ACTIONS AND REFLECTIONS:

Bridging the Skills Gap among Researchers

Yoel Sumitro
Head of Product Design at tiket.com

A. The Challenge

B. The 3 Philosophies

C. The Learning Frameworks

A. THE CHALLENGE

A. THE CHALLENGE

50+ researchers

1.6 years (The average working experience)

3.75 years (The longest tenure)

STEM (Major educational background)

~10% (Master's degree)

63% (No prior working experience)

13% (Ex-intern)

—

bukalapak tiket.com

A. THE CHALLENGE

50+ researchers

1.6 years (The average working experience)

3.75 years (The longest tenure)

STEM (Major educational background)

~10% (Master's degree)

63% (No prior working experience)

13% (Ex-intern)

—

bukalapak tiket.com

VS

PhD

IDEO, Frog Design, FAANG, Airbnb, Microsoft

—

Uber

ATTENDED RESEARCH CONFERENCES

PARTOOK IN RESEARCH WORKSHOPS AND CLASSES

INVITED RENOWNED RESEARCH EXPERTS IN HOUSE TO TRAIN US

BUILT OUR OWN RESEARCH CONFERENCE!

SET UP MENTOR-MENTEE AND RESEARCH BUDDY PROGRAMS

CONDUCTED TONS OF RESEARCH FEEDBACK SESSIONS

DESIGN VS RESEARCH TEAM LEARNING PROGRESS

Yoel Sumitro

A JOURNEY TO FIGURE OUT THE PROGRESS DISCREPANCY

Yoel Sumitro

THREE RITUALS WHICH STOOD OUT

DESIGN CRITIQUE

1o1 SESSIONS

PAIRED DESIGN

DIFFERENTIATOR 1: RIGOR

”How many participants do we need to make a valid diary study?”

”Which cultural framework should I use to show the power dynamic between online merchants and buyers?”

”What did Nielsen Norman foundation say about design heuristics?”

”Can we invite someone to teach us how to do conjoint analysis?”

”What kind of UX laws can we use to define this interaction we saw?”

—

Research team

VS

~~Fitt’s law~~

~~Gestalt law~~

~~Hick’s law~~

Negative space

Consistency

Balance

“Feelings”

—

Design team

DIFFERENTIATOR 2: TYPE OF ACTIVITIES

Verbal Instruction

—

Research team

VS

Real-time live designing

Copying

Redefining design problems.

