

By Min Wen Yeh

THE BRIDGE

Design Tools Trigger Cross Cultural Behavior Adaptation

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MASTER OF INDUSTRIAL DESIGN

THE UNIVERSITY OF THE ARTS

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Min Wen Yeh

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Design Tools Trigger Cross Cultural Behavior Adaptation

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THE BRIDGE : Design tools trigger cross cultural behavior adaptation

By Min Wen Yeh

*A Thesis Submitted in Partial Fulfillment of the Requirements for
the Degree Master of Industrial Design in the College of Art, Media, and Design.*

The University of the Arts
Philadelphia, Pennsylvania

May, 2014

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Abstract

This project explores how design tools can lead learners to cross language and cultural barriers, unlock and activate their mindset to adapt new cultural norms. Reminder, self-reflection and boundary object are three components of a toolkit design for a self and group support system.

This toolkit BRIDGING uses physical reminders to encourage people to re-think what they could do differently in their everyday interactions. The reminder also lives in a "Self-reflection board" where users are able to map their changing patterns of interaction according to their goals. Finally, the "Self-reflection board" plays the role of a boundary object hosting conversation, inviting individual and group support for users. BRIDGING serves as a different medium for learner to instructor interaction and encourages group support along with an individual's task management system.

For my family.

For my friends, who still believe in change.

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I. INTRODUCTION

- 1.1 The Project in the Context of Human Centered Design
- 1.2 My Role as a Designer
- 1.3 Stakeholder Map
- 1.4 Terms and Clarifications

“ Good design is design that changes behavior for the better. I think it needs to take into account the context of the environment, of the human condition, the culture and then attempt to make the things you do—make us do them better, make us do better things. It encourages us to change the way that we live. „

– Jon Kolko



1.1 THE Project In the Context of Human Centered Design

Human Centered Design (HCD) started to evolve around the late 1990s, when the development of methods shifted from a techno-driven focus to human interaction. It was also at this point that we found ourselves with a design methodology that was manifested as more focused on end users and their participation in the design process.

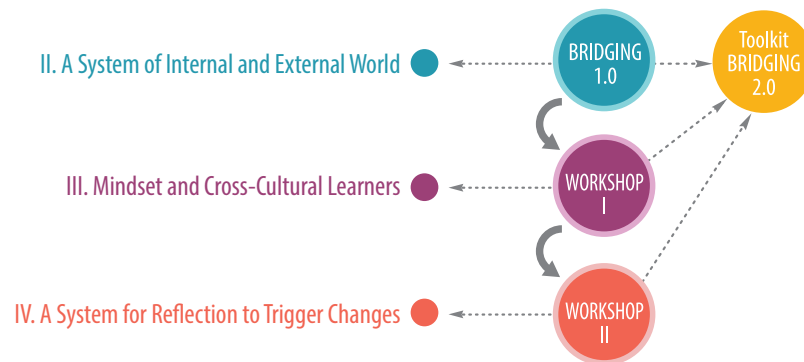
According to principles of HCD (ISO), design should be committed to:

- 1) Involving users to better understand their practices, needs, and preferences.
- 2) Searching for opportunities and feasibility between users and their relationship with technology.
- 3) Follow design process of research, synthesize, prototype and iteration to come up with solutions in systematic view.
- 4) Organizing multi-disciplinary teamwork.

As globalization becomes a phenomenon that affects everything from industrial production to academic exchange, it increasingly manifests in the number of students from far Eastern countries who travel to the United States every year. My own experience of being an Asian student studying abroad encourages me to explore possibilities for impactful interactions in this foreign Western country. My thesis project puts into practice these characteristics of HCD, focusing on the needs for passive learners to activate their mindset for better interaction in the collaborative learning environment. In this case, my research target is the extreme example of the passive learner, Asian students with language and cultural barriers.

“BRIDGING” the re-mindset design toolkit, is a product of co-creative, participatory, and human centered design, starting with understanding the limitation of humans, then aiming to take different approaches to trigger an individual's behavior change and collaboration.

Involving Asian students in the design process, beginning with the generative interview and participatory workshop, helped to define the scope of the problem from the user's perspective. Later, the co-design workshop lead multidisciplinary participants forward to find possible solutions based on the issue that was defined.



