Value Deactivated: Waste as an Act of Sweeping

價值失效：作為掃除行為的廢棄物

Jeong Hye Kim

Introduction

- Modern society often considers waste as "useless," but this article challenges that perspective.
- How do design, language, and culture influence our understanding of waste?
- By redefining waste, we can promote more sustainable design and resource reuse.

- 現代社會通常將廢棄物視為「無用」的，但這篇文章挑戰了這種觀點。
- 設計、語言和文化如何影響我們對廢棄物的理解
- ？透過重新定義廢棄物，我們可以促進更可持續的設計和資源再利用。

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Theoretical Background

The Binary Opposition of Design and Value

- Design establishes distinctions between "useful" and "useless" objects.
- As design expands, the amount of waste also continues to grow.

設計與價值的二元對立(二分法)

- 設計在「有用」與「無用」的物品之間建立了區分。
- 隨著設計的擴展，廢棄物的數量也不斷增加。

Sociology and Waste

- **Mary Douglas' Theory of Pollution and Order:**
  - "Pollution" is a socially constructed concept: anything "out of place" is considered impure.
  - This categorization influences how we classify waste, leading to its concealment or isolation.

瑪麗·道格拉斯的污染與秩序理論：

- 「污染」是社會建構的概念：任何「不在適當位置」的東西都被視為不潔。
- 這種分類影響了我們如何定義廢棄物，進而導致其被隱藏或隔離。

Sociology and Waste

- **Zygmunt Bauman’s Critique on Waste and Modernity:**
  - Bauman argues that societies hide and marginalize waste.
  - The process of social modernization is deeply intertwined with the creation of waste.

齊格蒙·鮑曼對廢棄物與現代性的批判：

- 鮑曼認為，社會往往將廢棄物隱藏並邊緣化。
- 社會現代化的過程與廢棄物的生成密不可分。

Thing Theory and Vibrant Materialism

- **Bill Brown’s Thing Theory:**
- Objects reveal their "thingness" only when they lose their original function.
- Objects are not merely functional; they have cultural and social significance.

比爾·布朗的物件理論：

- 物品只有在失去其原有功能時，才會顯露出其「物性」。
- 物品不僅是功能性的，它們還具有文化和社會意義。

Thing Theory and Vibrant Materialism

- **Jane Bennett’s Vibrant Materialism:**
- Matter possesses inherent dynamism and continues to exert influence even when discarded.
- Objects are not entirely "useless"; they exist in a latent state of potentiality.

珍·班尼特的活躍物質論：

- 物質本身具有內在的動態性，即使被丟棄也會持續產生影響。
- 物品並非完全「無用」，它們處於一種潛在可能性的狀態。

Linguistic and Cultural Perspectives

Waste and Cleaning in Korean

- **Etymological Analysis:**
- The Korean word for "waste" (ssregi) originates from "sweeping" (sslgi).T
- his linguistic connection suggests waste is not truly "discarded" but rather repositioned.

韓語中的廢棄物與掃除

- **詞源分析**：
  - 韓語中「廢棄物」（**ssregi**）一詞源於「掃除」（**sslgi**）。
  - 這種語言聯繫表明，廢棄物並非真正「丟棄」，而是被重新安置。
- **廢棄物的動態特性**：
  - 從語言的表達來看，廢棄物並非靜態的，而是一種等待重新啟用的狀態。

Waste and Cleaning in Korean

- **The Dynamic Nature of Waste:**
- Waste, as expressed through language, is not static but rather awaiting reactivation.

廢棄物的動態特性：

- 從語言的表達來看，廢棄物並非靜態的，而是一種等待重新啟用的狀態。

Perspectives from Mesoamerican Languages

Mayan Language and Rituals:

- In Mayan culture, "sweeping" (**miz**) and "waste" (**taa'**) have distinct linguistic roots but are conceptually linked.
- Sweeping serves a ritualistic function, emphasizing renewal and reorganization rather than mere disposal.

瑪雅語與儀式：

- 在瑪雅文化中，「掃除」（**miz**）與「廢棄物」（**taa'**）雖然詞根不同，但概念上密切相關。
- 掃除具有儀式性的功能，強調更新與重新組織，而不僅僅是清理垃圾。

Design and Material Innovations

Scientific Innovation: StarCrete

- **Material Composition**:
  - Made from simulated planetary dust, potato starch, and salt.
  - Designed as an alternative building material for Mars and the Moon.
- **Material Potential**:
  - Demonstrates how seemingly "useless dust" can be transformed into valuable resources.
  - Challenges the notion that waste is merely an endpoint.

材料組成：
由模擬行星塵埃、馬鈴薯澱粉和鹽製成。設計為火星和月球上的替代建築材料。
材料潛力：
展示了看似「無用的塵埃」如何轉化為有價值的資源。挑戰了廢棄物僅僅是終點的觀念。

Design Innovation: Limestone Dust Furniture

Design Process:

- Designers collect limestone dust from quarries and mix it with gypsum to create furniture.
- This material retains the texture and qualities of natural limestone while being repurposed.

- 設計過程：設計師收集採石場的石灰岩粉末，並與石膏混合，製作家具。該材料保留了天然石灰岩的質感，同時被重新利用。
- 重塑材料身份：物品承載著歷史和文化意義。石灰岩粉末家具體現了材料的演化性。

Hybrid Materials: Lithoplast (Plastic + Soil)

- **Material Composition**:
  - Combines industrial waste plastic with soil, undergoing a geological transformation.
- **Philosophy of Design**:
  - Challenges the distinction between "artificial" and "natural."
  - Shows that plastic can integrate into environmental cycles rather than being permanently classified as pollution.

- 材料組成：將工業塑料廢料與土壤結合，經過地質轉化形成新材料。
- 設計哲學：挑戰「人工」與「自然」之間的區分。表明塑料可以融入環境循環，而不是被永久標記為污染物。

Redefining Waste

Waste as a Latent Resource

- Waste is not necessarily a termination point.
- Through design, waste can be reactivated and repurposed for new uses.

- 廢棄物作為潛在資源
- 廢棄物作為潛在資源廢棄物不一定是終點。
- 通過設計，廢棄物可以被重新啟動，並用於新用途。

Circularity and Transformation

- Conventional recycling views waste as something to be "rescued" back into usefulness.
- This article advocates seeing waste as an evolving state rather than something requiring redemption.

循環與轉化

- 傳統的回收將廢棄物視為需要被「救贖」回有用範疇的物品。
- 本文主張應將廢棄物視為一種進化狀態，而非需要拯救的東西。

Conclusion

Challenging Binary Classifications

- The distinction between "useful" and "useless" is fluid and subject to change.
- Rethinking waste can lead to more sustainable design practices.

- 挑戰二元分類
- 「有用」與「無用」的區分是流動的，可以隨時間改變。
- 重新思考廢棄物可以促進更可持續的設計實踐。

The Future of Design

- Design should not only create new objects but also uncover the potential of existing ones.
- Encouraging circulation and repurposing rather than single-use consumption.

