

**PAPER 7:
A COMPARATIVE STUDY OF COLOUR PERCEPTION BETWEEN DESIGNERS
AND LAYPUBLIC OF CONSTRUCTED LANDMARKS IN MALAYSIAN CITIES**

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ABSTRACT

The main purpose of the study is to explore the various schemes of colour perception or colour interpretation of the urban environment and to discover their potential part in interactions between the designers and the laypublic or users. It is also of equal importance to identify the differences and similarities in perception between the two respondent groups, and to develop possible ideological (based on or relating to a particular set of ideas or beliefs) presuppositions (when someone believes something is true without any proof) about the realities of urban design in relation to colours, especially in the context of the Malaysian cities. Such findings will facilitate a dialogue between decision-makers and users of the urban scene and enlarge possibilities for what can be called a common understanding and communicative action.

This research will also deal with the perception of colour of the constructed landmarks between designers and laypublic and it is postulated that colour experience and the landmarks are mediated by the process of perception on the part of the individual. It will also study the aspect of familiarity and its influences on the judgement of constructed landmarks in six Malaysian cities.

The study will adopt categories of constructed landmarks that include towers, buildings and special urban features such as bridges and stadium. The study will also be limited to identifying landmarks, investigating the significance of association with meanings and interpretation of colour (but not on the physics of colour), emotional response and physical evaluation based on surfacial values or visual appearance, familiarity, educational background and ethnicity which also formed the main variables.

An exploratory survey will be conducted on the six selected cities namely Kuala Lumpur, Shah Alam, Johor Bahru, Pulau Pinang, Melaka, and Ipoh and former residents are the meant to be representative of a larger sampling group for the actual survey. The respondents are designers and the laypublic. The aim was to identify the landmarks for each city. The questionnaire will be open ended and this will allowed the respondents to express and answer the questions freely. The findings will be used to help in the design of the questionnaire for the pilot survey especially in identifying the range of responses derived from perception, colour perception and evaluation of the landmarks in selected Malaysian cities. The exercise is also meant to identify possible suitable candidates for the later part of the survey exercise.

Keywords: colour, colour perception, landmarks, designers, laypublics.

INTRODUCTION

For more than a century, the psychology of colour in relation to emotion and behaviour has been studied and throughout history colour has always fascinated humankind, for both aesthetic and social reasons. Colour plays a vitally important role in the world in which we live. What we see and interact with is in colour, includes both natural and built environments. From previous reading and reviews it has been identified that about 80% of the information which we assimilate through the sense is visual (Seliger, 2002). However, colour does more

than just give us objective information about our world-it affects how we feel. The presence of colour become more important in our environment, since most people spend more time awake and looking at all things in colour. (Tye, 2000) Colour can have a strong influence on our moods and emotions. Colour can sway thinking, change actions, and cause reactions. It can irritate or soothe your eyes, raise your blood pressure or suppress your appetite. (Schindler 2005)When used in the right ways, colour can save on energy consumption. When used in the wrong ways, colour can contribute to global pollution. As a powerful form of communication, colour is irreplaceable. Red means "stop" and green means "go." Traffic lights send this universal message. Likewise, the colour used for a product, web site, business card, or logo cause powerful reactions.

There are many facets of colour usage in the built environment that have been studied by a number of researchers. For example, aspects such as surface colour, manipulation of space and form, urban and regional palettes, cultural meanings, psychological and physiological responses, orientation and way finding, and colour appearance provide a wealth of theoretical knowledge available to designers (Hasanuddin 2003). However they appear to give little consideration in the selection of colour to integrate the design concept or to colour theory.

Colour perception on landmarks is fundamental to human experience of the environment but many researches, academics, designers and related professionals have dismissed the issues as purely subjective. Perhaps this lack of consideration for colour issues is hardly surprising due to the fact that little is known with any certainty about how perception of colour is interpreted and whilst understanding how people look at, make sense of and generally feel and experience about landmarks. It is belief that resolving these uncertainties would appear to be a key requisite in the development of theories of good design especially in the field of landmarks perception where the knowledge is not well developed. The term "landmark" originated from the pioneering work of Lynch (1960) and, was initially used to define dominant landscape features that would readily impress people's perception of the environment. Constructed landmarks can be defined as subject of recognition or familiarity and this refers to the notion that constructed landmarks apply generally to monumental structures as suggested by Lynch (1960) was expanded by Moughtin et al (1995). The landmarks would have a high probability of being retained as an organising element of a cognitive map (Lynch, 1960). Some commentators consider that landmarks are one of the most significant urban components and possibly more important than other components that require examination and appraisal (Evans, Marrero and Butler, 1981; and Heft, 1979). One reason given for their importance is because of their imageability and their contribution to making a city legible (Moughtin *et al*, 1999).