—

Design team

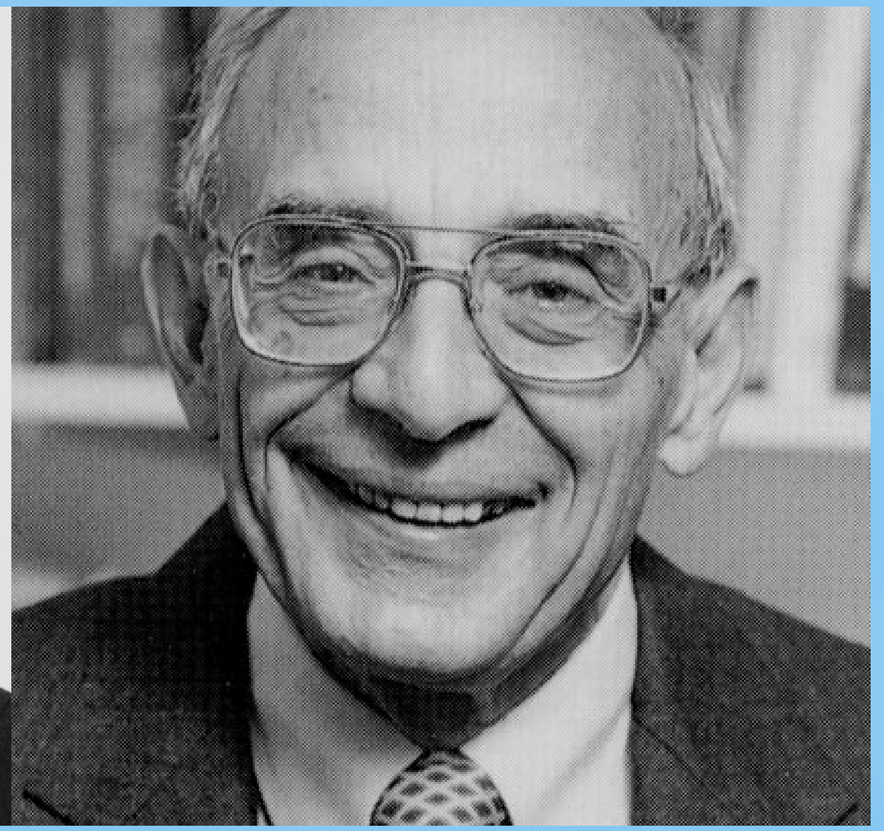
Yoel Sumitro

STOLTERMAN, SCHÖN, AND DEWEY

Erik Stolterman

Yoel Sumitro

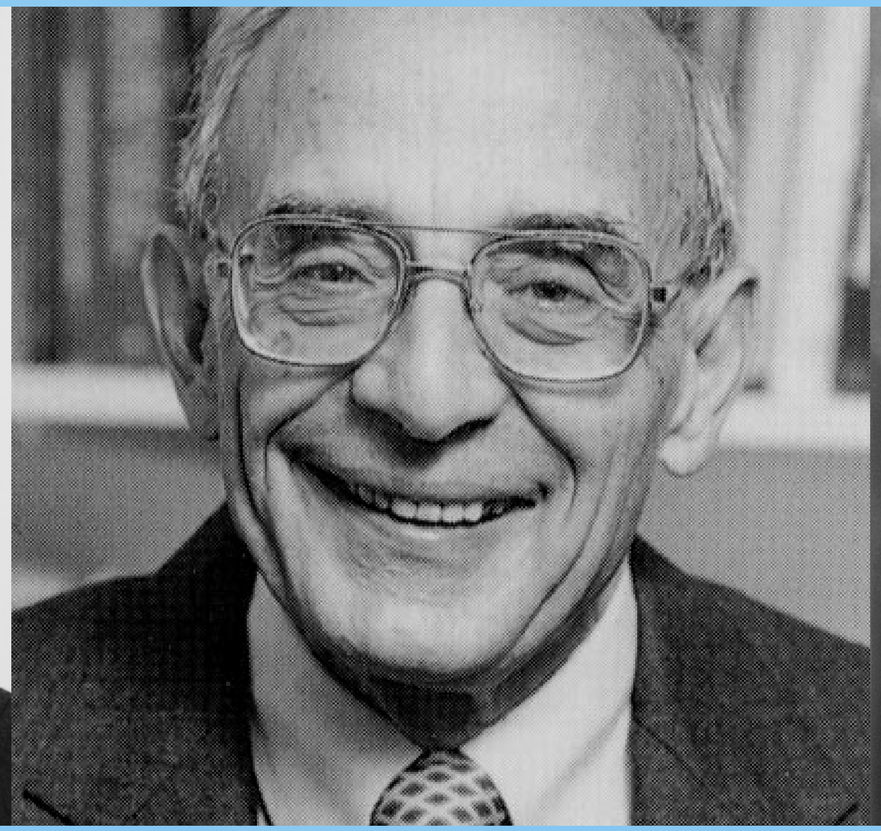
STOLTERMAN, SCHÖN, AND DEWEY

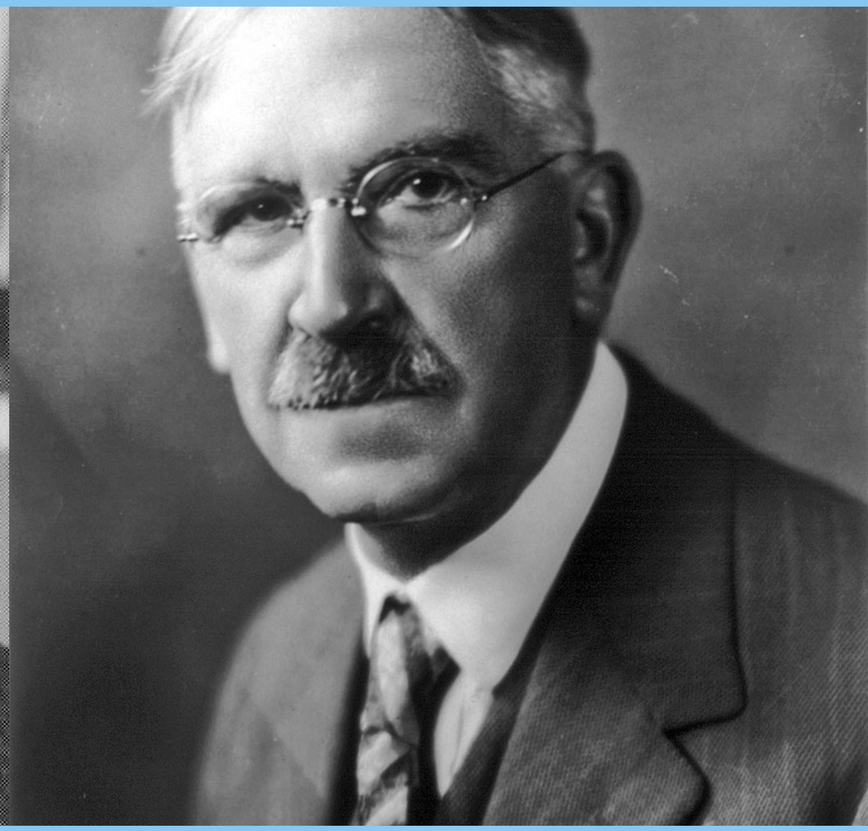


Erik Stolterman ⟶ Donald Schön

Yoel Sumitro

STOLTERMAN, SCHÖN, AND DEWEY





Erik Stolterman → Donald Schön → John Dewey

Yoel Sumitro

B. THE 3 PHILOSOPHIES

Yoel Sumitro

1. SCIENCE VS DESIGN COMPLEXITY (STOLTERMAN)

Science Complexity

VS

Design Complexity

Yoel Sumitro

1. SCIENCE VS DESIGN COMPLEXITY (STOLTERMAN)

