

# Socially Responsive Design

## Co-design with the under-privileged living in Hong Kong sub-divided flats

**Andy LAI**

Technological and Higher Education Institute of Hong Kong

This project is fully supported by a grant from  
Research Grants Council of the Hong Kong Special Administrative Region, China. (Project No. UGC/IDS25/16); and  
THEi Seed Grant Research Project Scheme (Project No. SG1819103)

# Overview

In **Hong Kong**, there are many **underprivileged families** who are currently residing in **sub-divided units (SDUs)**



SDU visit with THEi students and Caritas Social Worker in June 2017 – a 3 person family in a 95sq ft SDU

# Overview

Over **200,000** Hong Kong peoples live in such substandard dwellings which offer an average of **5.8m<sup>2</sup> floor area per person** (62.4 sq ft). For the **3-person and 4-person** households, the average area per person drops to **3.7m<sup>2</sup> and 3m<sup>2</sup>** (39.8 and 32.3 sq ft) respectively (2016 Population By-Census, HKSAR).



SDU visit with THEi students and Caritas Social Worker in June 2017 – a 5 person family in a 110sq ft SDU



# *Observation*



SDU visit with THEi students and Caritas Social Worker in June 2017 – a 4 person family in a 92sq ft SDU

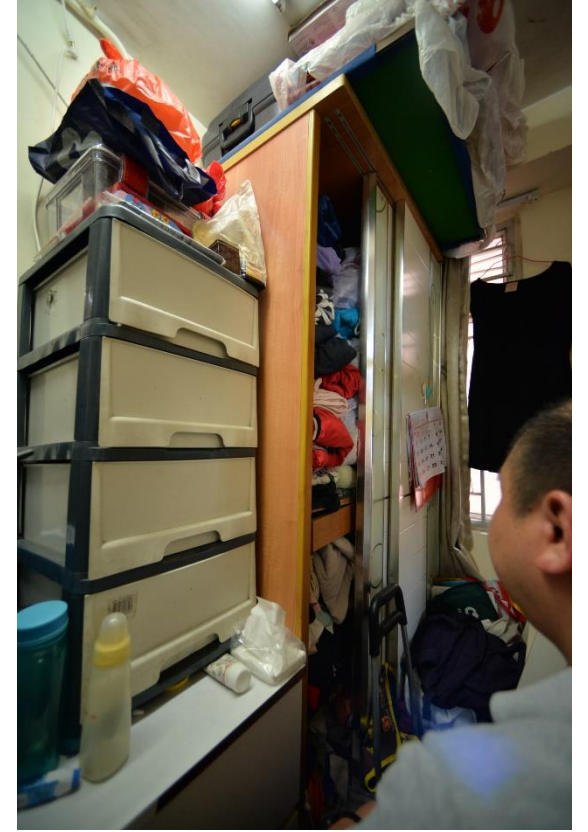
# Observation



SDU visit with THEi students and Caritas Social Worker in June 2017 – a 4 person family in a 85sq ft SDU



# *Observation*



SDU visit with THEi students and Caritas Social Worker in June 2017 – a 4 person family in a 85sq ft SDU

# Observation



SDU visit with THEi students and Caritas Social Worker in October 2019 – a 3 person family in a 90sq ft SDU



# *Observation*



SDU visit with THEi students and Caritas Social Worker in October 2019 – a 3 person family in a 85sq ft SDU



# Observation



SDU visit with THEi students and Caritas Social Worker in October 2019 – a 3 person family in a 105sq ft SDU

# *Observation*



SDU visit with THEi students and Caritas Social Worker in October 2019 – a 3 person family in a 85sq ft SDU



# Observation



Toilet and cooking area of SDU



# Observation



Toilet and cooking area shared by SDU residents



# *Problem Identification*

- **lack of privacy and personal space** also put a lot of strains on personal development and also on relationships among family members;
- the **lack of sufficient living space** poses various degree of threats to the physical, physiological as well as psychological wellbeing and causes particular problems to the development of children and early teenagers;
- **Lack of space / furniture for study** for children;
- **Aged below 15 accounts for 18.1% of residents in SDUs**, this disadvantaged segment is crying for quick, innovative yet sustainable solutions to the 'wicked problem' (Rittel & Webber, 1973) faced by them every day.