ISSUES AND SIGNIFICANCE OF STUDY

The discussion in this section will be dealt in two aspects. First, research problems and issues that relate to the city itself such as colour and colour perception, architecture and aesthetics of landmarks. The second aspect constitutes relevant issues and variables that will be considered significant to this study such as definition of landmarks, respondents and familiarity and non-organismic variables. According to Smith (2003) environmental colour is multifaceted, playing a variety of roles in our everyday lives. However, is colour considered important in the design of our built environment by those who practice design, such as architects, interior designers, or urban planners. Smith (2003) has hypothesized that, in general, designers tend to use colour in an ad hoc fashion, with little theoretical knowledge. This sentiment is supported by Hubbard (1996) which also revealed that the designers are mostly guessing or making judgements on unsubstantiated theories or appear to be unaware of the differences between their aesthetic taste and those of the laypublic. In this regard, Sulaiman (2000) from his research undertaken about urban design also revealed that the

amount of information design professionals in Malaysia have about the user or layman is very limited. Any knowledge was collected informally and generally synthesized by using the intuition of the designers themselves. One of the problems of existing urban design lies in lack of trust by the professionals of the layman and users to contribute towards the design process (Hubbard, 1996). This observation was supported by others who have observed that rarely is colour used to shape space, enhance and diminish volume, or assign position to an object in the visual field.

Although the colour associations with particular emotions have been clearly stated, we still know very little about how colour preferences change in relation to various buildings (Naza Kaya; Melanie Crosby, 2006). There is repeated evidence of architect's failures to appreciate laypublics' perceptions (Blake, 1974; Gans, 1982) and notable differences between what designers prefer and what the laypublic like (Nasar, 1994; Groat, 1994; Devlin & Nasar, 1987; Nasar 1988; Groat, 1982; Hersherberger, 1969). (Gifford et al, 2000) were also quoted as suggesting that designers do not seem to understand what the laypublic likes. One of the major components considered as the most physical and tangible and yet pivotal to the process of improving and preserving the identity and quality of cities are 'landmarks' (Hasanuddin, 2003) and surfacial qualities such as colour among others relates to evaluating a 'building' as 'beautiful' (Fitch, 1970).

There is also a growing awareness that progress in understanding and managing the built environment can be aided by the integration of expertise and knowledge from different disciplines and from different cultures (Whitehand and Larkhan, 1992). According to the report on 'Towards an Urban Renaissance, by the Urban Task Force (1999) there are a segmentation of various skilled professionals with the need for widespread recognition of the value of integrated links and working solutions. But as expert decision makers who should be serving the public, it is significant that similarities and differences between the two groups (experts and public) be established so that their importance and implications can be determined.

This thesis will deal with the colour and its association with constructed landmarks and it is postulated that colour experience and the landmarks are mediated by the process of perception on the part of the individual. It will also study the aspect of familiarity and its influences on the judgement of constructed landmarks in Malaysian cities.

RESEARCH AIMS

The aim of this research is to determine the visual and symbolic features likely to elicit affective and emotional responses during the process of evaluating constructed landmarks and to analyse their differences between the designers such as architects, landscape architects, planners, urban planners/ urban designers engineers, quantity surveyors and the laypublic together with what effects ethnicity as well as the varying degree of familiarity has on the evaluation.

RESEARCH OBJECTIVES

1. To study the differences and similarities in meanings between designers and laypublic associated with the use of colours on constructed landmarks.
2. To understand the differences in emotional responses between designers and laypublic in relation to use of colours on constructed landmarks.
3. To identify the differences in physical descriptions in the context of colours between designers and laypublic.
4. To identify and analyse how and what components affects their judgements on colour perception and constructed landmarks.
5. To assess whether familiarity will influence preference of constructed landmarks.

RESEARCH QUESTION

The key research question is what are the differences and similarities between the designers and the laypublic in their colour perception of constructed landmarks in Malaysian cities.

