Introduction to Design Thinking: Reframing Problems into Opportunities

CDIO Asian Regional Meeting 2014
Kanazawa Institute of Technology, March 25, 2014

Omihito Matsushita
Dept. of Global Information Technology
Kanazawa Technical College
- Introduction
- Workshop: Pair activity
- Sharing Design Thinking projects at KTC/KIT
Omihito Matsushita

2003〜 English as a Foreign Language
2013〜 Design Methods

Current English
Foreign Affairs

Grammar
Reading
English
Qualification Test

Social

Designing Learning Experience using Design Thinking

International Social Program

English as a Communication Tool

Conversation classes
Study-abroad Programs
International Programs

English as a school subject

Academic

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Make Pairs
Warming-up

Sketching yourself (1min)

Draw something that represents yourself: hobby, favorite something, things you use everyday...
Warming-up

Introduce yourself (1min)

Introduce yourself to your partner using the sketch.
Design
To solve problems

Design Thinking
Thinking out-of-the-box
Design thinking is a human-centered approach to innovation that draws from the designer's toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success.

Tim Brown, president and CEO, IDEO
Re-designing the Travel Experience in Kanazawa
Interview (4min×2, 3min×2)

“Understanding what your partner is trying to achieve through traveling”

Ask for unique experiences, emotions
Aspirations, expectations, challenges
Let your partner tell her/his personal stories about traveling
In Kanazawa.
Ask if your partner has some artifacts to share.

Please take notes!
Re-designing the Travel Experience

**Interview** (4min × 2, 3min × 2)

5E User Experience Map

<table>
<thead>
<tr>
<th>Entice</th>
<th>Enter</th>
<th>Engagement</th>
<th>Exit</th>
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Activities

Pain points/Leverage points

Insights

“Why is it pain?”

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Reframe the problem (6 min)

What are 3 unique aspects of your partner’s travel?
“I didn’t know which bus to take, but I hesitated to ask someone for help.”

What are the new findings about your partner’s feelings and motivations.
“She is afraid of asking questions in Japanese because she thinks using wrong Japanese troubles people.”

Need Statement
“She needs a way to be assured that she is using the right Japanese for help because she doesn’t want to trouble people around by using the wrong Japanese.”
Generate alternatives (5 min)

Make solutions that are useful and meaningful to your partner based on what you learned.

Sketch radical ideas!
Be visual, and go for quantity!
Do not judge your ideas.
Sharing and feedback (3 min × 2)

Share your solutions and capture the feedback.

Don’t defend your ideas.
This is not testing your ideas.
Another opportunity to learn more about your partner’s feelings.
Add on more ideas from the feedback.
Re-designing the Travel Experience

Prototype （15 min）

Build to think

Make something your partner can interact with
Testing and Feedback (3 min × 2)

Share your solution and get feedback!
Design Innovation

The d.school, Stanford Univ.

http://dschool.stanford.edu/our-point-of-view/
Design Process at KTC

Real
see, do, say...

Abstract
thinking, feeling
Design Process at KTC

Wearing someone else’s shoes
**Empathy**
- Observation
- Interview
- Photostudy etc

Building to think
**Prototype and Test**
- Rapid prototyping
- Role-play
- Storyboard etc...

Defining unmet needs
**Analysis**
- KJ Method
- Scenario etc...

Collaborating for creative potentials
**Co-creation**
- Brainstorming
- Workshop Etc...

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Wearing someone else’s shoes

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Creating New Value and Experience

Improving product and system functions and qualities

Providing new interactions and lifestyle experiences

**HOW** to make

**WHAT/WHY** to make
Hands-on Projects through Understanding People

Know **HOW** to make
- Technology
- Business Model
- etc...

Discover **WHAT/WHY** to make
- Lifestyle、work、learning、motivation
- Etc...

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CDIO and Design Thinking

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Design Projects at KTC, 2013

Understanding the values that people appreciate in a local Hot Spring community in Ishikawa

Extra Curricular Program by KIT&KTC

Learning Express organized by Singapore Polytechnic in Indonesia

Mutli-disciplinary Social Innovation Project
Engineering Management at KTC

33 students
Year 4
Dept. of Global IT
2 hrs /week for 15 weeks
October 2013 – February 2014

24% Good at coming up with creative ideas
30% Good at group works
21% Having broader mindset and thinking skills
94% Want to acquire skills for creative thinking

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How might we help students develop **Creative Confidence**?

Learn by doing
How might we help students develop Creative Confidence?

Theme: How can we develop community value for a student-town around KIT/KTC?

- Observation/Interview (POEMS/Empathy Map)
- Data Clustering for insight (KJ Method)
- User Mapping (2 by 2 Matrix)
- Needs statement
- User Personas

- HMW Statement
- Brainstorming/Idea Sketch
- Stakeholder Value Map
- Use Case Scenario
- Concept Poster
- Feedback

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Developing Creative Confidence in KTC

- **24%** Good at coming up with creative ideas
- **30%** Good at group work
- **21%** Having broader mindset and thinking skills
- **94%** Want to acquire skills for creative thinking
- **88%** Could generate creative ideas & values through human-centered approach
- **91%** Group work was useful for creating appealing values and for expanding ways of thinking for potential ideas
- **87%** Design methods are effective tools for solving problems and finding opportunities

*Introduction to Design Thinking: Reframing Problems into Opportunities, CDIO Asian Regional Meeting 2014 at KIT Omihito Matsushita*
Developing Creative Confidence in KTC

82%

Gained more skills and different ways of thinking for problem-solving compared to before the class
Developing Creative Confidence in KTC
Developing Creative Confidence in KTC
Design Thinking

Collaborate, Delight, Inspire, and Open your mind!

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