設計的未來

- 設計不僅應該創造新物品，還應該挖掘現有物品的潛能。
- 鼓勵循環使用與再利用，而非一次性消耗。

Changing Mindsets to Reduce Waste

- By shifting perspectives on waste, we can minimize consumption and maximize resource efficiency.
- Society should transition from a "consume-discard" model to a "transform-reuse" model.

改變思維，減少浪費

- 通過改變對廢棄物的看法，我們可以減少消耗並最大化資源效率。
- 社會應從「消費-丟棄」模式轉向「轉化-再利用」模式。

Design Studies Volumes 91–92

EXPLORING GAME DESIGN APPROACHES THROUGH CONVERSATIONS WITH DESIGNERS

透過與設計師的對話探索遊戲設計方法

關鍵詞：設計實踐、研究方法、設計研究、人機互動、以使用者為中心的設計

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2025/04/23

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THE PAPER IS STRUCTURED AS FOLLOWS

01 Provides a research background on definitions and features of digital games, as well as general and game-specific design frameworks.

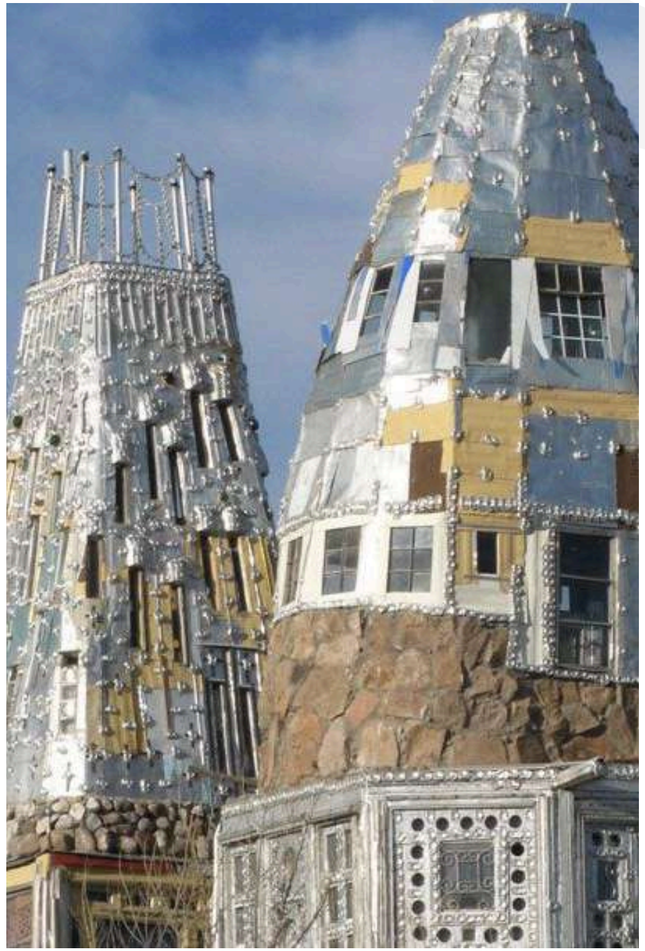
02 Illustrates the adopted research method.

03 Presents the findings of the study.

04 Contains a discussion of presented results.

05 Conclusions of the study identifying limitations and further research lines.

UNSELFCON-SCIOUS AND SELF-CONSCIOUS DESIGN



自覺的設計(self-conscious design)

將設計思維——即「設計師處理設計問題的方式」——與實際創作過程進行區分。這種區分使得設計師能夠對自己的實踐進行有創造性的反思。

Vertical Forest – Bosco Verticale

The Vertical Forest in Milan, designed by Stefano Boeri Architetti, houses thousands of vegetation. The residential towers consist of two towers of heights 80 and 112 meters that create an attempt to achieve environmental sustainability.

無自覺的設計(unselfcon-scious)

指對非正式設計規則的重複應用，缺乏明確的理論或共通的原則。

Recycled Rococo

recycled boards, windows, rocks, bits of glass, pieces of metal, and many, many aluminum cans.

“Alcohol and Tobacco Is Kills. Mary Jane Is Healing.”

RESEARCH MOTIVATION AND CORE ISSUES

01

Develop an integrated theoretical framework for digital games.

As game studies was increasingly being recognised as a legitimate academic discipline, the establishment of a cohesive framework for digital games assumed paramount importance. However, the dynamics through which theoretical frameworks and game designers' practices reciprocally affect each other are yet to be thoroughly explored from a scien tific perspective.

02

Ineffective digital presence

Specifically, the exploration focused on discovering possible shared design approaches, relevant factors influencing designers' decision-making and specific aspects connected to game design.

03

Foster the exploration of a self-conscious approach

The collection of bottom-up insights on game design can foster the exploration of a self-conscious approach, unveiling a shared understanding that could orient practitioners.

GAME DESIGN DEFINITIONS AND KNOWLEDGE

The central question upon which this research is based is whether it is possible to identify a common pattern in the practices and praxis adopted in digital game design.

RQ: Can scientific research derive explicitly or implicitly a shared and recognised game design approach and a set of practices from designers' experiences? If so, which ones are they?

