Developing Perception Based-Criteria of Inclusive (Architectural) Design

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Issues in Applying Inclusive Design in Architecture

- Is it possible to accommodate **various needs** of all kinds of people?

- Opinions of **professional peers >** the actual needs of **users**

- Transforming **'knowing how'** into **'knowing what'**

- Scarcity of detailed **tools** and **guidelines**

What can be done for responding to these issues?

Issues	Questions
Transforming '**knowing how** into '**knowing what**'	What **approach(es)** are available to be utilised in order to **acquire information** regarding **user perception** of the built environment?
Scarcity of detailed **tools** and **guidelines**	What can the **information** regarding **user perception** of the built environment provide for the **application of inclusive design**?

Perception

- The conscious **experience** that involves various **senses** stimulated by the **surroundings** or their **elements** (Coren et.al 2004; Wade & Swanston, 2013)

Perception and (Inclusive) Design
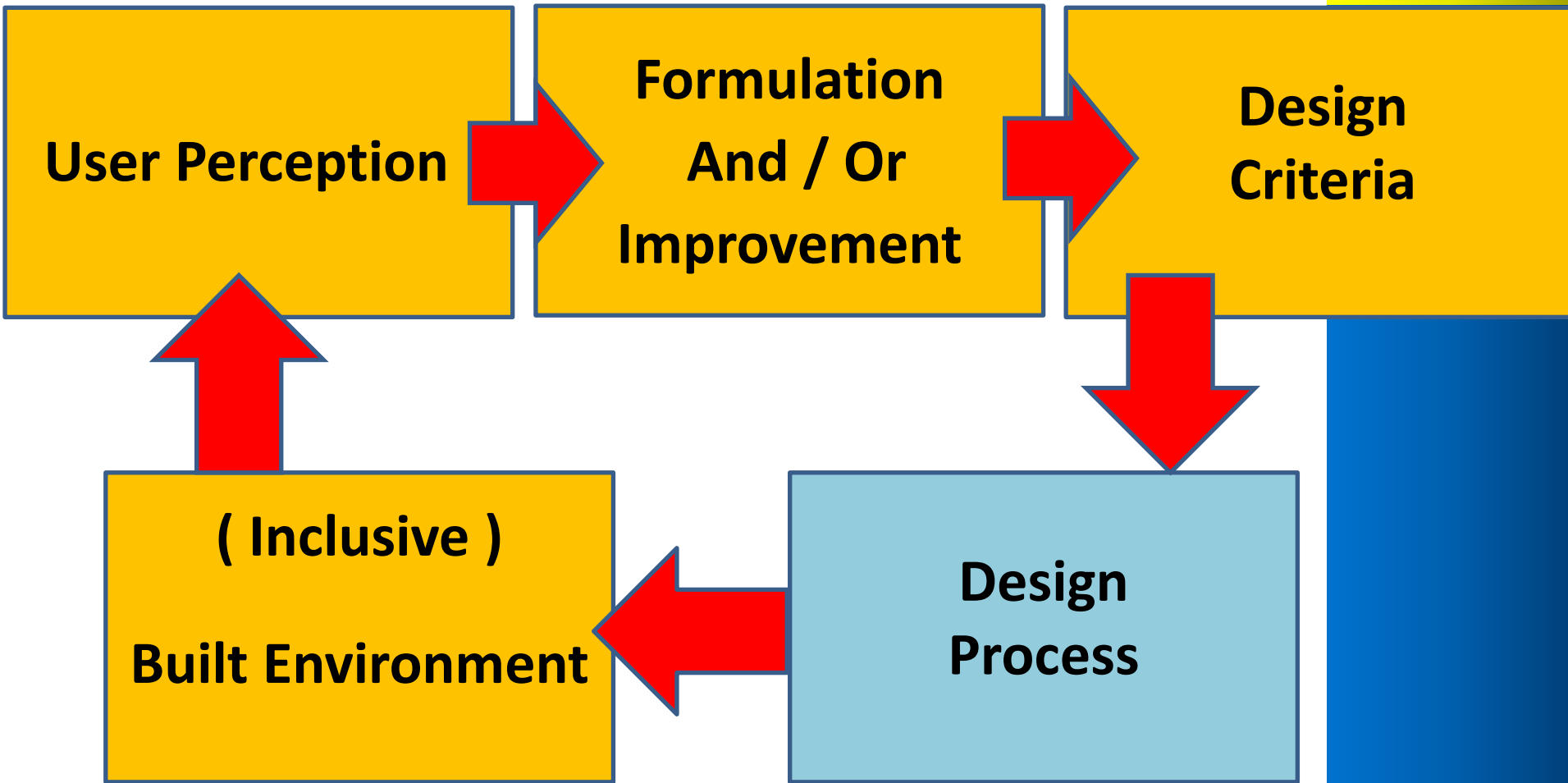
Perception and Architecture