Secondary questions in this study are as follows:

- i: How do groups of people from design and non-design profession perceived colour on an constructed landmarks?
- ii: What are the differences and similarities in meanings of constructed landmarks in terms of colour between the designer, and the laypublic.
- iii: Can different degrees of familiarity affect colour perception of constructed landmarks?
- iv: What are the differences and similarities in words used to describe the constructed landmarks between the designer and laypublic?

RESEARCH HYPOTHESIS

The hypothesis put forward is that familiarity will affect judgements and that there will be differences in colour perception between the professionals and non-professionals. Form and colour will be major components that will influence the constructed landmarks regardless of the degree of familiarity.

LITERATURE REVIEW

Introduction

The main aim of the research is to document and discuss various relevant aspects that can essential provide a theoretical framework of the study. It will deal with theories, concepts and definitions relating to colour perception; meanings, symbolisms and culture, aesthetics and familiarity. Basically it will be approached by trying to answer the questions of what, when, how, why and who.

The topic of colour and visual perception, aesthetic quality of the environment and evaluation of it has become of increasing interest and importance in recent years. As a result, a substantial literature has been developed concerning the understanding of human responses to the visual environment with objective and systematic measurement methods.

This study will discuss the concept of perception, colour perception, preference, judgement, cognition and meaning in the context of the urban environment. It will also address the phenomenology of colour perception, the effects of stimulus on colour perception and the emotional and motivational effects on colour perception. It intends to bring into focus the primary functions of colour perceptions and hence the relationship between environmental perception, preference and cognition, particularly with respect to the aesthetic aspects of landmarks. It will also explore the various definitions provided by many experts and writers, which can assist in the selection of appropriate methodology and determining the scope of the study.

Previous related studies

There have been quite a few studies done on colour perception and environmental perception preference and these include:

- a. Environmental colouration and/or the design process.
Dianne Smith (Wiley InterScience, 2003)
- b. Colour associations with different building types: An experimental

- study on American college students. **Naz Kaya, Melanie Crosby (Wiley InterScience, 2006)**
- c. Urban spaces: a study in perception, classification and preferences. PhD (**Newby, 1972**)
 - d. Aesthetics in urban design. M.Sc (**Gill, 1975**)
 - e. The prediction of preference for familiar urban places. (**Herzog, Kaplan and Kaplan, 1976**)
 - f. Aesthetic perception and experience in the urban landscape. PhD (**Laverick, 1979**)
 - g. A cognitive analysis of preference for urban nature. (**Herzog, 1989**)
 - h. Perception of public urban spaces: a case study of Yogyakarta-Indonesia. M. Phil. (**Rudwiarti, 1994**)
 - i. Meaning and Form in community perception of town character. (**Green, 1999**)
 - j. The prediction of preference for unfamiliar urban places. (**Hertzog, 1982**)
 - k. Judgements of photographs vs. field observations in studies perception and judgement of the visual environment. (**Stewart, T. et. al., 1984**)

Perception

Perception is the fundamental mechanism linking man and his environment is an extremely complex concept and is applied to complicate processing of elaborate and often meaningful stimuli (Bell *et al*, 1996). The difficulties of articulating conscious and unconscious feelings, attitudes, or ideas associated with perception have made the measurement of perception a major problem (Saarinen, 1976).

To begin to understand the process of perception, it is relevant to learn something about psychophysics (the process of detection, recognition, discrimination and scaling (Veitch & Arkelin, 1995). Krupat (1985) denotes that perception is a direct sensory experience of a stimulus or an environment that is flexible and transitory, unlike attitudes, which are relatively constant and remain so even in the absence of an environmental stimulus. Perception is also regarded as a pivotal element in a network of cognitive processes and environmental stimuli. Perception can be defined as the active and purposeful process of obtaining information from the environment and cognition as the process of thinking through all our senses which involve learning and remembering, generalising, feeling and attitude formation, liking and disliking (Gifford, 2002; Lang, 1994). Perception can also be described as a complex categorisation or classification of objects as for example buildings which are then further refined so that buildings are further organised by height, style, materials, ornamentation or colours (Moughtin *et al*, 1999).

Cognition

Cognition is derived from the Latin word, which means 'getting to know' (Rapoport, 1977). It refers to the process of knowing and understanding and the product of this process are the things known. Krupart (1985) refers to the process by which gathered information is organised and structured and placed in a meaningful groupings and all future information will be organised according to these categories, where it is modified or modifies the very system in which it is placed.