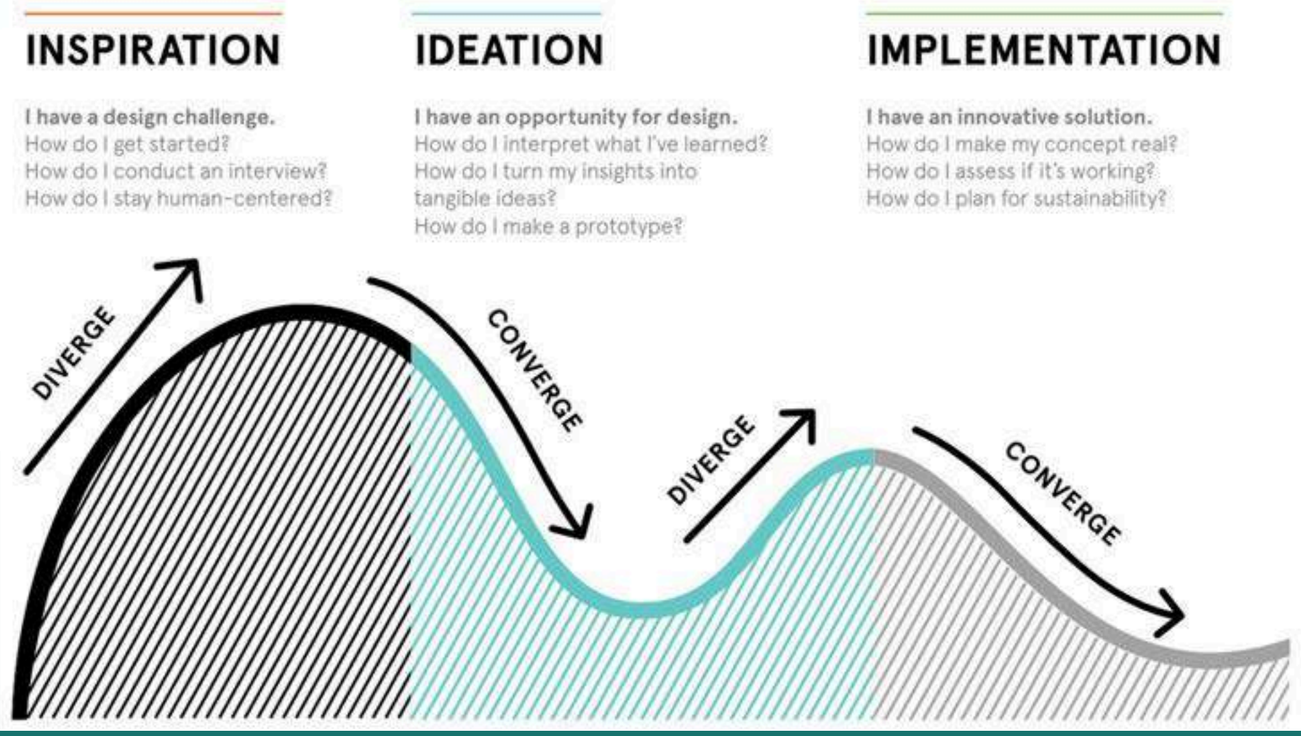
GROUNDED THEORY

4 MODELS STOOD OUT

- 3 I M o d e l
- Double Diamond Model
- Hasso Plattner Model
- Stanford Model

CONCERNING DISCIPLINE-SPECIFIC FRAMEWORKS

- Salen and Zimmerman’s (2004) work
- Fullerton’s (2008) works



GROUNDED THEORY

This study implemented an interview-based qualitative approach. A team of researchers conducted semi-structured interviews with game design industry professionals and analysed their narrations through the application of Grounded Theory methodology.

THE THREE-STEP CODING PROCESS PRESENTED BY CORBIN AND STRAUSS

- Open Coding: Grouping data with similar properties under common conceptual labels.
- Axial Coding: Organizing and connecting concepts hierarchically based on thematic relationships.
- Selective Coding: Constructing theoretical narratives based on the relationships among concepts to derive a core theory.

METHOD

01 Sample

After contacting 40 game designers by email, 11 of them were recruited as voluntary participants for the study. The sample consists of 8 men and 3 women ranging in age from 20 to 50 years. Nearly half of the participants obtained a Professional Degree on disciplines marginally correlated to game design (i.e., Digital Art, Concept Art or 3D Modelling), while the other half either obtained a Master’ s Degree or High school diploma.

Table 1 參與者概覽

Code	*Country*	*Gender (M/F)*	*Age*	*Education*	*Years of experience*	*Role*	*Affiliation*	*Interview format*
P1	Italy	M	25–30	Professional degree	3	Business development manager	Studio 1	Oral
P2	Italy	M	30–35	Master’s degree	10	Art director	Studio 1	Oral
P3	Italy	M	35–40	High school diploma	13	Lead game designer	Studio 2	Oral
P4	Italy	M	45–50	Professional degree	24	Project manager and art director	Studio 2	Oral
P5	Italy	M	25–30	Master’s degree	6	UX/UI designer	Studio 2	Oral
P6	Bulgaria	M	30–35	Professional degree	12	Senior UX game designer	Studio 3	Oral
P7	Italy	F	25–30	Professional degree	3	3D Artist	Studio 4	Oral
P8	Italy	M	20–25	Professional degree	3	Animator/technical artist	Studio 4	Oral
P9	Italy	M	20–25	High school diploma	3	Project manager/Game designer	Studio 5	Oral
P10	Italy	F	30–35	Master’s degree	3	Project manager/Game designer	No affiliation	Oral
P11	Italy	F	30–35	Master’s degree	3	Game designer	Studio 6	Written

INFORMATION SHEET EXAMPLE

PROFILE & PERSONAL DATA

Fortuna Imperatore
Project manager/Game designer,
No Affiliation

Country	Italy
Gender	Female (F)
Age	31
Education	Master's degree
Years of experience	3

DESIGNER'S PROJECTS

Video Games

FREUD'S BONES - A journey into Freud's brain

EMPTY - Dealing with mindfulness eating

BLUETHROOT - The brutal age

WORKDOWN - Is there a place for mental health at work?

PROJECTS OVERVIEW

FREUD'S BONES

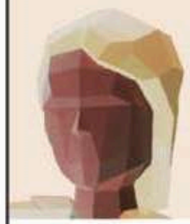
Freud's Bones is the first video game concerning Freudian psychoanalysis and existential crisis.

Release:
May 25th, 2022 on Windows,
November 24th, 2022 on Nintendo Switch.
Single player

EMPTY

Empty is a 3D narrative adventure dealing with the theme of mindfulness eating.

Demo available on Itch.io
Single player



BLUETHROOT

Bluethroot is an unprecedented video game about adolescence and its demons.

Release:
January 24th, 2024 on Windows.

Single player

WORKDOWN

The first video game about mental health in business. The main character will embark on an inner journey to discover himself and his mental well-being.

Demo available on Game2Value
Single player

附錄一：訪談模型

Interview section	*Main questions*	*Follow-up questions**
SECTION 1	出生地：	
	性別：	
	年齡：	
	學歷：	
SECTION 2	從業年資：	您曾參與開發哪些遊戲專案？
	職務角色：	在界定設計案例時，您傾向採取較窄的視角（專注於您想實現的個別面向），還是較寬廣的視角？
	所屬機構 / 公司：	設計產業的關注點從 UI（使用者介面）轉向更廣義的 UX（使用者體驗）。這樣的轉變是否也發生在遊戲設計領域？或者說，UX 是否一直以「遊戲性（gameplay）」的形式在遊戲設計中佔據核心地位？
SECTION 3	您在職業生涯中參與過多少個設計專案？	您認為 UX 與 UI 之間的關係是什麼？哪一個在設計流程中應該優先考量？
	在面對設計專案時，您是否遵循特定的設計流程步驟？通常會從哪個階段開始？	您是否認為其他設計師所採用的設計解決方案會影響您的工作？
	如果有，這些步驟在因應不同專案的特性上有多大的彈性？這些步驟是否適用於所有專案？	您是否認為您過去在專業經驗中採用的設計解決方案會影響您現在的工作？
	那麼，哪些因素決定這些步驟的彈性？	
	您通常如何界定一個設計案例（design case）？	
	在您的設計流程中，您是如何處理使用者需求的？	
	在尋找設計靈感時，最主要的啟發來源與刺激通常來自哪些地方？	

(*continued on next page*)

(*continued*)