# *Hypothesis*

Children living in sub-divided units who have used the co-designed furniture in their daily living over the course of 12 months would show various degrees of **improvement** in both frame of mind and academic performance. On the other hand, those who do not use the designed furniture would show little to no sign of improvement.



# *Research Objectives*

- To **analyse** the relationship between living quality improvement and the use of a series of specially co-designed furniture for the children of SDU;
- To **evaluate** the impact of co-designed products on the improvement of living environment;
- To **explain** how design innovation by co-design can enhance the living environment of children and the overall social sustainability in the context of the pressing housing issue in Hong Kong.
- To **apply** sustainable methodology and technology on furniture design for the families living in overcrowded SDU units to facilitate a long term community development.

# *Research Methodology*

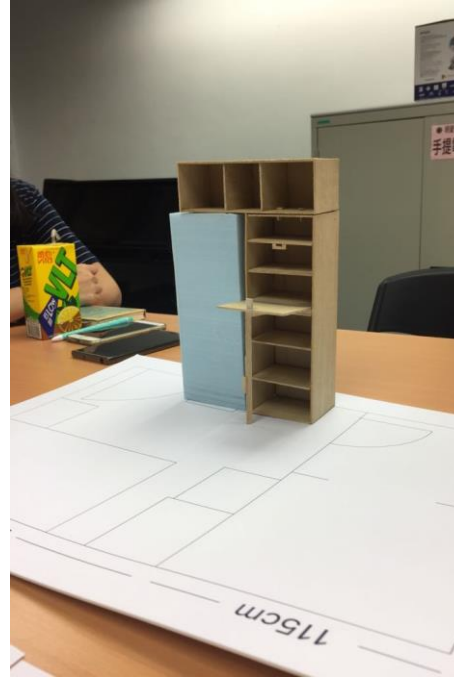
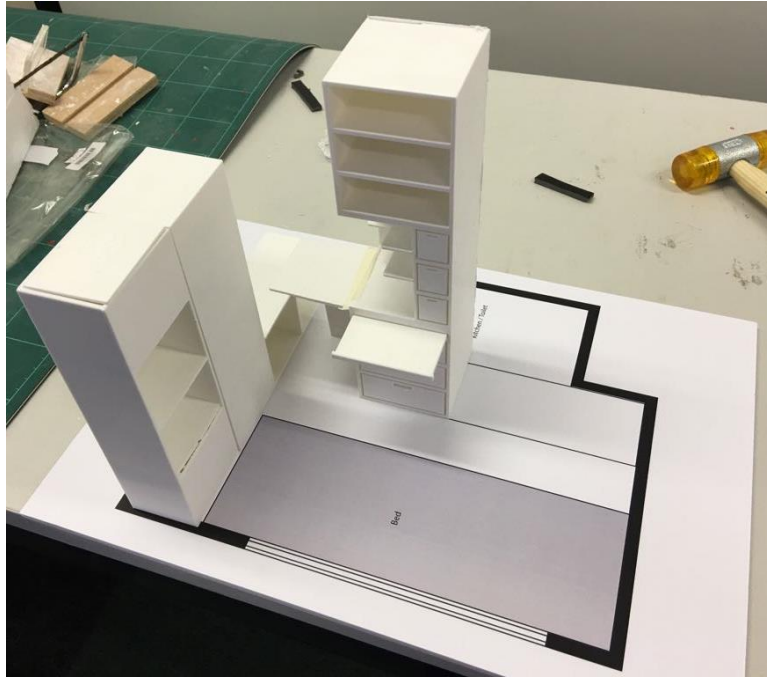
- **Observation and Evaluation**
- **Data Collection and Analysis**
- **Detailed Focused Group**
- **Analysis and Recommendations**

# *Observation and Evaluation*

- THEi's innovation and the furniture products were delivered to 10 sub-divided flat families, installed in their respective SDUs.
- Research will document the impact of the design furniture on their daily living conditions and study environment of the children.
- Research on the impact on living standard, storage, comfortability, entertainment and study environment will be conducted in response to the period of utilization of the furniture.