Science Complexity

Scientific Rigor

VS

Design Complexity

Designerly Rigor

Yoel Sumitro

1. SCIENCE VS DESIGN COMPLEXITY (STOLTERMAN)

Science Complexity

Scientific Rigor

Design Research

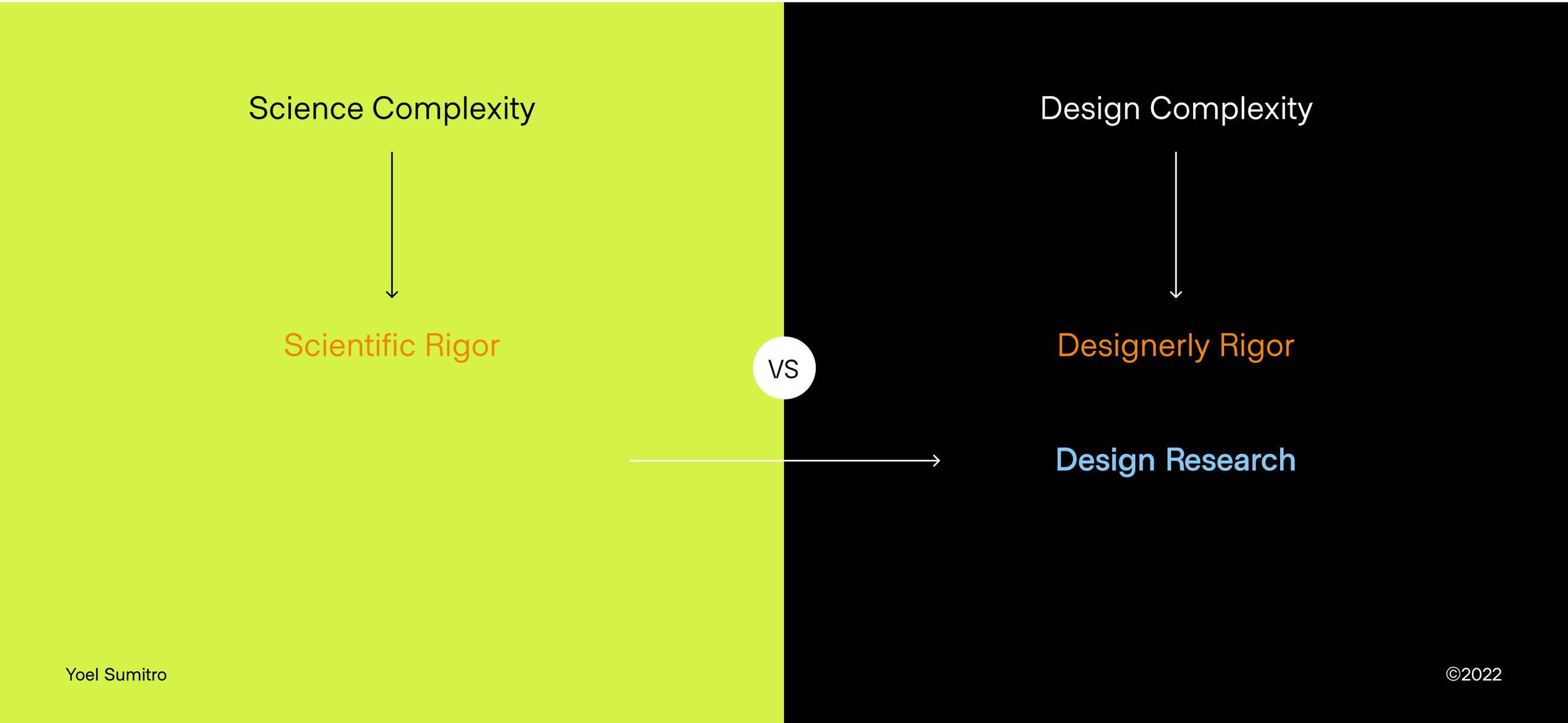
VS

Design Complexity

Designerly Rigor

Yoel Sumitro

1. SCIENCE VS DESIGN COMPLEXITY (STOLTERMAN)



Yoel Sumitro

1. SCIENCE VS DESIGN COMPLEXITY (STOLTERMAN)

“Within the scientific project, the focus is on regularities, mechanisms, patterns, relationships, and correlations with the attempt to formulate them as knowledge, preferably