1.2 My Role As a Designer



By applying Human Centered Design, I identify my role in THE BRIDGE thesis project as a designer who discovers opportunities with users to make changes for better cross-cultural interaction. By “making things visible” through the design process, I invite not only Asian students who are in the control group, but also support individuals/groups working with them. Furthermore, I help develop coping strategies by introducing design thinking into people’s daily lives, such as using the visualization in the self-reflection toolkit, inviting conversation through a boundary object, and utilizing technology to reinforce a sense of group support.

For me, as a designer, the ability to empathize with my audience is a good start for seeing their needs. However, the most intriguing part of the process would be how design lives with them to create a better life.

“Be someone else. It takes great empathy to create a good experience. To create relevant experiences, you have to forget everything you know and design for others. Align with the expected patience, level of interest, and depth of knowledge of your users. Talk in the users’ language.”

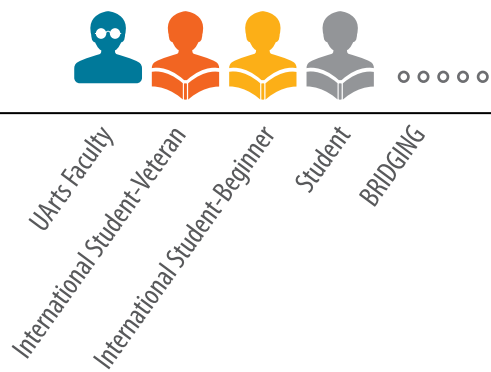
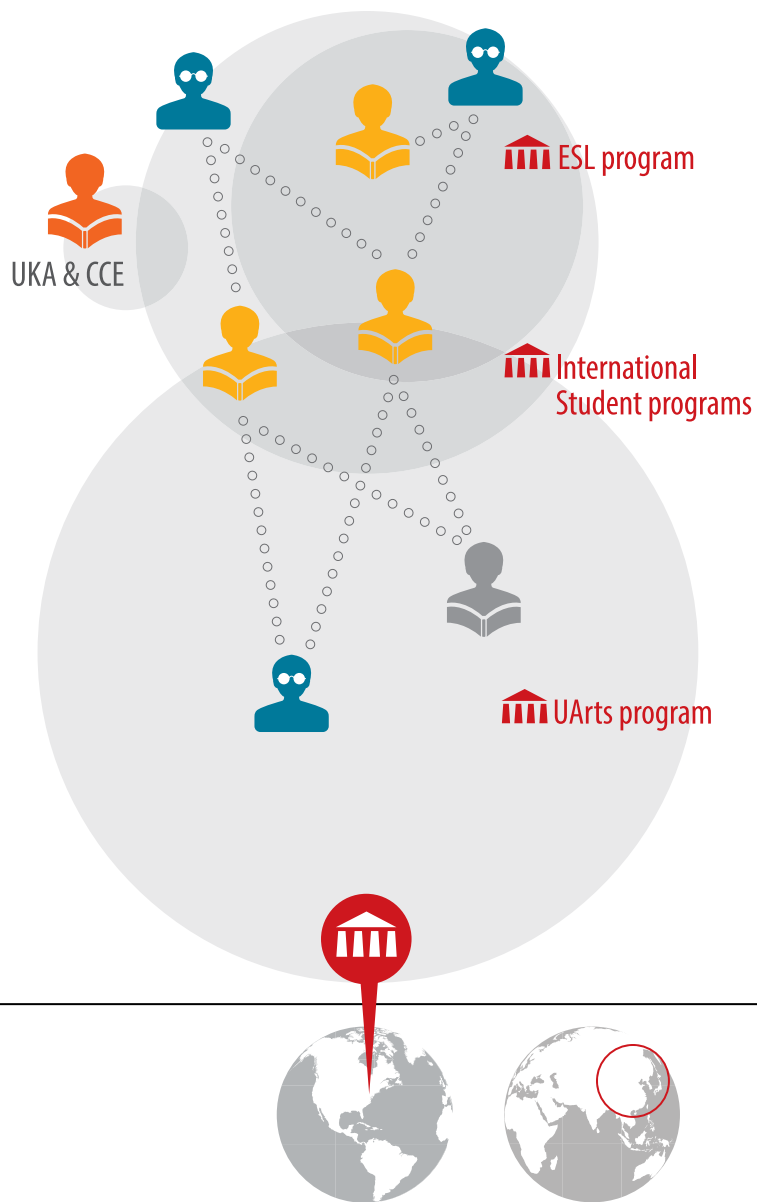
– Niko Nyman



1.3 Stakeholder Map

When international students begin their journey of studying at UArts, they are first prepared for their academic lives by the International Student Programs and ESL(English as a Second Language) program. When students enroll into their major programs, they are released into an intensive learning environment, especially for the programs that require teamwork and collaboration.