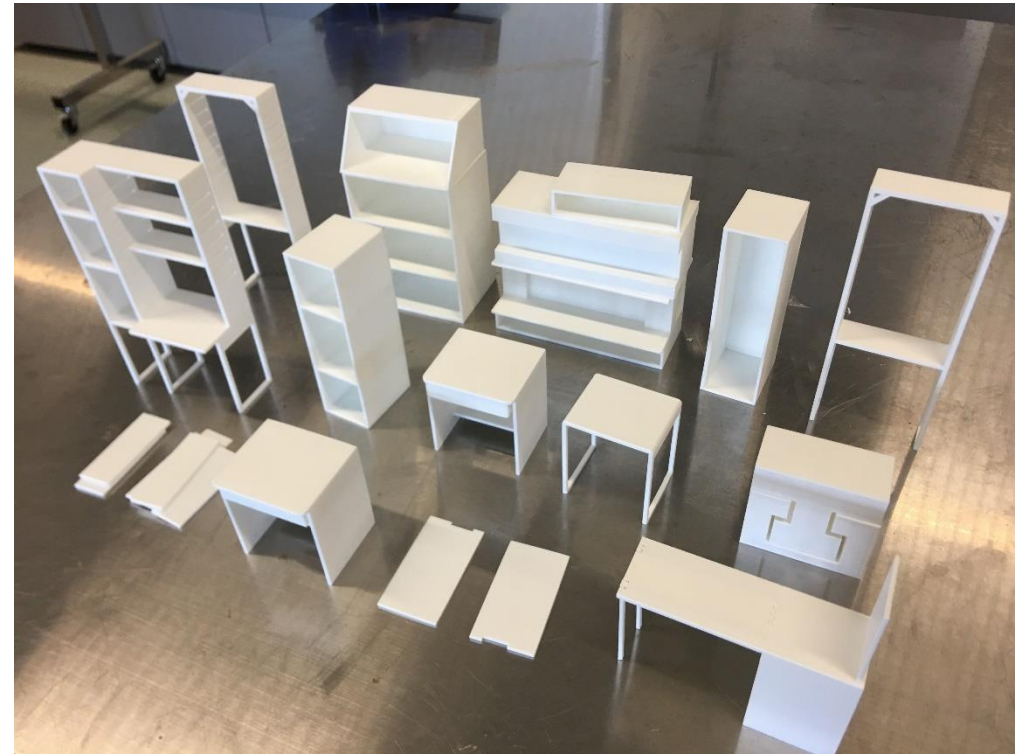


# Co-design Process



Ideas of solution created through the process of Co-design with THEi team, SDU tenants and social workers

