (Koffa, 1935). It is noticed that only very few Gestalt laws are commonly applied to instructional visual screen design (Smith-Gratto & Fisher, 1998-99; Preece et al., 1994).

The purpose of this study is to compare aesthetic perception between expert and non-expert of vernacular architecture. This study was undertaken in an old district in Dezful city (in Iran) called Kornasiun based on visual Gestalt theory to the recognized difference between visual perception of experts and non-experts

and prefers. The difference between this study and previous researches is the study of the principles of visual gestalt as a theory whose results are derived from the objectivity and subjectivity of individuals in dealing with any artwork and lead to the organization of received information and ultimately visual aesthetic analysis. On the other hand, despite previous research that tested the context of new architectural or urban contexts, in this study, the choice of an old and livable urban context has been examined by user's (non-experts) and expert's views of Dezful's vernacular architecture. So first, perception and visual aesthetic will be explained and then, this theory will check in a traditional district by two groups that have different visual knowledge (expert and non-expert) and finally analyze data.

2. LITERATURE REVIEW

The definition of aesthetics varies for over thousands of years (Valentine, 1968; Tatarkiewicz, 1970; Feagin & Hernan, 1995). Aesthetic responses to the environment are derived from the recognition of aesthetic features in the urban landscape and are considered based on different features of the environment, including the style of the construction, color, street, house style, appearance, and urban landscape (Nasar, 1994; Olascoaga, 2003). Aesthetics greatly impact user's preferences and perceived value (Hardy et al., 2000) of landscapes and properties. The aesthetic response could be different due to personality, emotion, social-cultural experience, goal, and expectation, the possibility might be different as well. Nasar (1998) states that different learning and experience from different groups is the key to all differences. And the most significant and consistent group difference among all is between the high- cultural designers and the general public. Aesthetic evaluation results have approved that considerable differences exist between expert designers (i.e. architects, interior designers) and the general public. Gifford et al. (2000) point out difference appears when the aesthetic evaluation is made by architects and non-architects regarding the architecture façade. Rapoport (1969) defines that spatial culture characteristics as various contexts appear in the same space pattern used by different ethnic groups. Examining the concept of aesthetics reveals that this concept can be examined generally from both the objective and the mental aspects. There are four approaches to urban aesthetics: physical aesthetics, psychological aesthetics, expert preferences aesthetics, and public preferences aesthetics (Karimi Moshaver, 2013). These approaches conflict with each other, and each has much in common with the other approaches. Accordingly, the four aesthetic approaches can be contrasted (Table1).

Table 1. Contrasting Different Approaches in the Urban Landscape

| Contrasting Different Approaches in the Urban Landscape | | |
|---|---|-------------------------------|
| Subjective Aesthetic | ↔ | Objective Aesthetic |
| Psychological Aesthetics | ↔ | Physical Aesthetics |
| Public-Preferences (Non-Expert) Aesthetics | ↔ | Expert-Preferences Aesthetics |

The history of aesthetic examination indicates a conflict between expert-based and people-based practices (Daniel & Vining, 1983; Arthur, Daniel, & Boster, 1977). Expert or designer-based approaches are prevalent among environmental management practices and people-based approaches to research. Experts' approach is actually to translate the physical features of urban landscapes into formal design parameters

(form, line, unity, etc.) (Daniel, 2001). Daniel (2001) also argues that an expert approach to people-centered aesthetics transforms the physical features of urban landscapes into formal design parameters (e.g. shape, line, variety, integration) that, in contrast to index formation. The quality of urban landscapes is based on the classic models of human perception and aesthetic judgment.

Table 2. Expert- Preferences Versus Public-Preferences (Non-Expert) Aesthetics

| Expert- Preferences Aesthetics | Public-Preferences (Non-Expert) Aesthetics |
|---------------------------------------|--|
| It Is Common in Management Practices | Used in Researches |
| Suitable for Environmental Management | It is Applicable in the Field of Research |