- Understanding space
  → **multisensory experience**

  (Rasmussen, 1964; Malnar & Vodvarka, 2004; Pallasmaa, 2012)

- Structure, technology, program **+ sensory experience**

  (Malnar & Vodvarka, 2004)

www.inewidea.com

Perception and The Built Environment

Human

Perception

Visual - Auditory-

Haptic– Balance–

Olfactory-

Gustatory

Action/ Activities

* Shape
* Size
* Texture
* Position

* Colour
* Lightness

Built Environment

Perception and The Built Environment

Human

Visual Perception

Vision

Action/ Activities

* Shape
* Size
* Texture
* Position

* Colour
* Lightness

Built Environment

Perception and The Built Environment

Human

* People with Normal Vision

* People with Visual Impairment

Visual Perception

Vision

Wayfinding Activities

* Shape

* Size

* Texture

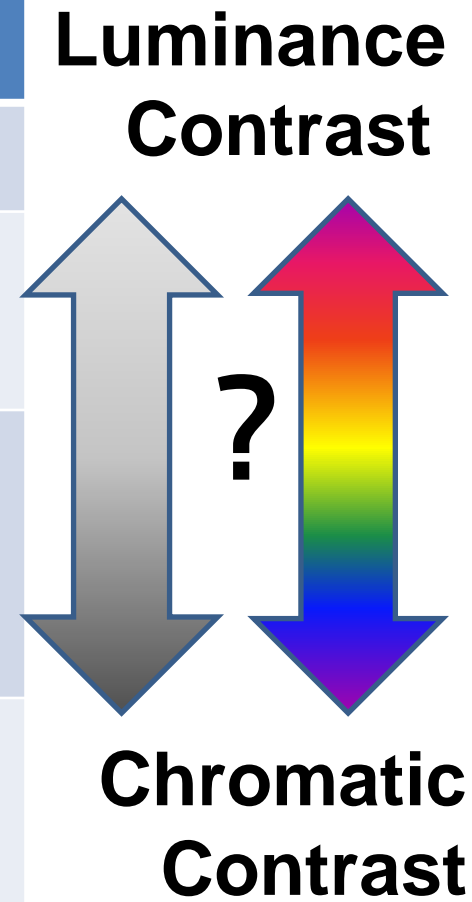* Position

* Chromatic Contrast

* Luminance Contrast

* Colour

* Lightness

Built Environment

How much contrast is sufficient ?

Category	Visual Acuity	
	<	≥
Normal Vision		6/6, 20/20, 0.0
Low Vision	6/6, 20/20, 0.0	3/60, 20/400, 1.3
Blindness	3/60, 20/400, 1.3	No Light Perception

Luminance Contrast

?

Chromatic Contrast

Proposed Approaches for Acquiring User Perception

- User as information provider

- User as member of the design team

- Architect as user

- Combined approach

Examining Perception regarding Contrast

Source :

www.pathfindersystems.com.au

www.infolink.com.au

Tactile Ground Surface Indicators (TGSIs)

Criteria that are based on perception regarding contrast

Back-ground/ Floor Surfaces	Tactile Ground Surface Indicators					
	People with Normal Vision			People with Low Vision		
	Yellow	White	Metal	Yellow	White	Metal
Black Surfaces						
Grey Surfaces						
Brown Surfaces						

Examining Perception regarding Contrast

Step Nosing

Source:
www.projectlink.com.au
www.houserepairtalk.com

Criteria that are based on perception regarding contrast

Back-ground/ Floor Surfaces	Step Nosing					
	People with Normal Vision			People with Low Vision		
	Yellow	White	Metal	Yellow	White	Metal
Black Surfaces						
Grey Surfaces						
Brown Surfaces						

Further research

- **Efficiency** and **effectiveness** of **method**

- Influences of various **settings** and **backgrounds** on **perception** of the **built environment**

References

- Coren, S., Ward, L. & Enns, J., 2004. *Sensation and Perception.* 6th ed. John Wiley & Sons.

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- Pallasmaa, J., 2012. *The Eyes of The Skin : Architecture and The Senses.* 3rd ed. John Wiley & Sons Ltd.

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- Wade, N. J. & Swanston, M. T., 2013. *Visual Perception: An Introduction.* 3rd ed. Psychology Press.

Thank you