While learning new skills from the program of their chosen major, international students may occasionally request language and cultural adaptation assistance from the International Students Program and the ESL program. Some students have formed their own communities for connecting students with the same cultural background. UKA (UArts Korean Association) and CCE (Chinese Cultural Exchange) are examples of such student-led international student organizations.



Anthony Guido

Associate Professor
Industrial Design



“We professors don’t have a tool to work with the Asian student who never spoke, it wasn’t her problem, it was our problem. „

Joseph Gonzales

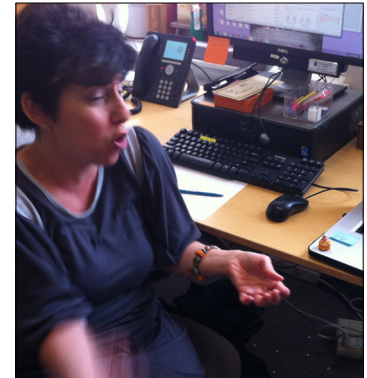
Program Director
Museum Communication



“Because we are not trained to be international professors, if we can develop some sort of training it will be helpful.„

Mara Flamm

Director
International Student Programs



“If you have international students in your class, you need to re-think your curriculum, what’s your expectation and make the expectation clear.„

Peter

Junior
Industrial Design

“Because we are Asians, its very difficult to critic each other... „



Wu Bin

1st year
Museum Communication

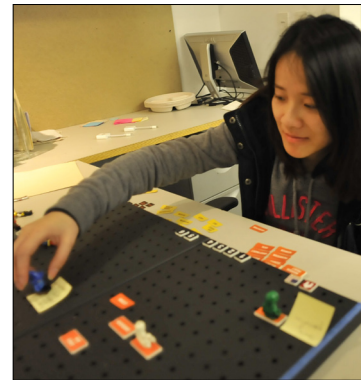


“I will observe the group dynamic at beginning, give my voice later and make sure my voice can be heard..„

Dai Li

1st year
Museum Communication

“I love travel by myself, that force me to deal with everything by myself and be out of my comfort zone. „



1.4 Terms and Clarifications

Terms, tools and charts are created and redefined through this project.

Terms such as Eastern vs. Western educational models, Eastern vs. Western ways of thinking, and active vs. passive learners refer to phenomena in cultures that we recognize to be not monolithic; however generalizations apply and will be used in this thesis documentation.

Terms

Re-mindset

“Re-mindset” explains the status of backward to one’s initial state of mind before outside distractions. Re-, a prefix, occurring originally in loanwords from Latin, with meaning in “again” indicate repetition, or “back”, “backward” to indicate withdrawal or backward motion, in the writing latter definition is used.

Passive vs. Active Learning

Passive learning is when the students usually only takes notes about the subject, accepting the information at face value without questioning or discussing its merits. Active learning is learning that actively involves the student through questions, discussion, group involvement, interaction with peers, and debating the subject matter.

Eastern vs. Western Learning Path

This project focuses on the systematic view from Eastern (Taoism- Eastern thinking) and Western (Design thinking) as a start point to compare different activities within these two spectrums.

Internal vs. External World

External world, in this project, explains the idea that we, as well as others, receive tangible and visible feedback based on our activities. In the internal world, activities are primarily a mental exercise, happening in non-visible forms, and lacking tangible feedback in the process.

Open Character vs. Closed Character

Open and closed characters developed as part of the self-reflection timeline interview process. Interviewees project their state of mind through the timeline by picking up the avatar (LEGO toy mini figures) that best represent their openness or closedness for challenges. A feeling of openness can be associated with a growth mindset. A feeling of closedness can be associated with a fixed mindset.

Tools and Charts

Tool: Self-reflection Timeline Interview Board

The Self-reflection timeline interview board developed as a design tool and methodology for me to learn both quantitative and qualitative data from interviewees. By mapping activities and challenges happening during a students' learning journey, they are able to make their reflection visible, and therefore potentially take the next step.