Gestalt psychology is grounded in opinions about how living organisms relate to their environment (Carmer & Rouzer, 1974). Gestalt perception defines a holistic form of object processing where local elements are visually integrated into a global entity. Gestalt processing can gain a holistic perception of the visual world (Wertheimer, 1923) and is connected to visual processes, like scene perception (Dalrymple, Barton, & Kingstone, 2013; Shakespeare et al., 2013) or perception of artificial motives (Navon, 1977). People exist in fields formed by the perception of what is relevant to individual needs or concerns (Carmer & Rouzer, 1974). Individuals pay accurate attention only to relevant components in the environment, assembling a Gestalt situation from objective components. "The basic proposition of Gestalt psychology is that human nature is formed into patterns or wholes, that is experienced by the individual in these terms and that it can only be assumed as a function of the patterns or wholes of which it is made" (Carmer & Rouzer, 1974; Bloechle, Huber, Klein, Bahnmueller, Moeller, & Rennig, 2018). According to Gestalt, individuals subconsciously estimate particular environmental stimuli such as color and music together with the environment itself, creating a holistic impression of the physical environment (Lin, 2010). Rahbarnia and Shafighi (2018) explained that with examining the principles of Gestalt theory, emphasizing one of Gestalt lows as the most important principle in the arrangement is difficult and unrecognizable (Rahbarnia, 2018). The use of digital images allows for control of certain attributes while manipulating other aspects of the scene. Digital images that utilize photos are commonly accepted as representations for the real scene and studies have shown a high correlation to evaluations of the actual site (Hardy et al., 2000; Morales, 1980;

Svobodova et al., 2014). Previous studies utilized digital images to assess how landscapes impact property value. More broadly, Gobster et al. (2007) used digital images to study consumer's preferences for alternative neighborhood landscapes (Khachatryan, Rihn, Hansen, & Clem, 2020).

3. RESEARCH AREA

The word "Dezful" originally meant "Dezhpohl" (Dezh meaning fortress, and Pohl means castle fortress) and derives from a castle built on the east of the river until a few years ago. Dezful city is located in the Khuzestan Province in the south-west of Iran. This city has a long history that dates back to the Sassanid period and even prior and has been counted as a part of Elamites and Achaemenian territories (Attarian & Safar Ali Najar, 2019). It also had been known for its agricultural products before the industrialization process in Iran (Bazazzadeh et al., 2020). The last extension of the city, which is in someplace remaining, back to the Qajar era. The urban context is followed in the radial expansion of the Safavid city according to the conventional urban principles. The Bazaar is located in the central core of Dezful's Old context and has been a business center from fourth and fifth century AH. The visions within the urban elements are limited in the city due to the compact urban texture and a high blockage degree of the passages for shadow utilization. Although Dezful is located in an area, which is distinct from other Iranian cities in terms of climate, its historical texture has been heavily influenced by climate issues and has harmony with weather conditions. The city has 28 historic neighborhoods, and one of these neighborhoods, called the "Kornasiun neighborhood", was selected in this study.



Fig. 1. Historical Fabric of Dezful City

4. MATERIAL AND METHODS

The methodology of this research is descriptive-surveying methods and field and library studies. According to previous research and Akbar et al. (2003) provide two general methods for evaluating scene aesthetics:

- Simulated assessments
- Questionnaire studies (Akbar, Hale, & Headley, 2003).

Questionnaire studies are used broadly as a tool for assessing people's attitudes and priorities. The questionnaire has the advantage of being able to reach a group of people in a short time (Karimi Moshaver, 2013). For this reason, a questionnaire was used in this study. But due to the complexity of this research

(Gestalt theory) and the reassurance for researchers to ensure that process is done correctly, it is necessary to be in place. So a semi-structural interview using a targeted questionnaire was distributed among the groups (experts and non-experts) with different visual knowledge to quantify the differences that have been used to test the value of these principles. This questionnaire applied the eight laws of Gestalt. By describing and analyzing these data by SPSS statistical software, the root of the differences between these groups was identified. Due to that, two type of questionnaire has been used between users and designers and analysis that. This study's general process consists of five stages of evaluation and analytical comparison of the data obtained from these evaluations (Fig. 2).