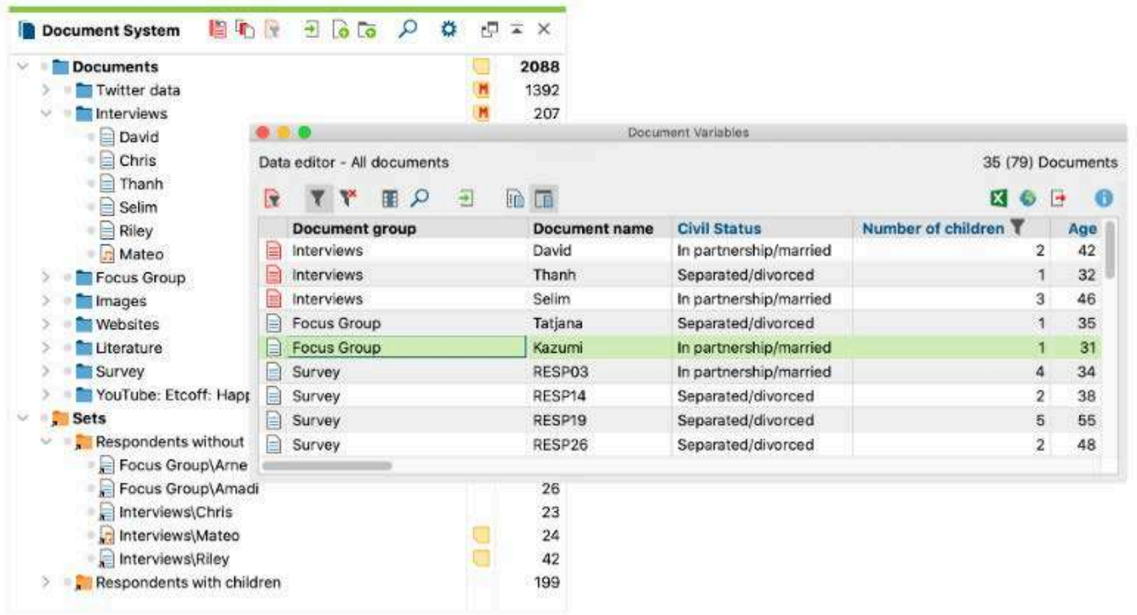
Interview section	*Main questions*	*Follow-up questions**
SECTION 4	您在工作中使用哪些軟體工具？	是什麼因素會影響您在設計中選擇 2D 風格或 3D 風格？
	在一個創意發展的過程中，哪些因素會影響美學與圖像風格的選擇？	
	在您看來，什麼樣的遊戲可以被視為一件藝術作品？	您是如何克服這些限制的？
	工作環境如何影響一個創意的發展？	
	外部限制（如預算、時間等）會如何影響創意的發展？	
SECTION 5	您的專案中是否會出現倫理面向？您如何處理遊戲設計中的倫理議題？	
	您是否曾思考倫理議題會如何影響遊戲的結果或影響力？	
	在設計遊戲時，您是否考量使用者的能力差異？	您有什麼建議嗎？
SECTION 6	您如何概念化「可近性」（accessibility）、「可用性」（usability）與「參與感」（engagement）？這些概念對您而言意味著什麼？它們在您的設計流程中扮演什麼角色？	
	您是否認為遊戲產業對「包容性與多元性」這個主題給予足夠重視，特別是針對最終使用者？	是否有一個特別的故事（有趣的、好的、或不太好的），讓您從中學到對您的職業生涯有價值的經驗，並願意與我們分享？
	您認為隨著新興技術的出現，數位遊戲的互動方式將來會如何改變？	
	從您的專業經驗中，您學到了什麼？	

* 當受訪者的初步回答無法充分涵蓋問題主題時，訪談者會補充提出這些問題。

METHOD

02 Data collection & coding process

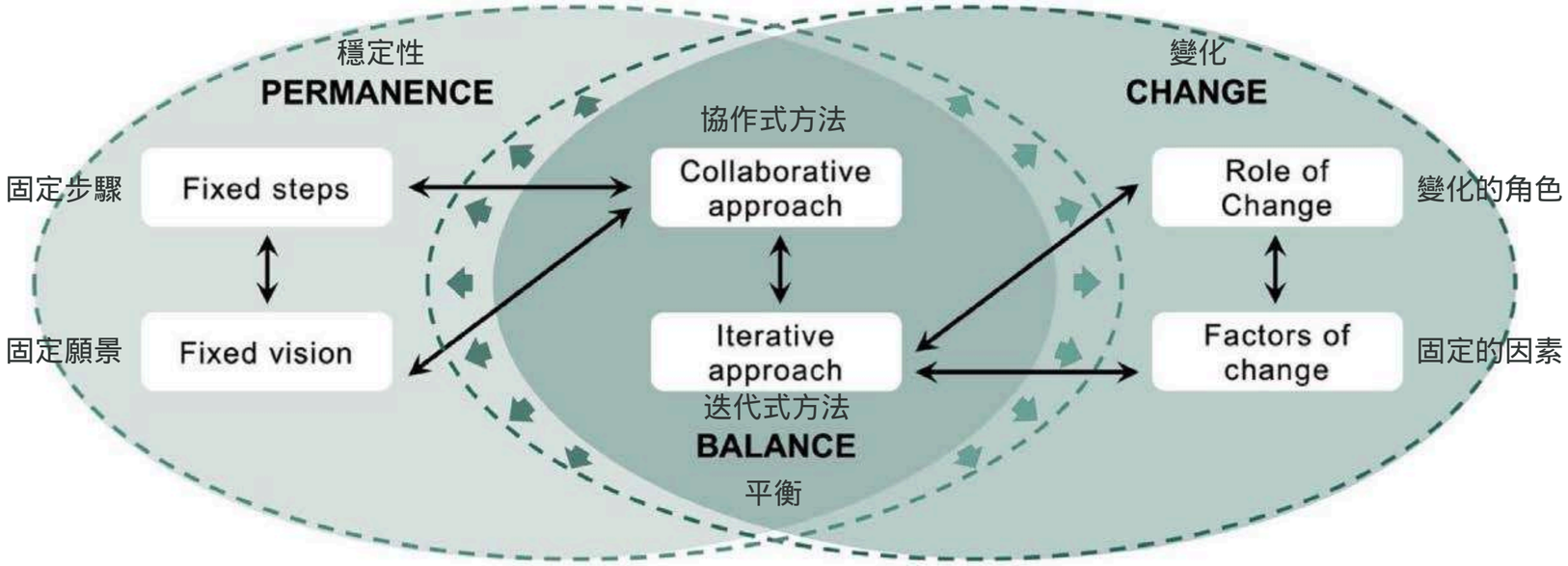
All interview content was transcribed into text. The research team adopted the three-stage coding process of Grounded Theory proposed by Corbin and Strauss (2015), and used MAXQDA software to assist in data analysis by directly linking the codes to the original transcripts.



METHOD

03 Conceptual model of designers’ attitudes and approaches

Based on the Grounded Theory analysis of the designers’ narratives, a core category was identified: Balancing Permanence and Change. This conceptual model is divided into three main categories—Permanence, Change, and Balance—which correspond to the three primary pathways that emerged from the designers’ descriptions of their design philosophies and practical experiences.



DISCUSSION

The scope of this study was to investigate designers' attitudes and praxis in game design, with reference to possible shared and recognised approaches and practices (RQ).