Altman (1980) defined environmental cognition as perception, cognition and beliefs about the environment. All information about the various attributes of the environment are received and processed through the senses and organised and evaluated against experiences of similar and different environments. The reason for this process is to inform the location of places and objects in terms distances and direction. It is also to inform the environmental attributes, which can be either descriptive or evaluative. However, this environmental cognition is selective, incomplete and inaccurate. Therefore, in order for cognition to be comprehensive and accurate, the cognition must include the various processes, by which visual, linguistic, semantic and behavioural information is selected, coded, reduced and elaborated, stored, retrieved, decoded and used Altman (1980).

Moore (1976) identified three fundamental principles of cognition or environmental knowing. They are:

- i: The dynamic process whereby information from an external environment is constantly received, selected, organised and used to help individuals operate on a day to day basis.
- ii: The subjective conception of the environment, which is used differently by different individuals and groups. This form of value system will help in determining the extent of awareness of knowledge about the environment.
- iii: Information extracted from the larger scaled external environment existed in some type of psychological space and it need not have the same dimensions as the physical space.

With reference to this study, the second principle is seen to be more pertinent because it deals with the perception of people from different backgrounds. This relates to one of the research questions that aim to investigate how the different groups differ in their subjective conception of the urban landmarks and whether the professional, educational, and familiarity influence their perception of these constructed landmarks.

Colour Perception

(Nassau, 1998) Colour is that aspect of perception which distinguishes red from green. Colour is that part of perception that is carried to us from our surroundings by different wavelengths of light, is perceived by the eye, and is interpreted by the brain. (Nassau, 1998) again say our brain perceives colour when a non-white distribution of light is received by the eye. It was said that it is easy to find flaws in and exceptions to any such definition. Colour are recognise as a characteristic and identifiable quality of the appearance of objects. Indeed, certain objects may be differentiated from one another largely by means of colour, for instance, an orange, an apple, and a tomato. According to (Nassau 1998) the term 'colour' describes at least three subtly different aspects of reality. First, it denotes a property of an object, as in "green grass". Second, it refers to a characteristic of light rays, as in "grass efficiently reflects green light while absorbing light of other colours more or less completely". And, third, it specifies a class of sensations, as in "the brain's interpretation of the eye's detection of sunlight selectively reflected from grass results in the perception of green".

Colour perception is often associated with feelings of pleasure or displeasure. (Vernon,1966). Most people have preferences for certain colours rather than others. The process of colour perception is culturally embedded, and various social factors have been shown to produce differences in the ways two individuals will perceive the same stimuli. Colour perception is also a process that predicts values found in a particular environment and explores the reflections of these values on the senses, emotions, and language of particular groups or individuals in a society. For example, the Eskimos have more than three different names for snow, to corresponding to the different types or conditions of snow (Vernon, 1966.) It is reported that the Kaffir language has more than twenty-six terms to designate the different colour markings of cattle (Vernon, 1966). In other words, the expression of senses and emotions and interpretations of these senses is a representation of personal views or opinions for a particular environment.

The gestalt or holistic school whose adherents would likely to be sympathetic to the concept that beauty is in the mind of the observer denies this summation theory. The subjective paradigm by contrast, considers colour perception as "*solely a human construct, based on the interpretation of what is perceived through the memories, associations, imagination, and any symbolism it evokes*" (Lothian, 1999). A probabilistic model of aesthetic response designed by Nasar (1994) shows how perception works when respondents are asked to evaluate an architectural form as well as what kind of appraisals and aesthetics response can

only the perception of colour on landmarks but also trying to identify if landmarks can be perceived beyond their archetypal perception of being tall, large, monumental, distinct, and referring only to buildings or towers. It is the aim of the study to expand the notion of landmarks into several categories because as Nasar (1983) argued, the comprehensiveness of identifying the criteria used to evaluate physical environment depends on the extent of diversity of the subject.

The significance of perception in urban design

Early studies in urban environment evaluation have concentrated upon the observable activities and physical aesthetics or the surroundings or imageability of the physical features of the environment rather than the less tangible aspects. Studies that deal with experiences and meanings were largely ignored.