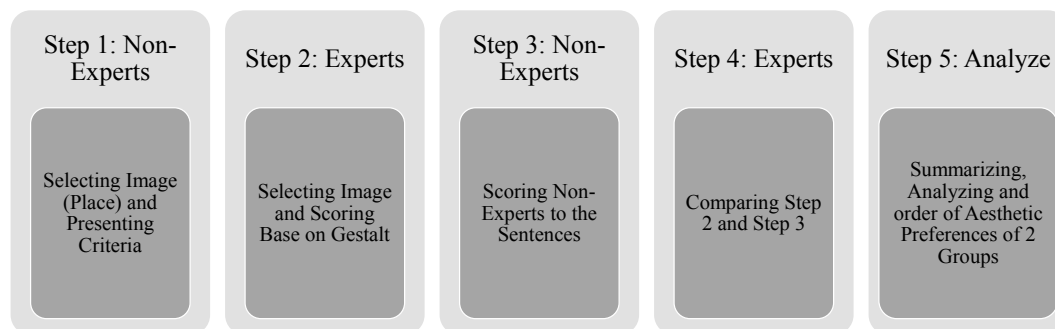


Fig. 2. The Steps of the Research Process

4.1. Pilot Study

In a pilot study, 10 locations were selected from 30 images of "Kornasiun neighborhood". The selection was based on the expert and non-expert panel selection to reduce bias and no professional photography effects. In a part of it, the photo was taken in a standardized technique. It consists of three different layers of the landscape, including foreground, middle ground, and background. During the pilot study, two groups of selected respondents, including experts and non-expert, were participated in the survey. The expert was selected from the native students and native graduated students (M.A & Ph.D.) who are architecture and urban and regional planning and besides that have studied environmental psychology and they are

familiar with the aesthetic conception, and more important than that, are native. Non-experts were selected from the Kornasiun neighborhood to be familiar with environmental conditions and to have a common cultural and social background, including different age and sex groups and education. A scale of 1 to 10 was used to indicate the significant level of visual aspect the appeared in each of the photos. This technique is widely used when regarding the perception and preference process. Most researchers found that the technique is appropriate to measure the difference in people's perception process (Jorgensen, 2011). This neighborhood has 9 historical buildings, 3 neighborhood centers, 2 religious monuments. The physical factors of a neighborhood include path, node, and landmarks. Therefore, in this study, the selected

locations and their images were selected based on the same principle from a local landmark called "Hamam

Kornasiun", house entrance, façade, paths, and the center (open space) of the neighborhood (Fig. 3).

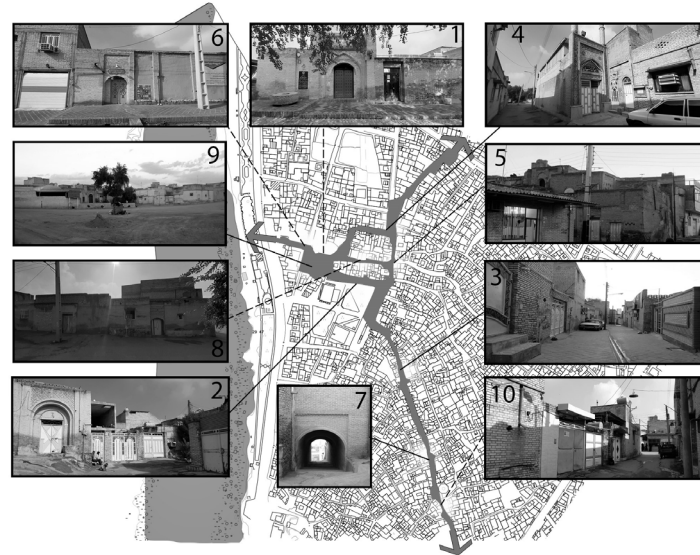


Fig. 3. Location of Selected Place and Image of Them in the Path in the Neighborhood

4.2. Analyzing Data

The questionnaire consisted of two categorize. (a) Questionnaire about visual Gestalt theory for non-experts, and (b) Questionnaire about visual Gestalt theory for experts. A pre-test questionnaire was conducted through a questionnaire survey of 45 graduate students and researchers.

4.2.1. Reliability Test

This test aims to indicate the reliability of the item construct and the reliability of respondents. Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. It is considered to be a measure of scale reliability. Cronbach's alpha should be equal to or lower than 0.7.

Table 3. Cronbach's Alpha

| Factors | | Cronbach's Alpha |
|--------------------|------------|------------------|
| Total of Popular | Non-Expert | 0.953 |
| Total of Engineers | Expert | 0.800 |

Refer to the table above; Cronbach's alpha for the non-expert group value is 0.953 and Cronbach's alpha for expert group value is 0.80. In this analysis, all of the items had a value > 0.7 which indicated the items were managed to measure the variables and ensure reliability.