RESEARCH LIMITATIONS

- The limited sample size may pose a threat to the external validity of the study and introduce the risk of selection bias. However, according to relevant literature, data saturation in qualitative research is generally achievable with around 12 participants; the sample size of this study (n = 11) is close to that benchmark.
- The study did not further differentiate the professional backgrounds of the participants. Nevertheless, the findings are largely consistent with existing scientific literature addressing similar topics and are considered preliminary in nature.
- The proposed model of Balancing Permanence and Change should be regarded as an attempt to systematically organize insights derived from the interview data, rather than as a definitive or exhaustive conclusion about game designers' practices and approaches. This also represents another limitation of the present study.

THANK YOU

FOR YOUR NICE ATTENTION

JANE CONNORY | 2024

Designing Period Shame:

Period Product Advertising in Australian Women's Magazines

PRESENTED BY JESSIE PAN

INTRODUCTION

- Graphic design can reinforce harmful gender norms
- Menstrual ads shape perceptions of periods as shameful, private, and problematic
- Visuals normalize self-surveillance, guilt, and silence
- Importance of “period pride” and destigmatizing menstruation
- Designers must practice empathy and user-centered design

METHODOLOGY

Historical Visual Analysis

- 100 menstrual product ads (1920–2020) from five Australian women's magazines

Sanitary Secrets Survey

- 74 respondents rated 10 ads (one per decade) on a shame/secrecy scale
- Cross-generational qualitative and quantitative feedback

Design Lens

- Use of color, metaphors, typography, settings
- Application of semiotic and intersectional feminist frameworks

KEY THEMES IDENTIFIED

1. Pathologizing Periods

- Ads depict menstruation as a disease
- Use of medical imagery: nurses, crosses, “surgical” terms

2. Coding the Taboo

- Emphasis on whiteness, purity, elegance
- Blue liquid as symbolic substitute for blood
- Thin, white, cisgender female models

3. Modeling Secrecy

- Avoidance of terms like “period” or “vagina”
- Secrecy between mothers/daughters or girlfriends
- Packaging designed for discretion and concealment

红色的广告

小知识

2017年，Bodyform成为了第一家在其护垫广告中使用红色液体代表血液的公司。

2019年，Libra在澳大利亚电视台发布了一条旨在消除月经污名的广告，广告中出现了部分流血镜头。

↑ Libra广告截图——这则广告收到了众多投诉，有人认为其：“令人厌恶”“冒犯和不恰当”“令人不安”“不适合儿童”。

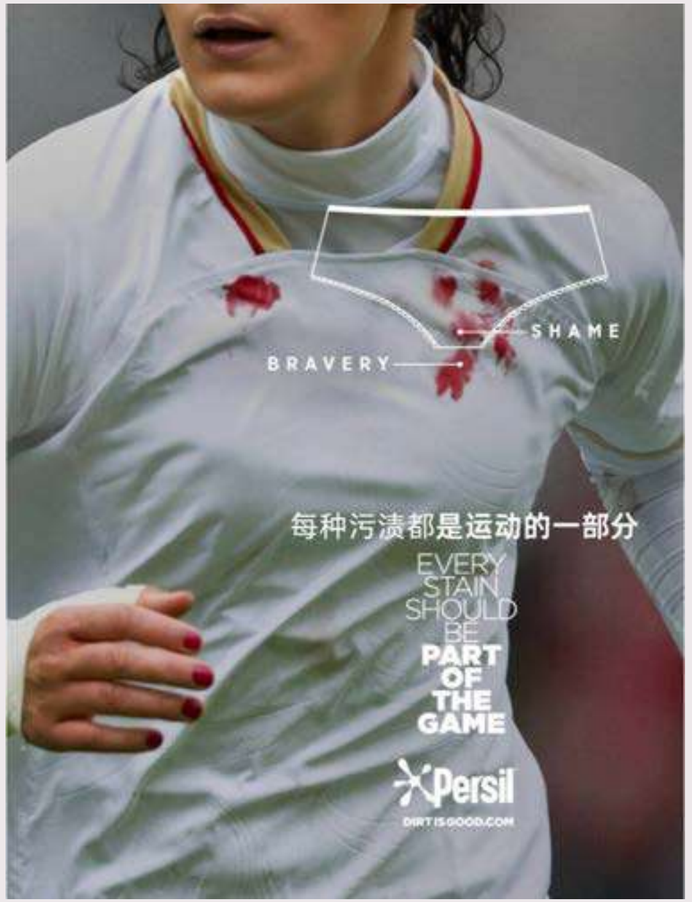
SURVEY RESULTS

- Perceived shame in ads decreases over decades
- Younger participants exposed to more inclusive language
- However, all generations report enduring menstrual taboos
- Participants desire honesty, openness, and diversity in period product ads

DESIGN ETHICS AND EMPATHY

- Designers should challenge rather than reflect social norms
- Importance of diverse creative teams in the advertising industry
- Human-centered design, co-design, and empathy-based practices encouraged
- Design must move beyond aesthetics into realms of responsibility and representation


GRIT
SHAME
每种污渍都是运动的一部分
EVERY STAIN SHOULD BE PART OF THE GAME
Persil
DIRTISGOOD.COM


BRAVERY
SHAME
每种污渍都是运动的一部分
EVERY STAIN SHOULD BE PART OF THE GAME
Persil
DIRTISGOOD.COM


SHAME
每种污渍都是运动的一部分
EVERY STAIN SHOULD BE PART OF THE GAME
Persil

EXTENDED DISCUSSION

- Commercial framing of International Women's Day (March 8) as "Goddess Day" or "Queen's Day"
- "Woman" becomes a stigmatized term; "Goddess" promotes idealized femininity
- Language encourages consumption, not political consciousness
- Market rhetoric: "Don't be a nagging wife, be a sparkling goddess"
- Silencing of labor, age, and working-class femininities


拒绝女性
词汇污名化
（大妈）
HAPPY
WOMEN'S DAY
对年长女性的尊称
拒绝女性
词汇污名化
名媛
指出身高门
才貌双全的女性


拒绝女性
词汇污名化
妇女节
HAPPY
WOMEN'S DAY
是纪念各国妇女百余年来
争取和平、平等、发展的节日
女神节 女王节 女生节
把妇女节还给3月8日
因为妇女没有平替！

THE ROLE OF DESIGNERS

- Advertising reproduces body image ideals and ageism
- Feminized consumption replaces feminist resistance
- Designers must interrogate branding language and metaphors
- Critical visual literacy is key to dismantling everyday sexism in ads

CONCLUSION

- Jane Connory's research is a landmark in linking menstrual stigma with visual design
- Shame is designed—and it can be redesigned
- Extending critique to broader gendered advertising reveals systemic issues
- Designers hold power: they can harm or heal through representation
- Ethical design begins with empathy and ends with equity

Abduction, Inculturation, and Urban Design Thinking

誘導推理、文化內化與都市設計思維

This study explores how urban designers develop interdisciplinary core beliefs and terminology to frame problems and create value.

Presenter: 侯博倫

Advisor: 李傳房教授

Introduction

Inspired by Previous Research

Building on Dorst's (2011) work on design thinking and Chiaradia's (2017) exploration of urban design pedagogy.