in the form of theories. The intention is to form theories that constitute knowledge that is valid and true at all times and everywhere”

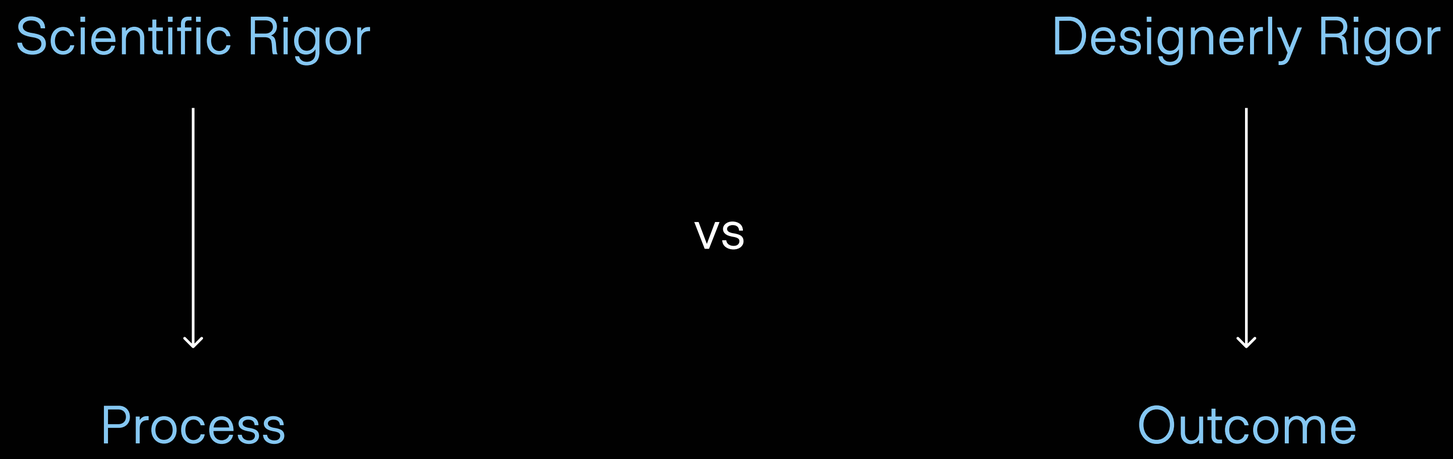
“In design practice, the goal is all about creating something non-universal. It is about creating something in the world with a specific purpose, for a specific situation, for a specific client and user, with specific functions and characteristics, and done within a limited time and with limited resources. Design is about the unique, the particular, or even the ultimate particular.”