Ittelson *et al* (1974) asserted that perception involves the study of the way someone relates to the environment, the way in which information is gathered and interpreted. The major dimension in public's perception of their surroundings is the aesthetic quality (Carp *et al*, 1976) with variables such as beauty and pleasure representing the most influential aspect of environmental evaluation. The aesthetic quality in the context of urban environment refers to the urban effect or perceived quality of the surroundings (Nasar, 1989). Hence, the urban environment is suggested as a source of information, and colour perception involves information processing that relates to urban aesthetics. A comparative study of different aspects of the environment or colour perception has been quite numerous for the past 20 years. The literature on the subject of landmarks aesthetic and appreciation has grown considerably and research tends to be trans-disciplinary more than inter-disciplinary, crossing an impressive range of academic and professional boundaries. However, many have concentrated on the scientific research on colour perception rather than psychological perception on colour.

Some studies have shown that age can influence preference with occupation and education showing distinct differences between experts in the field (Kent, 1993). Ulrich (1983) have suggested that in order to evaluate individual differences in perceptions, dimensions of personality should also be included among the demographic variables such as age, gender and occupation.

Values and Variables

Kaplan and Kaplan (1982) have demonstrated that both content and process are significant contributors to colour preferences and the environment should be evaluated not in terms of elements and features, but also with regard to basic human need for information-understanding and exploration. To simplify what seems a complex subject, many have roughly classified the values into 'least', 'moderate' and 'most'. But one needs to appreciate that aesthetic responses are conditioned by the stimulus properties of the landmarks and it is these properties, or attributes that have been explored, investigated, identified, categorised and discussed in some previous research.

To aid understanding of the complexity of the aspects of urban aesthetics, a structuring of the multitude components and set of categories of various values and variables will have to be organised.

The structuring most agreed by many experts which have been widely used in research was based upon Lynch's (1960) terminology of physical attributes of content. They are:

- landmarks (focal points, monuments, individually significant or unique elements)
- districts (sites, spaces, places)
- nodes (enclosures, open spaces, centrality)
- paths (streets, exposures, circulation facilities)
- edges (lines of life, lines of contrast)

The aesthetic quality of the urban environment can be divided into a more measurable and physical aspects such as formality, spatiality and surfacial qualities such as scale, proportion, mass, void, line, tone, colour, texture, and visual richness. The more experiential aspects include the major qualities like unity, variety, complexity, coherence, dominance, ambiguity, enclosure/ exposure, surprise and mystery

Familiarity:

A variable that is inherent in many studies before this is familiarity which is the resemblance of the current setting to the environments the observer knows well. It has also been known under the name 'identifiability' (Herzog, Kaplan, and Kaplan, 1982; Herzog, 1984, 1987) and 'typicality' (Purcell,1986). Familiarity has been found to influence cognitive and evaluative response and it is preferable for specific on-site response (Craik, 1983; Zube, Vining, Law, and Bechtel ,1985; Kent,1993). The influence of familiarity on observer preference can be measured in terms of degree of their preference for a scene which is as a result of acquaintance gained through three means of familiarity (Dearden ,1985).

A: on-site experiences

B: viewing of site related photographs prior to on site experiences and,

C: number of previous visits.

However, the relationship between familiarity and preference is not necessarily a simple one. Williams (1985) has discovered a paradox where familiarity may both help and hinder preference. One may natural feel comfortable with a familiar landmarks and therefore prefer it highly. But these preferences may change over time. The following diagram indicates the matrix of complex relation between familiarity and preference.

Apart from familiarity, the probability of different environments can resist or facilitate the process of image-making can be stated further and with greater precision when the observers are grouped in more homogenous groups of culture, age, gender and occupation.

The coherence of an image does not necessarily depend on the ordered or distinct attributes of the setting but may be derived through the process of long familiarity. Alternatively, a scene seen for the very first time may be identified and related because it conforms to a stereotype already constructed by the observer and not for reasons of it's individual familiarity (Lynch, 1960). Therefore, do unfamiliar landmarks features have very little meaning?

It seems that studies on familiarity and preference relationship are increasing in numbers and that familiarity has the potential to be one of the most influential of variables effecting judgements (Dearden, 1985)

RESEARCH METHODOLOGY

The relative advantages of quantitative and qualitative methods have been debated throughout the history of environmental evaluation. In the field of colour perception and environmental aesthetics, some researches have pursued rigorous quantitative measurement of human response to the environment while others have followed a qualitative experiential interaction with the surrounding approach (Hasanuddin, 2003).