Tool: Toolkit BRIDGING

To bridge the gap between a motivated mindset and possible behavior changes, I create a toolkit with three components: Reminder, self-reflection and boundary object. The tool is used for personal task management as well as to mediate learner-to-instructor interaction.

Chart: Mindset to Behavior Learning Path

This chart developed from the inspiration of both the practice of Taoism and Design thinking. Each step on the chart reinforces the two opposite paths of behavior-oriented and mindset-oriented learning processes.

II. A SYSTEM OF INTERNAL & EXTERNAL WORLD

- 2.1 Passive vs. Active Learning
- 2.2 Cultural Differences in Perception
- 2.3 Eastern vs. Western Learning Path
- 2.4 BRIDGING 1.0 : A Boundary Object for Interviews

“This we know. All things are connected like the blood which unites one family...Whatever befalls the earth, befalls the sons and daughters of the earth. Man did not weave the web of life; he is merely a strand in it. Whatever he does to the web, he does to himself.”

- Tee Perry, inspired by Chief Seattle



2.1 Passive vs. Active Learning

Why do some students become passive/less participant learners in the active learning environment?

Design process and learning

THE BRIDGE thesis project was triggered by my personal learning experience in MiD, also known as Design for Social Impact at the University of the Arts. The educational model/system leads students to connect what they learned (knowledge in their head) to projects (knowledge in the world) which represents education itself as an iterative process from research to prototype.

The similarity between the design process model and the learning model was also addressed by Shelley Evenson and Hugh Dubberly in *“Design as Learning or ‘Knowledge Creation’ – the SECI Model.”* When we start a project, designers and researchers move up through a level of analysis in order to move forward through time to the next desired state. This process was articulated by Hugh Dubberly in his *“Analysis-Synthesis Bridge Model”*. It aligns with the SECI model – a model of knowledge creation where learning happens in tacit to explicit knowledge interaction. As illustrated in the chart we might characterize learning as a form of designing.

As a student from an Asian country with an extremely different educational background, I personally found it challenging to shift my old ways of learning which is skill-oriented and knowledge in the head, largely disconnected from knowledge in the world. It contradicted the learning models provided by MiD: the iterative process from research to prototype and knowing by doing. Thus, I started my research and observation in some classes and meetings that required group collaboration and externalization knowledge.