—

Stolterman, Erik. (2008) The nature of design practice and implications for interaction design research. Indiana University, Bloomington, USA.

2. DESIGNERLY RIGOR (STOLTERMAN)

“Finally, while the measure of success in science has to do with how well the researcher has performed the research process in accordance with agreed upon methodological standards, the measure of success in design is all about the outcome.”



—

Stolterman, Erik. (2008) The nature of design practice and implications for interaction design research. Indiana University, Bloomington, USA.

2. DESIGNERLY RIGOR (STOLTERMAN)

i. **Simple** tools or techniques (sketching, observations)

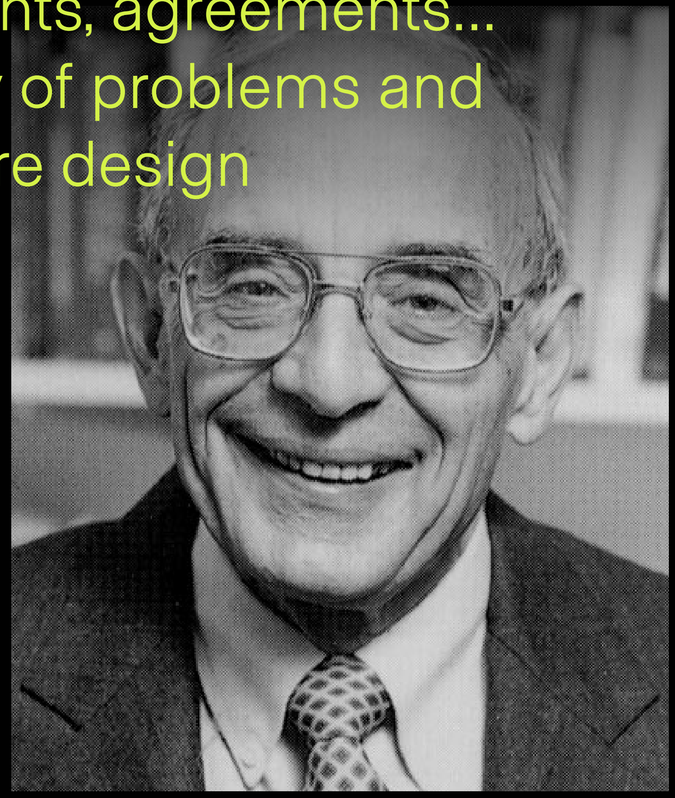
ii. Frameworks that do not prescribe but that **support reflection** and decision-making

iii. Individual concepts that are **open for interpretation** on how they can be used (affordance, persona, etc.)

iv. High-level theoretical and/ or philosophical ideas and approaches that expand design thinking but **do not prescribe** design action (reflective practice, human- centered design, etc.)

3. ALL PRACTITIONERS ARE DESIGNERS (SCHÖN)

“All professional practitioners are also makers of artefacts, if these are understood generally, as products, but also arguments, agreements... plans, policies... and systems; but more importantly of problems and situations. As makers of artefacts, all practitioners are design professionals”



—

Schon, D (1987) Educating the Reflective Practitioner. San Francisco: Jossey-Bo

4. SCIENTIFIC RIGOR VS KNOWING-IN-ACTION (SCHÖN)

Well-formed problem

Instrumental problem solving, made rigorous by the application of scientific theory and technique and applying general principles and standardized knowledge