Focus on Inculturation

Examining the connection between cultural beliefs and urban design thinking.

Urban designer characteristics

Urban designers share interdisciplinary beliefs that frame problems and create values.

Cultural internalization definition

Cultural internalization includes core beliefs and customs shared by members of the same culture

Research Hypothesis

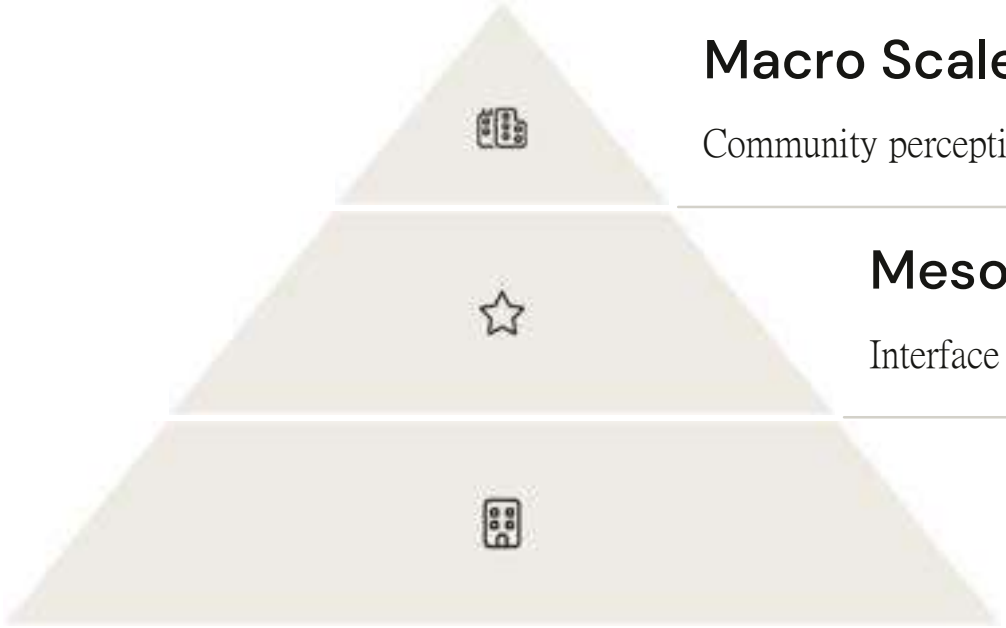
Synergistic Relationship

Applying urban design methods directly to studio classes creates a relationship incorporating both "rigor and relevance."

Reinforcing Learning

Studio work strengthens methodological understanding. Students apply skills across different contexts.

Research Framework



Macro Scale (City)

Community perception of urban image

Meso Scale (Neighborhood)

Interface between public space and behavior

Micro Scale (Building)

Behavior settings and immediate interactions

Nine different methods address urban form complexity across these three scales, helping students derive design solutions based on community input and observation.

Abductive Approach to Design Thinking

Value Proposition

Designers propose values before clearly defining problems.

Value Creation

Design creates economic, social, and ethical value.

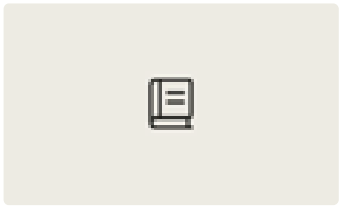
Influence of educational background

Educational backgrounds influence how designers frame problems.

Integrative Learning

Combining "hard thinking" (analytical) with "soft thinking" (creative).

Course Structure: Integrative Learning



Urban Design Methods

Theoretical analysis, report writing, research tools

Urban Design Studio

Creative production, hands-on design

Synergistic Benefits

Integration surpasses traditional isolated courses

This bottom-up learning process reverses traditional top-down approaches, challenging students with Type II problems where only values are known.

Abductive Reasoning in Design

Question Type

Gathering information across multiple scales

Tool Application

Students learn nine research methods in methods courses and apply them practically in studios.

Iteration

Continuous refinement process

Teaching environment

During the pandemic, classes were taught online, students worked independently, and teachers provided compensatory incentives and support. conceptual frameworks

Students learned to operate across macro (urban structure), meso (regional strategies), and micro (spatial designs) scales through this iterative process.

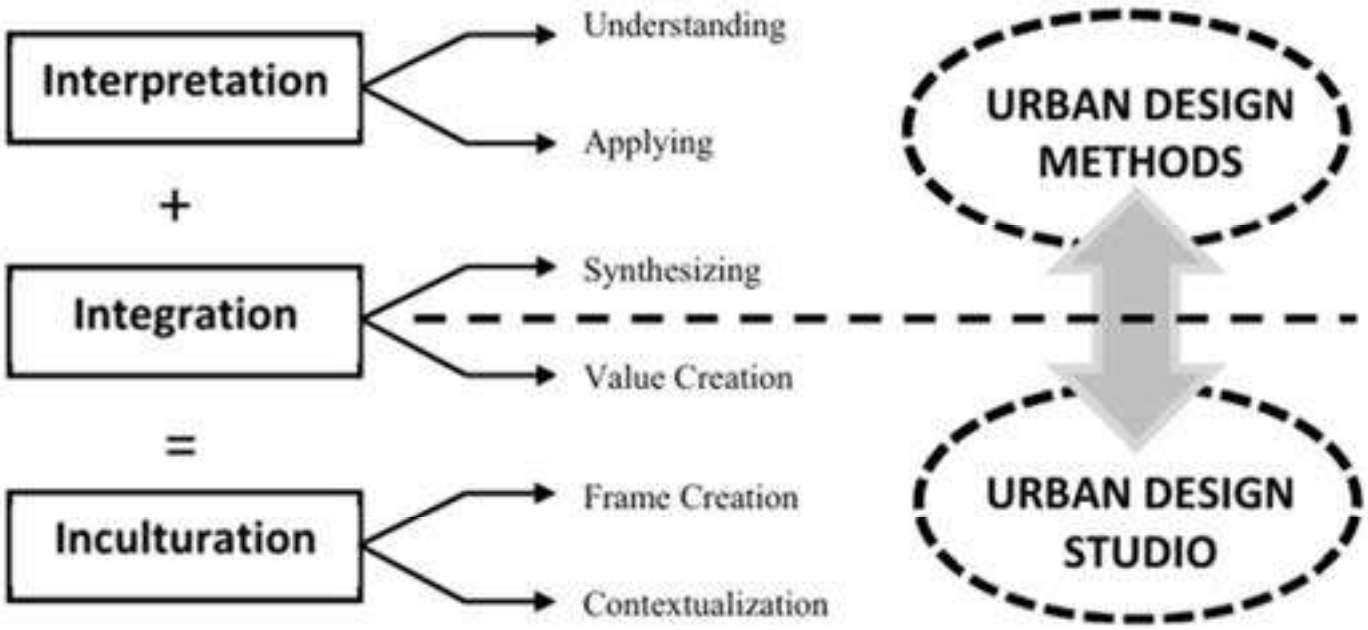


Figure 1 The three consecutive stages of interpretation, integration, and inculturation after taking the urban design methods class and the urban design studio

Value Creation in Urban Design Methods

Interpretation as Learning Core

Students develop personalized logical thinking and value-based interpretations that become foundations for design goals.