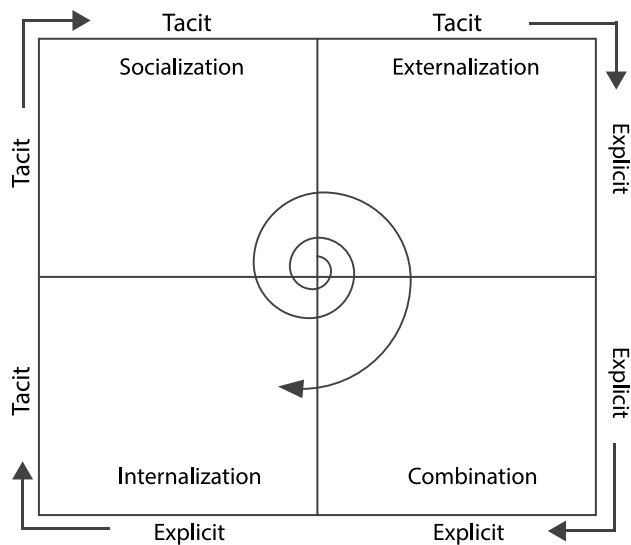


Chart1:SECI Model by Shelley Evenson

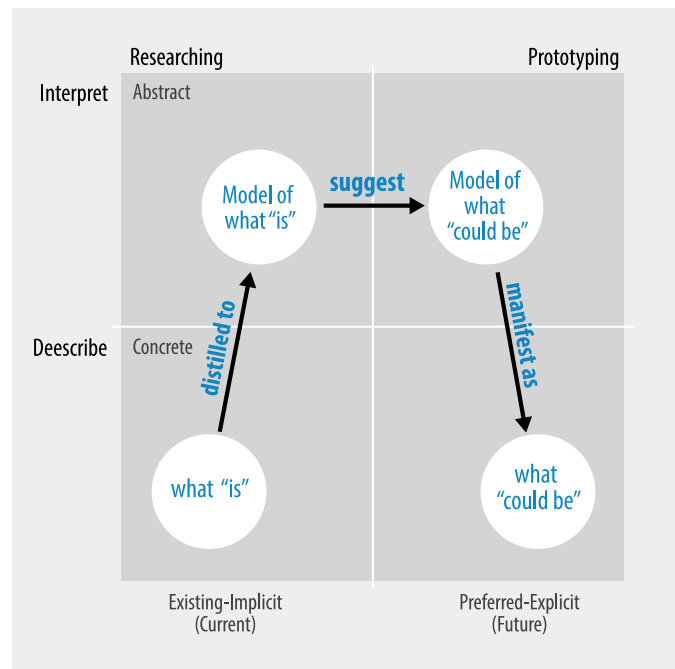
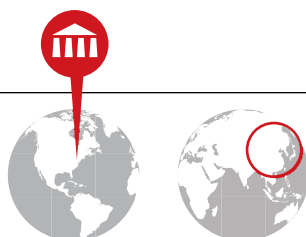
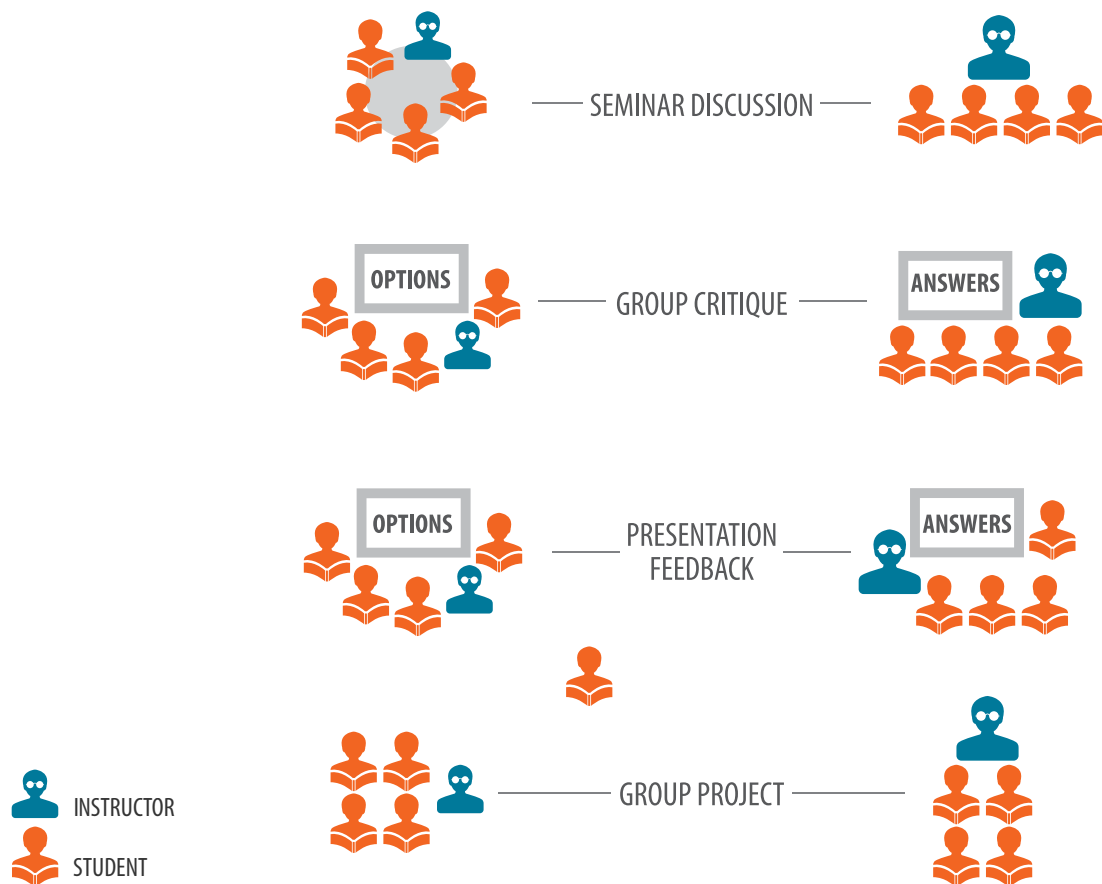


Chart2: Analysis-Synthesis Bridge Model by Hugh Dubberly

This paradigm of the education model/system is totally different from most models/systems in Asian countries where learning mostly lives in a top-down, hierarchical system. Knowledge in the head in most cases had been blocked from knowledge in the world.