VS

Messy, full of surprises, indeterminate situations

Knowing-in-action

Reflection-in-action

Yoel Sumitro

1. Knowing-in-action
2. Surprise
3. Reflection
4. Different action
5. Reflect-in-action

5. REFLECTION-IN-ACTION IN DESIGN RESEARCH PRACTICE (SCHÖN)

1. Knowing-in-action	**1. Intuition on being non-judgemental**
2. Surprise	2. Contradictory information
3. Reflection	3. Should I employ different interview techniques?
4. Different action	4. Being opinionated
5. Reflect-in-action	5. Being neutral

5. REFLECTION-IN-ACTION IN DESIGN RESEARCH PRACTICE (SCHÖN)

1. Knowing-in-action	1. Intuition on being non-judgemental
2. Surprise	**2. Contradictory information**
3. Reflection	3. Should I employ different interview techniques?
4. Different action	4. Being opinionated
5. Reflect-in-action	5. Being neutral

5. REFLECTION-IN-ACTION IN DESIGN RESEARCH PRACTICE (SCHÖN)

1. Knowing-in-action	1. Intuition on being non-judgemental
2. Surprise	2. Contradictory information
3. Reflection	**3. Should I employ different interview techniques?**
4. Different action	4. Being opinionated
5. Reflect-in-action	5. Being neutral

5. REFLECTION-IN-ACTION IN DESIGN RESEARCH PRACTICE (SCHÖN)

1. Knowing-in-action	1. Intuition on being non-judgemental
2. Surprise	2. Contradictory information
3. Reflection	3. Should I employ different interview techniques?
4. Different action	**4. Being opinionated**
5. Reflect-in-action	5. Being neutral

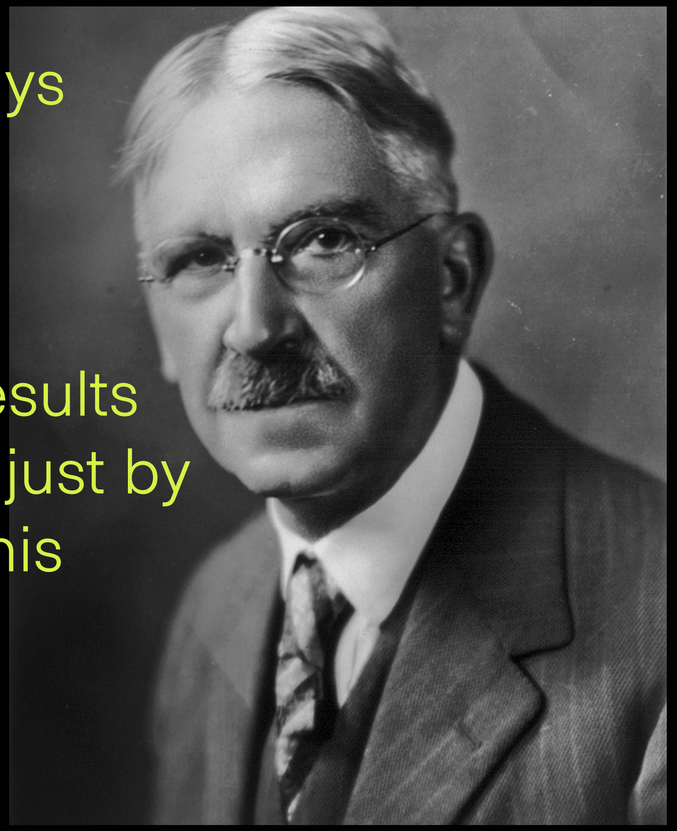
5. REFLECTION-IN-ACTION IN DESIGN RESEARCH PRACTICE (SCHÖN)

1. Knowing-in-action	1. Intuition on being non-judgemental
2. Surprise	2. Contradictory information
3. Reflection	3. Should I employ different interview techniques?
4. Different action	4. Being opinionated
5. Reflect-in-action	**5. Being neutral**

6. LEARNING BY DOING (DEWEY)

"Recognition of the natural course of development ...always sets out with situations which involve learning by doing”

"He has to see on his own behalf and in his own way the relations between means and methods employed and results achieved. Nobody else can see for him, and he can't see just by being 'told,' although the right kind of telling may guide his seeing and thus help him see what he needs to see"



—

Dewey, John. “Logic: The Theory of Inquiry”.1938.