This study will adopt a combination of quantitative and qualitative research methods to examine the preferences and meanings of landmarks for groups of designers and laypublic. This method could also be termed as "multiple research strategies" (Burgess, 1991) or "triangulation" (Brannen, 1992) which is the use of more than one method of investigation and more than one source of data. The rationale for adopting a mixed approach is best illustrated by Bryman (1988) who argued that no research method is without bias and that qualitative work should be seen as "a facilitator of quantitative work" and quantitative work as a "facilitator of qualitative work".

Preferences expressed in numerical ratings can exist within a larger context of feelings, beliefs, values and memories, many of which are easily verbally manifested (Schroeder,

1991). On the other hand, qualitative context is important for understanding how the environment is experienced and the significance it has in people's lives because the evaluation is based on interpretation solely through human construct of what is perceived through imaginations, associations, memories and any symbolisms that evokes perception (Lothian, 1999). Therefore, a combination of quantitative and qualitative approaches can provide a more comprehensive understanding of human response to perception of colour than can either approach used alone. This fits in with Nasar's (1989) suggestion that concrete physical measures may lack the relevance to the perceived aesthetic quality of the environment, unless they are undertaken in tandem with qualitative measures.

RESEARCH METHOD

- i: A literature review of the works by various scholars on the perception of urban aesthetics in general and particularly on landmarks will provided the theoretical framework for this research. Two aspects of the theory will be reviewed which include:
 - a: the concepts and theory of urban aesthetics and colour perception.
 - b: the approach and methods used by different previous researches that are relevant to this research.
 - c: the role and significance of landmarks in the context of colour perception and urban design.

These theories were developed by western scholars based on western society's perception of their environment and the physical characteristics of cities in the western world. This review will form an important part of the study as it provides an avenue and a platform by which an investigation into a similar or related field can be conducted in the context of Malaysian cities.

- ii: An exploratory survey will be conducted on the six selected cities and former residents are the meant to be representative of a larger sampling group for the actual survey. The respondents are the designers and the laypublic. The aim is to obtain the landmarks for each city. The questionnaire will be open ended and this will allow the respondents to express and answer the questions freely. The findings will be used to help in the design of the questionnaire for the pilot survey especially in identifying the range of responses derived from perception, colour perception and evaluation of the landmarks in selected Malaysian cities. The exercise will also help to identify possible suitable candidates for the later part of the survey exercise.
- iii: A pilot survey will be conducted to evaluate the practicality, feasibility and economics of the actual method. Compared to the exploratory survey, the questionnaire for the pilot survey will be more structured. It will combine of fixed-response and free-response questionnaire which will become a basis for designing and refining the questionnaire for the actual or final survey. Problems that arose from the exercise will be noted and various basic process of analysis of results will also be conducted.

STUDY AREA: THE SIX CITIES

The six cities namely Kuala Lumpur, Shah Alam, Johor Bahru, Pulau Pinang, Melaka, and Ipoh are chosen because of its high concentration of various professionals and social mix as well as high density of old and new physical development such as buildings, towers, open spaces and special urban features.

The study will provides an introduction and the historical background to each of the six cities as well as its potential, issues and physical and aesthetic characteristics. It will also investigate the contribution and roles of various parties and organisations that have direct or indirect influence over the policies and decisions related to structural planning and design of the city in general. One of the obvious criteria to have is that the study area should have mixed variety of good examples of urban landmarks. The city should preferably have a high

concentration of various professionals and social mix, (since a large range of sampling is needed), and the subjects should also be willing and interested to participate.

SAMPLE DESIGN

To facilitate this requirement, the study will mainly focus on selected sampling of design and the laypublic randomly chosen from several sampling frames such as professional directories which are lists of qualified professionals currently registered with various professional bodies such as architects, landscape architects, planners, engineers and quantity surveyors as suggested by Hubbard (1996). Only respondents with high levels of familiarities with the city will be selected.

SCOPE OF RESEARCH

This research will be limited to the study of constructed landmarks and the qualities that designers and laypublic associate with the colour perception of the city's landmarks. This study will adopt categories of constructed landmarks that include towers, buildings, open spaces and special urban features as suggested by Hasanuddin (2003). This study will also be limited to identifying landmarks, investigating the significance of association with meanings and interpretation of colour, emotional response and physical evaluation based on surfacial values or visual appearance, familiarity and educational background which will also formed the main variables.

SIGNIFICANCE OF STUDY

The main purpose of the study is to explore the various schemes of colour perception or colour interpretation of the urban environment and to discover their potential part in interactions between the designers and the laypublic. It could be of equal importance to discover differences and similarities in perspectives between the two respondent groups, and to develop possible ideological presuppositions about the reality of urban design, especially in the context of the Malaysian cities. Such findings will facilitate a dialogue between decision-makers and users of the urban scene and enlarge possibilities for what was called by Habermas (1979) a common understanding and communicative action.