Class scenarios comparison from interviews



Visualization Workshop in Industrial Design program at UArts

Observation from the workshops/group meetings

My initial observations led me to document the pedagogical values demonstrated in UArts. There are some programs that require intensive collaboration and teamwork, such as Industrial Design and Museum Studies. In the former one, either students will have group projects or group critiques during the semester, the latter one has cross-disciplinary collaboration between Museum Exhibition Planning and Design, Museum Communication and Museum Education. I have observed two workshops (team building workshop @MiD, visualization workshop @ID), several group projects meetings (Museum/MiD).



Takeaways

Group dynamics lead individuals to perform differently from the way they would on individual projects. In most cases the passive group and active group could easily be observed by the number of times students took initiative, engaged in discussion and expressed their ideas. Co-incidentally, Asian students appeared in these groups to be far less engaged and in the worst case stayed silent through activities.

Team Building workshop in Master of Industrial Design at UArts





Studio project meeting in Master of Museum Communication at UArts



2.2 Cultural Differences in Perception

Cross-cultural interaction: cultural differences in perception

The results from cognitive experiments on bicultural participants show that, if people have been exposed to two different kinds of social systems, they might be expected to reason and perceive either holistically (Eastern) or analytically (Western), depending on the cues prompting one cultural orientation or another.

Cultural differences in perception process

Richard Nisbett's research concerns how human perception differs based on their cultural background. He found that there is recent evidence that perceptual processes are influenced by culture. His image-categorizing experiments show that Westerners tend to engage in context-independent and analytic perceptual processes by focusing on a salient object independently of its context, whereas Asians tend to engage in context dependent and holistic perceptual processes by attending to the relationship between the object and the context in which the object is located. Other research in the social science field has proposed that differences in social structure and social practice underlie differences in perception. If one lives in a complex, interdependent society with many role prescriptions, one needs to attend to relationships and to the context. On the other hand, if one lives in relatively independent, individualistic social circumstances, one might attend primarily to objects and one's goals with respect to those objects without being overly constrained by other people's demands and needs.

Culture cue

According to *Richard Nisbett's* experiments, cultural differences were most pronounced with the neutral scenery. In one of the experiment, he took 1000 photographs of randomly selected hotels, post offices and schools in small, medium and large Japanese and American cities. Based on both objective and subjective measures, they found that the Japanese perceptual environments were more complex and contained a larger number of objects than the American perceptual environments. Japanese scenes therefore might encourage perception of the overall context

and American scenes are focused on the few salient objects. The study showed that cultural differences in the perceptual environment actually lead to somewhat different patterns of attention.



An American street scene



A Japanese street scene



Cross-cultural interaction: bicultural experience

Cultural orientation shapes people's perception in two ways, one is chronic effect (such as raising a child) and the other is temporary effect (such as studying abroad). There are many other cognitive experiments in the social science field whose results support the flexibility and exchangeability of different cultural perception. In a way many people are all bicultural, when they have been exposed in the other cultural environments after a period of time. They function like Easterners some of time, and more like Westerners at other times, depending on the environment and how they associate or connect with people. A shift in social characteristics could also influence the ways of thinking and perceiving things.



Takeaways

Design decision

After talking to international students and faculty working in the international students program in UArts, a lot of conversation about cross-cultural learning resonated with *Richard Nisbett's* research. Inspired by how cultural cues are able to shift one's prime culture thinking, and how people with Eastern culture background tend to see things in context and focusing on relationship, I made my design decision of creating a design tool for generative interview that accommodate the thinking and behavioral pattern of Asian students.

In *Richard Nisbett's* research, he disagrees with the assumption that human cognition and perception is fixed and universal. Based on his experiments and research, he suggests that cognitive and perceptual processes are constructed in part through participation in cultural practices. In the cultural interaction, both social and physical, which shapes individuals' perceptual processes.