4.2.2. Description of Survey

Similar to the pilot study, the actual survey involves the questionnaire based on 10 photos selection of a natural setting. The survey was carried out in two different groups of respondents. The first target group was a group of non-expert consists of 131 respondents; all of them are the local population of Kornasiun district of Dezful city. While the second group is targeting the expert population, which consists of architects and urban planners. The survey aims to identify the similarity and dissimilarity of expert and non-expert in perceiving the aesthetic perception, which is strongly related to the theory of Gestalt. An exact format of the questionnaire is being adapted from the pilot study with a modification of visual concept selection.

5. RESULT AND DISCUSSION

Different perceptions of similar stimuli and motivation can be the result of a combination of several factors. In the perception of an architectural building, the elements making the building form are influential among environmental factors in such a way that the effect of these elements on users can be predicted. These elements can increase or decrease the users of a built environment. According to the definitions of "perception and visual communication" in landscapes, they are an important part of the urban historical landscape and built environment. Now historical parts of cities due to urban development and new facilities of modern life have inevitably changed. As a result, the visual communication and the user's perception of being interrupted. One of the tools to test visual perception is using the "digital image" that shows certain attributes while manipulating other aspects of the scene. In this research, 10 images from the built environment in the old context of Dezful city are selected (Fig. 3) and tested in two groups. The research

steps (Fig. 2) show the process. The result from these process can be divided into three parts: Demographic results, Visual concept identification, and Comparative analysis, which are presented as follow.

5.1. Demographic Results

As mentioned, the questionnaire was conducted using

stratified random sampling. The results demonstrate the almost overall population of non-expert and expert groups. The survey provided various demographic factors, such as educational background, age, gender, familiarity, and origin, and residence area of the participants. However, The results were divided into two separate tables of the demographic profile- to represent expert and non-expert groups (Table 4).

Table 4. Demographic Profile of Non-Experts and Experts

| Respondent Groups | Educational Background | | | Gender | | Age | | | Population |
|-------------------|------------------------|------------------|-------------|--------|--------|-------|-------|-------|------------|
| Non-Expert | Secondary-Diploma | Diploma-Bachelor | Bachelor-MA | Male | Female | 20-30 | 30-40 | 40-50 | 131 |
| | 35.1% | 61.1% | 3.8% | 48.9% | 51.1% | 46.6% | 24.4% | 29% | |
| Expert | Bachelor | MA | PhD | 50% | 50% | 75% | 15% | 10% | 20 |
| | 20% | 60% | 20% | | | | | | |

5.2. Visual Concept Identification

The second part of the analysis is to investigate the preference of both experts and non-experts in deciding the significant visual aspect.

a) First, non-expert groups determine aesthetic visual scale 1 to 10 for 10 images. In this study, variance showed which image has more aesthetic visual value (Table 5).

Table 5. Variance of 10 Image – Non-Expert Groups

| | | Statistics | | | | | | | | | |
|---|----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| | | Fig. 3(1) | Fig. 3(2) | Fig. 3(3) | Fig. 3(4) | Fig. 3(5) | Fig. 3(6) | Fig. 3(7) | Fig. 3(8) | Fig. 3(9) | Fig. 3(10) |
| N | Valid | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 |
| | Missing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Mean | 5.98 | 6.52 | 4.27 | 5.96 | 4.47 | 5.40 | 6.24 | 5.65 | 5.49 | 5.84 |
| | Variance | 6.200 | 4.821 | 4.443 | 5.745 | 4.374 | 4.149 | 5.586 | 4.891 | 5.267 | 4.182 |
| | Minimum | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | Maximum | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| | Sum | 784 | 854 | 559 | 781 | 585 | 707 | 818 | 740 | 719 | 765 |

According to Table 5, the non-expert aesthetic perception value of 3 images is more than others -Sort

High to Low: image 2> image 7> image 6 (Fig. 4).