Studio's Dual Purpose

Addressing real-world problems while integrating theory with practice, despite challenges in traditional teaching models.

Course Integration Benefits

Weaving methods and studio generates deeper learning, enhancing research skills, design ability, and value frameworks.

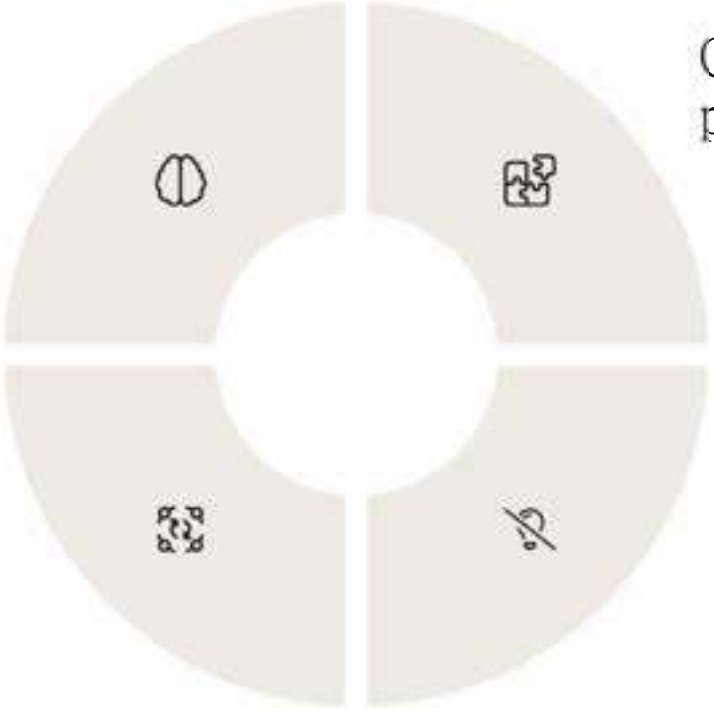
Knowledge Integration in Urban Design

Knowledge Integration

Urban Design Studio allows students to combine theoretical knowledge (Episteme), technical skills (Techne) and practical wisdom (Phronesis).

Problems and Solutions

There is a co-constructive relationship between problems and solutions, which is non-linear and non-static.



Characteristics of “tough” problems

Ambiguous, uncertain and unpredictable, with no single solution, it’ s difficult for designers to define a clear vision.

Diversified value creation

Even within a top-down framework, students are able to develop diverse interpretations and design outcomes.

Urban design problems are "wicked" - ambiguous, uncertain, and without single solutions. Even within top-down frameworks, students create diverse value through subjective interpretation.

Research Methods and Data Collection

Research Approaches

- Ethnographic Content Analysis (ECA)
- Triangulation from multiple sources

Primary Data Sources

- Students' final reports and design posters
- Weekly classroom discussion records
- Third-party observation notes

Course Application

- Field investigations based on readings
- Transforming methods into strategies

Three Scales of Urban Design

3

Scale level

Macro, meso and micro scales correspond to different intervention thresholds

9

Research Methods

Students learn nine research methods applied at three scales

40+

Number of surveys

Each student must complete at least 40 valid questionnaires

Table 2 The nine articles assigned for the Urban Design Methods class at three scales

Scale	Authors/ Reading	Purpose	Themes	Urban Design Methods
Macro	Milgram	Mental/psychological representation of the city; 218 subjects	Clear boundaries and major elements, i.e., topography, most frequently included essentials such as Seine, Louvre, Concorde, Eiffel Tower	Hand-drawn maps/mention all the elements of the city that come to mind
	Nasar	Evaluative image of the city by phone and face-to-face interviews	Visual likes and dislikes; a basis for a visual plan and set of recommendations	Questionnaires administered from two cities: Knoxville and Chattanooga, Tennessee
	Arefi	The structure of visual Difference	Categories of visual difference: Nature of activity, socio-economic status, distinctiveness of form, and personal experience	Cognitive mapping and street interviews conducted in Mariemont and Lebanon, Ohio
Meso	A. Jacobs	Looking at Cities	Taking messages from the urban environment by looking and acting upon those messages to maintain, change or create places	By field observation we can tell a lot by just looking and then verifying urban transformations or trends
	Carmona	Place-shaping continuum	Exploring four key place-shaping processes	Design, development, space (or place) in use, and management; self-conscious design or un-self-conscious knowing; knowing and unknowing place design
	Al-Bishawi, et al.	Reading urban open spaces	Based on the concept of behavioral settings that deals with individuals and their behaviors as a tool for reading the urban space	Design (objects, physical characteristics, relationships between object and space Rules (formal and informal) Use (activities, function, character, relations between users)
Micro	Knapskog, et al.	Exploring ways of measuring walkability	Relevant walkability assessment factors include: infrastructure and traffic, urbanity, surroundings & activities ranging from highly walkable to non-walkable	Three case studies: Oslo, Kristiansand, and Bergen (Norway); operationalising mapping existing data; on-street interviews and walkability assessment
	Gehl, et al.	Close encounters with buildings	Scale, design transparency, function, external conditions, dialog between city and building	Case studies: Stockholm, Melbourne, Oslo, Almere and Amsterdam, Freiburg (Germany)
	Ewing	Using visual preference survey in transit design	Preferences included bus shelter stops, trees along the street, vertical curb at the stop, setback of stop from street edge and continuous sidewalks	Transit users, nonusers and professionals were show paired slides of bus stops in order to show which bus stops they preferred to wait for

Macro Scale

Author	Purpose	Themes	Urban Design Methods
Milgram	Mental/psychological representation of the city (218 subjects)	Clear boundaries and major elements (e.g., topography); commonly cited: Seine, Louvre, Concorde, Eiffel Tower	Hand-drawn maps listing all remembered city elements
Nasar	Evaluative image of the city via phone and face-to-face interviews	Visual likes and dislikes; basis for visual planning and recommendations	Questionnaires from Knoxville and Chattanooga, TN
Arefi	Structure of visual difference	Categories of visual difference: activity, socio-economic status, distinctiveness, and personal experience	Cognitive mapping & interviews (Mariemont & Lebanon, OH)

Macro Scale

尺度	作者 / 閱讀	研究目的	主題重點	都市設計方法
宏觀（Macro）	Milgram	心理 / 心理空間上的城市表徵（218位受測者）	明確的邊界與主要元素，例如地形，最常被提及的包括塞納河、羅浮宮、協和廣場、艾菲爾鐵塔等	手繪地圖：受測者列出腦海中浮現的城市元素
	Nasar	透過電話與面訪進行城市形象評估	城市喜惡視覺印象；作為視覺計畫與建議的基礎	問卷調查：於美國田納西州的諾克斯維爾與查塔努加進行
	Arefi	視覺差異結構	視覺差異類別：活動類型、社經地位、形式獨特性與個人經驗	認知地圖與街頭訪談：於馬里蒙與黎巴嫩（皆為俄亥俄州城市）進行