STRUCTURE OF THE STUDY

The study will be divided into six main sections. Each section will address the following matters:

Section One: Establishment of Research Framework.

Section Two: Theory and Concept.

Section Three: Study area.

Section Four: Research Design and Methodology.

Section Five: Results, Summaries, Discussions and Conclusions /Recommendations.

Section Six: Appendices.

THE SURVEY

A three-part survey including a pilot survey will be employed.

Part one:

This survey is in a form of exploratory study which is aimed at selecting the constructed landmarks. It will also gauge and assess the familiarity, appreciation and understanding of various issues, terms relating to urban in general and urban design and aesthetics in particular. There will be no specific questions related to colour and colour perception at this stage of the survey. This will also help to design and refine the following survey. The sampling shall be rather small between 15-30 individuals from each group that is the designers and the laypublics.

It will be in a form of exploratory open ended questionnaire or interview with the objective of:

- a: Identifying the constructed landmarks for each city.
- b: To gauge peoples' general impressions, opinions, interest about constructed landmarks.
- c: To provide a basis for questionnaire design for later stages of evaluation.
- d: To identify possible candidates for evaluation on the basis of familiarity or non-familiarity, educational background, profession, experience, age, gender and general interest.

The survey will be in the form of a simple questionnaire which will be by interviewing.

Part Two:

This will be in the form of a pilot survey which will be presented as an experimental run to evaluate the practicality, feasibility and economics of the actual method which will be used later.

The core variable between the following methods is familiarity or the degree of it. All subjects will be asked to confirm their degree of familiarity in every section of the assessment.

Part Three:

The final survey will form the actual process of perceptual evaluation and designed according to the notable remarks about the ambiguities and shortcomings of the pilot survey. The question on personal details and more importantly on their degree of familiarities will form the first section of the questionnaire. The second part will form the actual perceptual evaluation of the landmarks. The final section will require each respondents to describe in their own words why they prefer or not prefer the selected landmarks.

Participants

The sample will include 70-80 members from the following professionals:

- Architects
- Landscape Architects
- Planners/Urban planners/ Urban designers
- Engineers
- Quantity surveyors
- Ecologist/environmentalist
- Project managers

The second group will be a broader range of participants which will consist of 100-150 different individuals from non-design backgrounds and from different levels of educational background using the stratified random sampling method. All participants from both sampling groups will be chosen according to various gender and age.

All participants will be interviewed in groups and individually in either on site, at their homes, their office or researcher's room and will be required to rate and evaluate each of the scenes for four basic variables:

A: The objective measurement of attributes

- preference rating

B: The subjective evaluation of attributes.

- meaning

- psychological well-being
- spatial behaviour

These subjective data in terms one or two word answer (appendix of descriptive words will be attached) will be used to understand the preference and to verify findings based on the above objective data. Subjects will be asked to write a descriptive passage at the end of each session to explain their preferences.

CONCLUSION

In summary, the objective of the research proposal is to establish various concepts, issues, notions and discussions about colour perception and the many research and experiments which been conducted before. The research is to identify the long well-known 'fact' or 'myth' that perception is nevertheless an ambiguous concept despite many attempts to clarify and explain it. It is this ambiguity which present more opportunity than a problem because it will highlights some of the formidably messy issues that ought to be confronted by any theory of perception. One issue that has to be addressed is the differing values of different groups of society and its political implications. The visual bias of colour perception must also be reconciled with the fact that experience involves all of the senses. These difficulties, couple with the fact that landmarks is a complex mix of art, artefact and history, help to explain why philosophers have generally failed to wrestle with landmarks as an aesthetic object.

In order for the design theories to be well developed and purposeful, the key factor to understanding these perceptual and preferential values is by communication. There should be an avenue or a platform where a "dialogue" can exist without any impediments of any sort between the user, the designer and the landmarks itself. This can happen in many facets or ways. One of the ways is by making the landmarks more "accessible" and "legible" to allow the general public make sense of the ideas components or aesthetics aspect that is part of the landscape. Studies on colour perceptions and preferences can be more meaningful, effective when the general users are able to relate to the landmarks and 'communication' can then be established when different groups understand each other and talking about the same subject.

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