“ I firmly believe that the entry of East Asians into the social sciences is going to transform how we think about human thought and behavior across the board. „

– Richard Nisbett – “The Geography of Thoughts”





2.3 Eastern vs. Western Learning Path



What are the two paths of learning processes that have evolved from Eastern V.S. Western cultural contexts

“ Design Thinking: A discipline that uses the designer’s sensibility and methods to match people’s needs with what is technologically feasible and what a viable business strategy can convert into customer value and market opportunity. „

– Tim Brown

*“ To shrink something, you need to expand it first.
To weaken something, you need to strengthen it first.
To abolish something, you need to flourish it first.
To take something, you need to give it first. „*

– Tao Te Ching, Chapter 36

Systematic view of world in design thinking and Eastern thinking

In systems thinking (design thinking), every problematic area can't be tackled individually since society/universe is understood to be an interconnected web of relations. Nevertheless, Taoism follows the same principles that everything in universe is interrelated, as Western ones in seeking a fundamental understanding of the universe and establishing theories that are able to explain the world of phenomena. In many fields of studies their commonalities had been mentioned, especially when we talk about the driving-force for Taoism model that is developed from I-Ching : the book of change from ancient Chinese culture. It focuses on the nature of changing as the key element for reaching the ultimate state of Tao. The theory corresponds to the iteration process in the design track that acts as the driving-force in the design process.

Design thinking and Taoism take opposite sides when they approach the world (reality). Taoism follows strictly the principles of nature (many of which are intangible and internalized), and appreciate truth that is beyond knowledge. However, the design process follows logical thinking, believing that synthesis and visualization could manifest patterns of system (externalized). Thus, design decision could be made accordingly and reach a final solution based on iteration. In conclusion, Taoism put nature in the core and individuals live with the system accordingly. But in the design process, human's need to be identified first and the whole system could be designed based on it.

How do the design process and Taoism both emphasize system thinking, but have different approaches in external and internal world?

Learning styles have been developed differently through Western and Eastern culture

The way people learn things or create knowledge geographically is very different. Asian countries have adopted the modern educational model from the west over the past one hundred years. However, the traditional ways of learning have been preserved in activities and the way of thinking. To see which different activities shape an individual's way of thinking, I conducted a mapping exercise with American MID faculty using elements from design thinking tools and Eastern thinking tools.

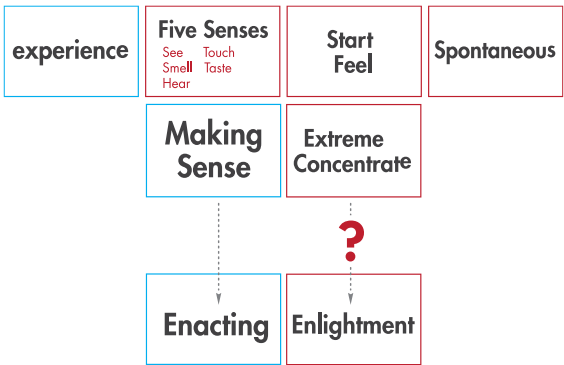


Illustration: A mapping exercise example

Eastern Thinking Tools					
Paradoxical Statement	Two Poles The Opposite	Ice Break	Extremely Concentration	Negative Space	Stop Thinking
Slow Motion	Five Senses See Touch Smell Taste Hear	Respect	Spontaneous	Route Path	Start Feeling
User follow your internal system	Enlightenment from everyday affairs	Physical Memory	Jump Thinking	the efficient way in distribution	Constant Changing

Mapping elements from design thinking tools and Eastern thinking tools:

Using the Japanese tea ceremony as an example, we can see that Eastern thinking is embodied in rituals that engage the four senses, requiring slow motion and physical memory, a conscious emptying of the mind, and engaging in extremely concentrated meditation. At the end of the activity, the user might gain enlightenment through the invisible process of personal experience. Using role-play as an example, we can see that Western design tools illustrate a way of processing ideas that includes participation in the group and connecting to individuals’ experiences. The activity encourages people to act out their experience or intuition in order to externalize and make sense of the decisions they have made.