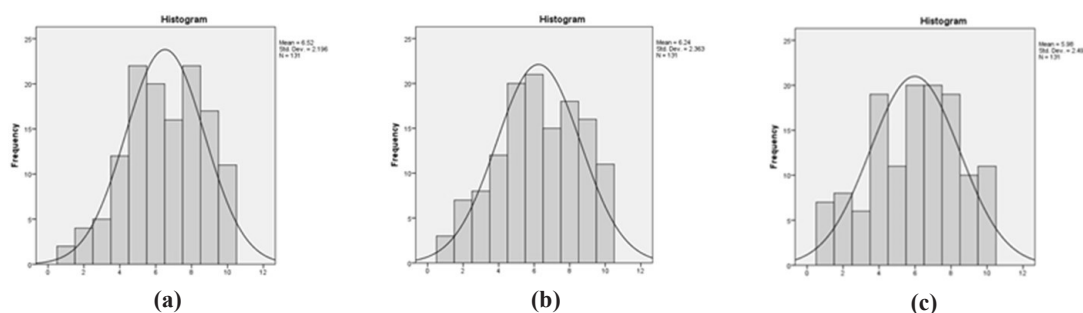


Fig. 4. Histogram Chart of Image 2 (a), 7 (b) and 6 (c)

Then, expert groups determine aesthetic visual scale 1 to 10 for 10 images. In this study, variance showed

which image has more aesthetic visual value (Table 6).

Table 6. Variance of 10 Image –Expert Groups

| | | Statistics | | | | | | | | | |
|---|----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| | | Fig. 3(1) | Fig. 3(2) | Fig. 3(3) | Fig. 3(4) | Fig. 3(5) | Fig. 3(6) | Fig. 3(7) | Fig. 3(8) | Fig. 3(9) | Fig. 3(10) |
| N | Valid | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| | Missing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Mean | 7.95 | 4.95 | 8.60 | 3.95 | 8.20 | 4.00 | 8.90 | 9.00 | 7.45 | 9.15 |
| | Variance | 1.839 | 2.997 | 3.832 | 2.576 | .589 | 1.053 | .726 | .526 | 1.734 | 3.924 |
| | Minimum | 5 | 2 | 1 | 2 | 7 | 3 | 7 | 8 | 5 | 1 |
| | Maximum | 10 | 8 | 10 | 6 | 9 | 6 | 10 | 10 | 9 | 10 |
| | Sum | 159 | 99 | 172 | 79 | 164 | 80 | 178 | 180 | 149 | 183 |

Refer to table 6; the expert aesthetic perception value image 10> image 8> image 7 (Fig. 5).
of 3 images is more than others -Sort High to Low:

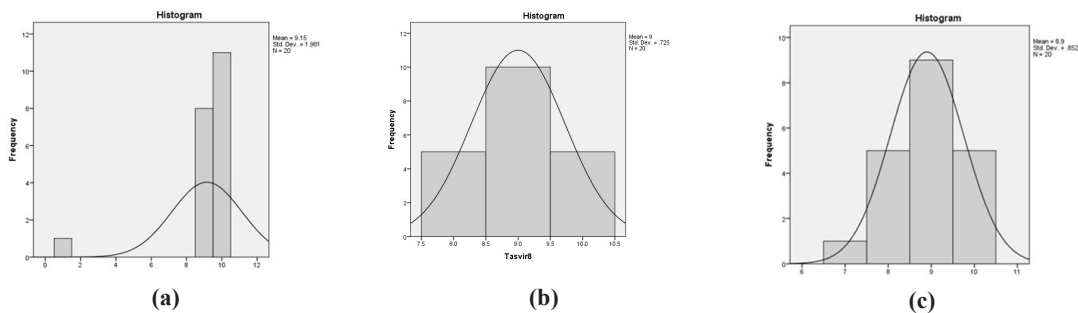


Fig. 5. Histogram Chart of Image 10 (a), 8 (b) and 7 (c)

b) The second step is to investigate the preference of both experts and non-experts in deciding the Gestalt theory. According to the index of the questionnaire (sentences that explain Gestalt theory), non-expert groups determine a scale of 1 to 10 for 10 images. Variance showed which image has more aesthetic visual value (Table 7).