THE PHILOSOPHICAL CONCEPT SUMMARY

Stolterman	Designerly Rigor	Scientific Rigor
Schön	Reflection-in-Action & Artistry (Knowing-in-action)	Instrumental problem solving made rigorous by the application of scientific theory and technique
Dewey	Learning by doing & demonstration	Learning by instruction

VS

Yoel Sumitro

THE PHILOSOPHICAL CONCEPT SUMMARY

Stolterman	Designerly Rigor	Scientific Rigor
Schön	Reflection-in-Action & Artistry (Knowing-in-action)	Instrumental problem solving made rigorous by the application of scientific theory and technique
Dewey	Learning by doing & demonstration	Learning by instruction

VS

Design team

Research team

Yoel Sumitro

THE PHILOSOPHICAL CONCEPT SUMMARY

Stolterman	Designerly Rigor	Scientific Rigor
Schön	Reflection-in-Action & Artistry (Knowing-in-action)	Instrumental problem solving made rigorous by the application of scientific theory and technique
Dewey	Learning by doing & demonstration	Learning by instruction

VS

Design team

Design Critiques, 1o1 Sessions, Co-design

Research team

Attended research conferences
Partook in research workshops and classes
Invited renowned research experts in house to train us
Built our own research conference!
Set up mentor-mentee and research buddy programs
Conducted tons of research feedback sessions

Yoel Sumitro

C. LEARNING FRAMEWORK

3Rs & DI

Yoel Sumitro

3Rs

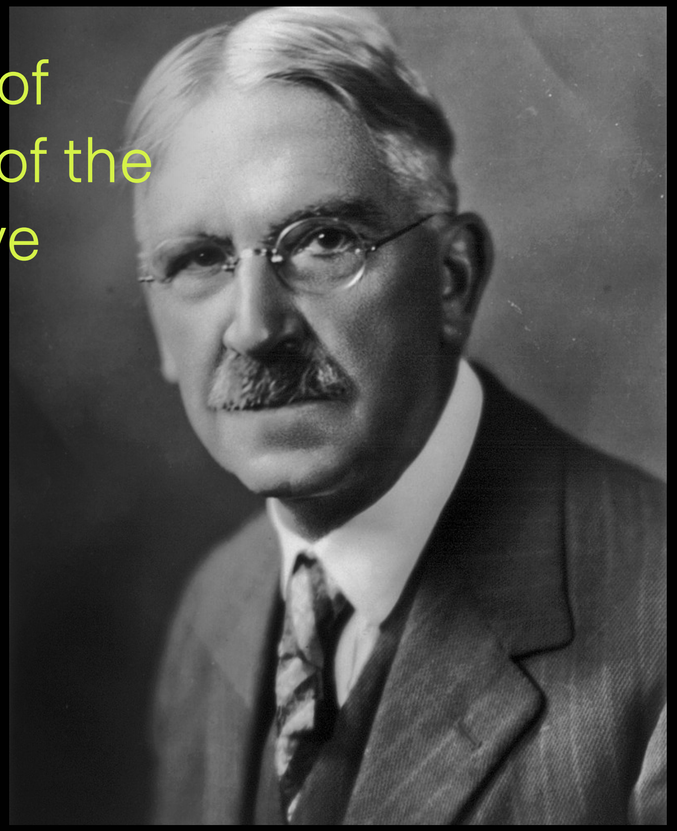
RECOUNT

RELATE

REFRAME

DI: DEMONSTRATING AND IMITATING

“Imitative reconstruction of an observed action is a kind of problem solving. The imitator has access to observation of the process and of the product and may regulate his selective construction by reference to either or both of these.”



—

Schon, D (1987) Educating the Reflective Practitioner. San Francisco: Jossey-Bo

DI: DEMONSTRATING AND IMITATING

PAIRED RESEARCH

1o1 RESEARCH SESSION

STOPING:

- Impostor Syndrome
- Gatekeeping in Design Research

Thank you,

Yoel Sumitro
yoel@tiket.com

Deck design by Yusak Yosefianus
yusak.yosefianus@tiket.com