Meso Scale

Author	Purpose	Themes	Urban Design Methods
A. Jacobs	Looking at cities	Reading the urban environment and responding to change	Field observation and verifying urban trends
Carmona	Place-shaping continuum	Examines 4 key place-shaping processes	Design, use, management; self-conscious vs. un-self-conscious design
Al-Bishawi et al.	Reading urban open spaces	Behavioral settings and interactions; space reading through use	Design objects, physical relationships, formal/informal rules, user behavior analysis

Meso Scale

尺度	作者 / 閱讀	研究目的	主題重點	都市設計方法
中觀（Meso）	A. Jacobs	觀看城市	從城市環境接收訊息，透過觀察與行動來變更或創造空間	現地觀察：透過觀察來理解城市變遷與趨勢
	Carmona	空間塑造連續體	探討四種空間塑造過程	設計、發展、空間（或場所）的使用與管理；自覺設計 vs. 非自覺設計；已知 vs. 未知之場域設計
	Al-Bishawi 等人	閱讀都市開放空間	行為場域概念：以使用者與其行為為基礎的空間閱讀工具	空間物件、物理特徵、使用者間互動、空間規則（正式與非正式）、使用方式（功能、角色、活動）

Micro Scale

Author	Purpose	Themes	Urban Design Methods
Knapskog et al.	Exploring ways to measure walkability	Infrastructure, traffic, urbanity, surroundings, activity; walkability spectrum	Case studies (Oslo, Kristiansand, Bergen); on-site interviews and assessments
Gehl et al.	Close encounters with buildings	Scale, transparency, function; dialogue between city and building	Case studies: Stockholm, Melbourne, Oslo, Amsterdam, Freiburg
Ewing	Visual preference survey for transit design	Factors: shelter stops, trees, curb distance, setbacks, sidewalk continuity	Slides shown to users and professionals to assess bus stop preferences

Micro Scale

尺度	作者 / 閱讀	研究目的	主題重點	都市設計方法
微觀（Micro）	Knapskog 等人	探索步行性評估方式	步行性評估指標：基礎設施、交通、周邊環境、活動性（從低到高步行性）	案例研究：奧斯陸、克里斯蒂安桑、卑爾根；使用地圖繪製、街訪與步行性調查
	Gehl 等人	與建築的近距離互動	評估尺度、設計透明度、功能、建築與城市的對話關係	案例研究：斯德哥爾摩、墨爾本、奧斯陸、阿姆斯特丹、弗萊堡
	Ewing	運輸設施設計中的視覺偏好調查	偏好因素包括：公車站亭、行道樹、人行道連續性、停靠點設計等	與使用者及專業人士分享圖片配對，觀察他們偏好的候車環境特徵

Table 1 Comparing the top-down vs. bottom-up approaches to urban design studio pedagogy

Top-down	Bottom-up
Problem-definition	Interpretation (value creation)
Analysis	Integration (frame creation)
Design (vignettes)	Inculturation (internalization & contextualization)

Bottom-Up Design Practice

Collective Public Perceptions

Starting with emic perspective rather than expert opinion

Data collection and area identification

Using questionnaires, interviews, and cognitive mapping

Data-driven problem definition

Identifying issues from a data-driven perspective

Design Response

Creating solutions based on research findings

Students completed at least 40 valid survey responses each, using various techniques to read the city through data and identify problem areas.

Frame Creation — Urban Design Studio

Macro Scale: Value Expression

Use questionnaires, photos, and spatial maps to identify hot spots and problem spaces and understand human behavior and spatial perception.

Meso- and micro-scales: framing the problem

Integrates nine research methods to analyze transportation nodes, pedestrian flows, spatial accessibility, and visual continuity to establish causal and structural understanding.

Design Narrative Formation

Combining visual data and analytical metrics, we develop “narrative prototypes” rather than final design solutions, focusing on design possibilities and strategic interventions.

Figure 3 Breaking inculturation in urban design into three clockwise stages of value creation and frame creation

As I was doing my usual long walking observation, I was looking for a place in the target area that impressed me as a starting point for the design. As I was walking, a statue caught my eye - a square sculpture of a hand holding an open book with a few red tulips painted on the pages.

If I had not learned those nine methods, I would have chosen this square as my design theme. But after being exposed to these approaches and getting community feedback, I completely changed direction and ultimately chose a design theme: redesigning street public spaces with dark corners and gaps that are often used by drug dealers for safety.

Shift in Design Thinking

Traditional View

"Design = Drawing"

- Focus on visual output
- Emphasis on technical skills
- Students as task executors

Transformed View

"Design = Interpretation and Response"

- Focus on problem definition
- Emphasis on critical thinking
- Students as active explorers

True design ability stems from how problems are defined, not merely from how problems are solved.

Transformation in Teacher-Student Roles

Traditional Role	Transformed Role
Knowledge transmitter	Problem guide, dialogue participant
Instruction giver	Question asker and critical thinker
Task assigner	Co-creator of values and direction

Frame creation serves as a bridge to inculturation, helping students learn professional language and design logic while transforming from observers to practitioners.

Inculturation and Design Thinking Formation

Identity Transformation

Not just learning to design, but becoming a designer.

From Seeing to Interpreting

Developing awareness and critical insight about urban space.

Integrated Thinking

Combining theoretical knowledge with practical decision-making.

Cultural Logic

Forming a shared design language and professional perspective.

From Student to Urban Designer

Seeing

Observing urban conditions

Interpreting

Finding meaning in observations

Reflecting

Evaluating outcomes

Framing

Structuring design problems

Acting

Creating design responses

Reframing

Adjusting perspectives

Students learn to position themselves, define design agendas, and engage through shared language - participating in a Community of Practice.

Design Education as an Enlightenment Journey

The nature of urban design:

Urban design is a hybrid discipline that integrates research, application and public practice. As Buchanan (1992) points out: "There is no definite subject matter - it must be defined by the designer." It is both theory and art, both a mode of thinking and a tool for social engagement.

Design learning as a transformation process:

Students evolve from observers → participants → professional practitioners. The collaborative teaching model (methods course + design studio) as a specific approach to the development of design thinking. Students learn to think and create within ambiguity and constraints, to extract problems from data-driven research, and to combine rational analysis and intuitive response in design actions.

Key Insights for Design Education

1

Integrative Learning

Bridges knowledge and action across multiple scales and thinking modes.

2

Abductive Reasoning

Core of design thinking, suitable for uncertainty and ambiguity.

3

Inculturation

Ultimate goal where students become active participants in design culture.

Urban design thinking is not merely a technique but a way of understanding and transforming the world - finding order in chaos and freedom within constraints.

Thank You

設計思維是理解和改變世界的方式：

城市的本質

城市不等於建築之和，而是生活、情感和集體願景的場域。

設計的本質

設計不等於工藝或形式製作，而是價值實踐和對社會的回應。

教育的本質

教育的本質是意識的覺醒，引導學生感知價值，識別問題，通過設計作為批判性行動回應。

設計創造了全世界