Table 7. Variance of Selected Images –Non-Expert Groups

| | | Statistics | | | | | | | |
|---|---------|-------------------------------|------------------------|-----------------------|----------------------------|------------------------|---------------------|----------------------|-----------------------------|
| | | Sentenc1 Figure- Ground | Sentenc2 Similarity | Sentenc3 Proximity | Sentenc4 Good Figure | Sentenc5 Continuity | Sentenc6 Closure | Sentenc7 Symmetry | Sentence 8 Inclusiveness |
| | | Fig. 3(2) | | | | | | | |
| N | Valid | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 |
| | Missing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Mean | 5.80 | 5.79 | 5.76 | 5.68 | 5.76 | 5.76 | 5.68 | 5.64 |
| | Minimum | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | Maximum | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| | Sum | 760 | 759 | 755 | 744 | 755 | 755 | 744 | 739 |
| | | Fig. 3(7) | | | | | | | |
| N | Valid | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 |
| | Missing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Mean | 6.10 | 6.03 | 5.98 | 5.83 | 5.77 | 5.84 | 5.80 | 5.88 |
| | Minimum | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | Maximum | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| | Sum | 799 | 790 | 783 | 764 | 756 | 765 | 760 | 770 |
| | | Fig. 3(6) | | | | | | | |
| N | Valid | 131 | 131 | 131 | 131 | 131 | 131 | 131 | 131 |
| | Missing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Mean | 5.75 | 5.77 | 5.69 | 5.78 | 5.89 | 5.59 | 5.71 | 5.81 |
| | Minimum | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | Maximum | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| | Sum | 753 | 756 | 746 | 757 | 772 | 732 | 748 | 761 |

According to the index of the questionnaire, expert groups determine a scale of 1 to 10 for 10 images.

Variance showed which image has more aesthetic visual value (Table 8).

Table 8. Variance of Selected Images –Expert Groups

| | | Statistics | | | | | | | |
|-------------------|---------------------------|---------------|------------|-----------|-------------|------------|---------|----------|---------------|
| | Gestalt Theory Principles | Figure-Ground | Similarity | Proximity | Good Figure | Continuity | Closure | Symmetry | Inclusiveness |
| Fig. 3(10) | | | | | | | | | |
| N | Valid | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| | Missing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Mean | 5.80 | 8.90 | 8.60 | 8.45 | 8.85 | 8.30 | 8.75 | 9.50 |
| | Minimum | 1 | 7 | 6 | 7 | 6 | 6 | 6 | 8 |
| | Maximum | 10 | 10 | 10 | 10 | 10 | 9 | 10 | 10 |
| | Sum | 760 | 178 | 172 | 169 | 177 | 166 | 175 | 190 |
| Fig. 3(8) | | | | | | | | | |
| N | Valid | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| | Missing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Mean | 6.10 | 9.40 | 9.50 | 9.40 | 9.25 | 9.50 | 9.55 | 9.25 |
| | Minimum | 1 | 8 | 7 | 8 | 8 | 7 | 7 | 8 |
| | Maximum | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| | Sum | 799 | 188 | 190 | 188 | 185 | 190 | 191 | 185 |
| Fig. 3(7) | | | | | | | | | |
| N | Valid | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| | Missing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Mean | 5.75 | 8.25 | 8.45 | 8.20 | 7.45 | 7.95 | 8.00 | 8.80 |
| | Minimum | 1 | 6 | 6 | 7 | 6 | 6 | 7 | 7 |
| | Maximum | 10 | 9 | 10 | 9 | 9 | 9 | 9 | 10 |
| | Sum | 753 | 165 | 169 | 164 | 149 | 159 | 160 | 176 |

5.3. Comparative Analysis

The comparative analysis is carried to identify the similarity and dissimilarity of both expert and non-

expert based on their perception of aesthetics. The findings of the expert and non-expert are presented below:

Table 9. The Result of Two Groups

| | Gestalt Theory Principles | Figure-Ground | Similarity | Proximity | Good Figure | Continuity | Closure | Symmetry | Inclusiveness |
|-------------------|---------------------------|---------------|------------|-----------|-------------|------------|---------|----------|---------------|
| Non-Expert | | | | | | | | | |
| Total | | 2312 | 2305 | 2248 | 2265 | 2283 | 2252 | 2252 | 2270 |
| Percent | | 12.71% | 12.67% | 12.36% | 12.45% | 12.55% | 12.38% | 12.38% | 12.48% |
| Expert | | | | | | | | | |
| Total | | 531 | 531 | 521 | 511 | 515 | 526 | 551 | 518 |
| Percent | | 12.63% | 12.63% | 12.39% | 12.15% | 12.25% | 12.51% | 13.10% | 12.32% |

It is interesting to note that the perception of experts and non-experts has on the contrary. According to the result, Figure- Ground, Similarity, and Continuity had been accepted by the non-expert. On the other hand, Symmetry, Figure-Ground, and Similarity had been accepted to represent the emotional and psychological aspects of their preference and perception. Despite the differences in demographic factors, these visual concepts appeared to be the dominant attributes for them to assess the vernacular landscape.