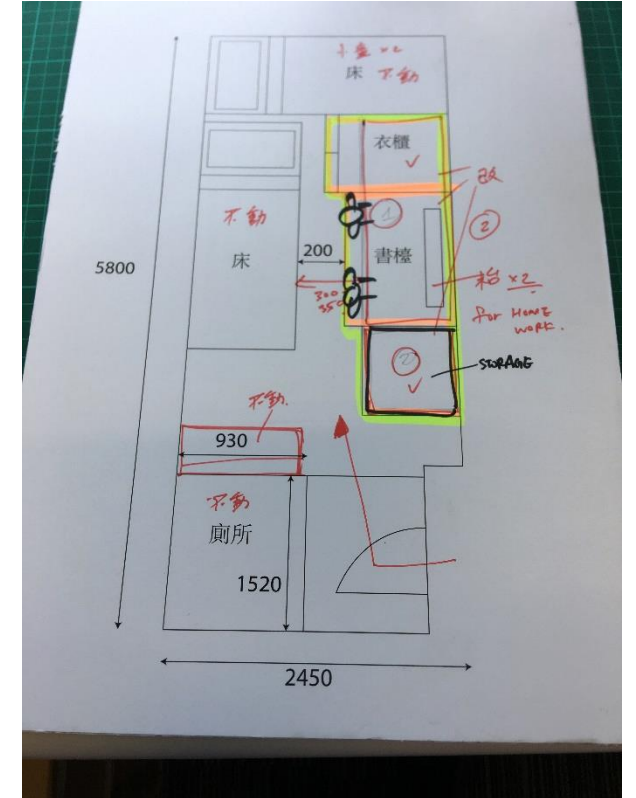
# Co-design Process



Ideas of solution created through the process of Co-design with THEi team, SDU tenants and social workers



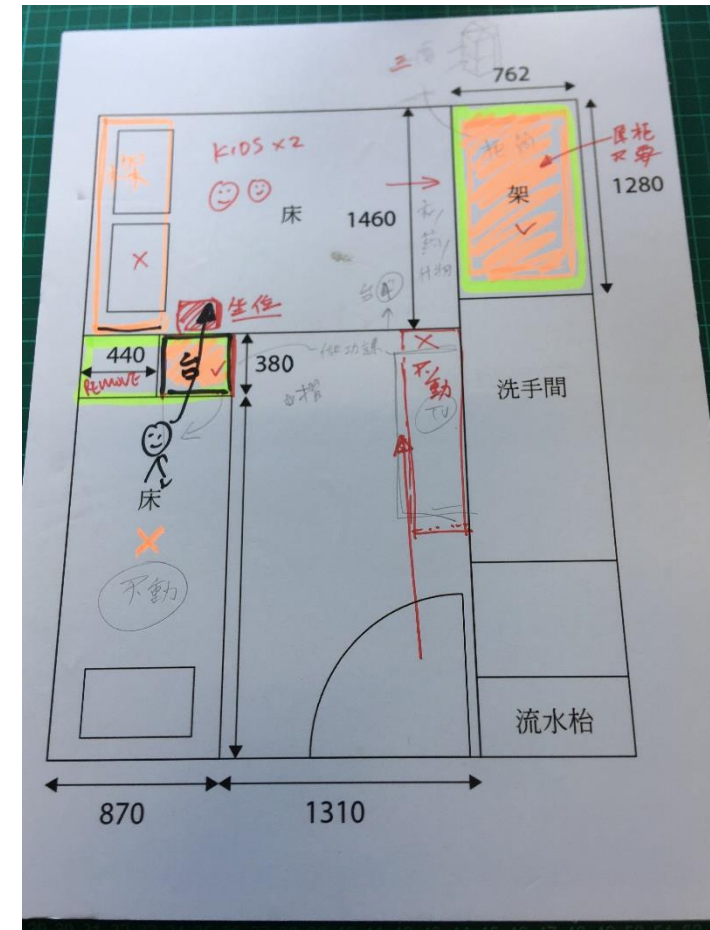
# Co-design Process



Ideas of solution created through the process of Co-design with THEi team, SDU tenants and social workers



# Co-design Process



Ideas of solution created through the process of Co-design with THEi team, SDU tenants and social workers

# Co-design Process



Ideas of solution created through the process of Co-design with THEi team, SDU tenants and social workers