6. CONCLUSION

Urban landscapes are a generality that remains in the human mind even after leaving that. One of the approaches considered in physical aesthetics is Gestalt, which begins with the basic elements of geometry of the environment and is followed by considering these elements and their applications in composition. Gestalt is one of the best-known psychology correspondents that explains how the brain understands visual

information. The urban landscape is an interconnected entity of symbols that gives meaning to concepts. Today, the economic, cultural, and social growth of modern society and the rise of urbanization are forcing decision-makers and designers to create creativity in the city. But many cities in developing countries do not have a high readership for decision-makers. This study was carried out in Dezful, where the old context

of the city is still in use as a layer of urban life. These old neighborhoods have been rebuilt in some places. But these refurbishments were based solely on the designer's demand or solely on the user's. In both cases, for both groups, it does not fit into the old context. As a result of this research, based on Gestalt theory, Table 10 showed differences and similarities in the preferences of these two groups.

Table 10. Differences and Similarities of Preference of Two Groups

| Groups | | Gestalt Theory | | | | | | |
|------------|-------------|----------------|---------------|-------------|---------------|------------|-------------------|-------------------|
| Non-Expert | Proximity | Symmetry | Closure | Good Figure | Inclusiveness | Continuity | Similarity | Figure and Ground |
| Expert | Good Figure | Continuity | Inclusiveness | Proximity | Closure | Similarity | Figure and Ground | Symmetry |

Sort Low to High Priority

The applied results can be described as follows:

- **Figure and Ground:** This is the fundamental principle of visual perception that helps us read an imagined structure. Reading an image is possible due to the contrast between figure and context. Based on table 10, this principle is recognized as one of the most important principles between the two groups. This principle gives depth to the image, which means that what attracts the most attention is the figure (What is recognizable) and then the context.
- **Symmetry:** Symmetry is the gestalt grouping law that states that elements that are symmetrical to each other tend to be perceived as a unified group. Even though the experts made this principle a priority, it was less important to the people.
- **Similarity:** The mind simplifies to avoid confusion as a result of much visual information received. Grouping by similar components in work is one of these ways of simplifying. The principle of similarity is influenced by many factors. The most important types of similarity are based on three major factors: size, color, and shape. Contrary to what experts think, the similarity is more important to people than symmetry. Also, it can be said that people are looking for simplification even in the absence of asymmetry.
- **Good Figure or Prägnanz (Law of Simplicity):** is law goes by the other name of "The Law of Good Gestalt", and for good reason. Humans like to make quick sense of things that would otherwise be upsettingly disordered. Contrary to the experts that simplicity does not matter, as the principle of similarity, a good figure has been in the middle for people and they prefer things

that are simple, clear, and ordered. Instinctually these things are safer.

- **Proximity:** According to this principle, the components that are closest to each other will be seen as a single set or group. The proximity of visual elements is the simplest condition to see them together. But this principle is not understandable to the people, and identifying these groups for simplification is not their priority.
- **Continuity:** According to this principle, stimuli that have interdependent designs are perceived as perceptual units. That is for people important than experts. The principle of continued improves people's perception of the living environment and makes them feel better. But it has been overlooked in the group of experts.
- **Closure:** According to this principle, if any part of the image is covered or obscured, the mind automatically completes it and sees it as a complete shape. This principle is moderate for both groups. And it suggests that there is a need to design environments where the user can get a sense of dependency to communicate more.
- **Inclusiveness:** According to this principle, in a visual structure, smaller gestalts fall within the radius of larger Gestalts and larger gestalts cover smaller gestalts. This principle implies that a visual structure as a whole comprises several smaller Gestalts that are also subsets of the larger Gestalts. This principle is moderate for both groups. Also, it simply refers to the complexity. That diverse and crowded environment can be easily divided to make sense of them.

END NOTE

1. As regards that Dezful city has one of the oldest architectural education centers in Khuzestan province called "Jundi-Shapur University of Technology", and it has a major in architecture and urban design. So the experts are selected from the indigenous people of this university.

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