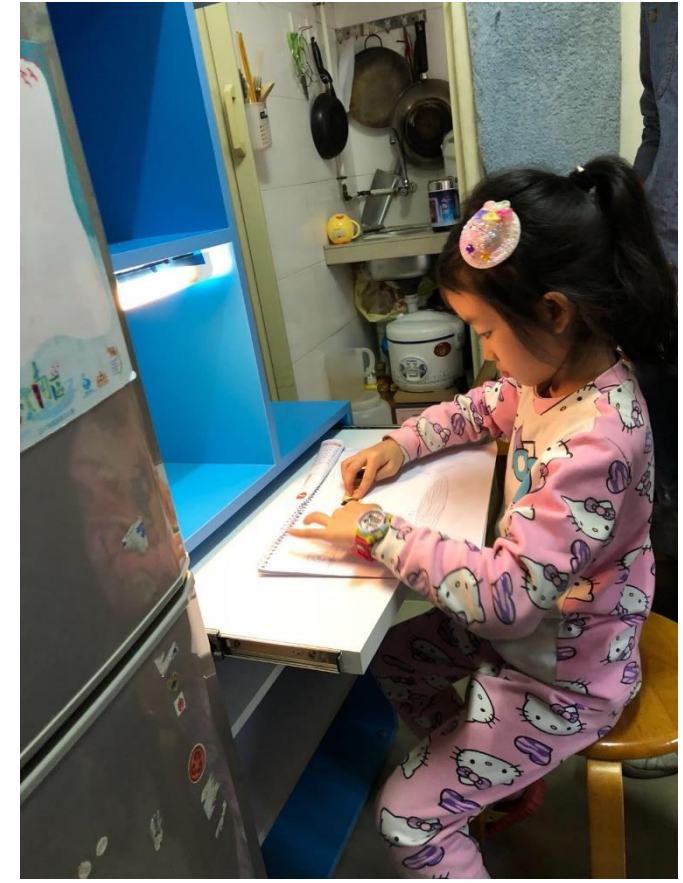


# Solutions



Furniture solution and its installation in SDU (Dec 2017)

# Solutions



Furniture solution and its installation in SDU (Dec 2017)



# Solutions



Furniture solution and its installation in SDU (Dec 2017)

# Solutions



Furniture solution and its installation in SDU (Dec 2017)



# Solutions



Furniture solution and its installation in SDU (Sep 2020)



# Solutions



Furniture solution and its installation in SDU (Sep 2020)

# Solutions



Furniture solution and its installation in SDU (Sep 2020)



# Solutions



Furniture solution and its installation in SDU (Sep 2020)



# Data Collection and Analysis

- Interview and questionnaire survey are conducted with the serviced families which have used the furniture over a period of 12 months in contrast to some sub-divided flat families that have no exposure to the design solutions.

# Data Collection and Analysis

- Experience Sampling Method (EMS) for the target users to study what they feel and think during their daily lives.
- The data will then be analysed to examine the impact of the design solutions on their living conditions and study environment.

# Analysis and Recommendations

- Analyse the data and formulate potential research findings and recommendations for how co-design can be a mechanism to solve the vile living conditions in sub-divided flats
- According to the preference revealed by the sub-divided flat families
  - Modify focus areas of the future co-design / furniture design research based on the prime concern of SDU residents
  - Formulate improvement strategies and policy recommendations.



# Thank You

## Collaborators:

Caritas Aberdeen Community Centre  
KA Studio  
Tristance Kee  
Annbeth Lee  
Rosie Yip  
Yoyo Pang  
Dennis She  
Heywood Tang  
Kelvin Wong  
William Chan  
William Fong  
Herry Ma  
Oliver Kan  
Sammi Chan  
Ava Kong  
Dina Yu  
Horace Wong

## Funding:

Research Grants Council of the  
Hong Kong Special  
Administrative Region, China.  
(Project No. UGC/IDS25/16);

THEi Seed Grant Research  
Project Scheme  
(Project No. SG1819103)

## Contact:

Andy Lai  
Teaching Fellow  
THEi (Department of Design)  
Email: [andykslai@vtc.edu.hk](mailto:andykslai@vtc.edu.hk)