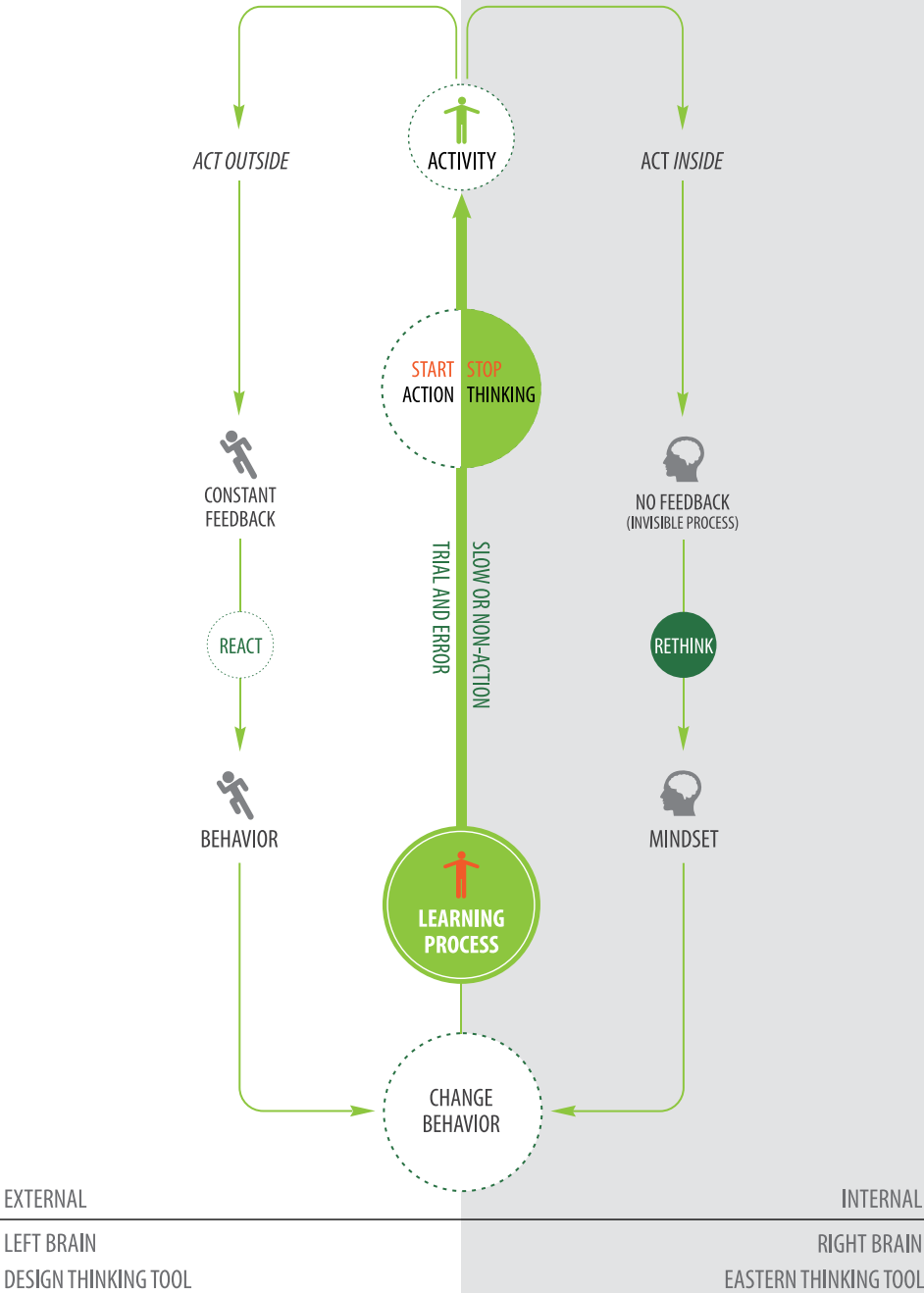
Design Thinking Tools					
5 Whys	Role Play	Co-Design	Visualization	Decision Making	Quantitative Analysis
Card Sorting	Generative Research	Strategic Questioning	Enacting	Making Sense	Sorting
Concept Mapping	experience	Story	Participatory	Making	Connecting

Synthesize Eastern vs. Western ways of thought into the *Mindset to Behavior Learning Path*.

The “From Mindset to Behavior Learning Path” was created based on my learning from the design thinking and Eastern thinking tools mapping exercise and interview with Taoism practice group in Philadelphia. During the Taoism practice group interview, I experienced the similarity between role-play and Tai-Chi movement both in emphasizing personal experience and intuition. The combination of both design thinking tools and

Eastern thinking tools revealed an indispensable gap in how the learning path moves from behavior to enlightenment in the Eastern thinking tools. That not only leads them to two opposite routes in internal and external learning process, but also has been explained in psychology as the theory of right-brain or left-brain dominance. (Springer 86) According to right-brain or left-brain theory, it is based on the lateralization of brain function that each side of the brain controls different types of thinking and influences how people react to situations.

Chart: Mindset to Behavior Learning Path



How does the Mindset to Behavior Learning Path Chart work?

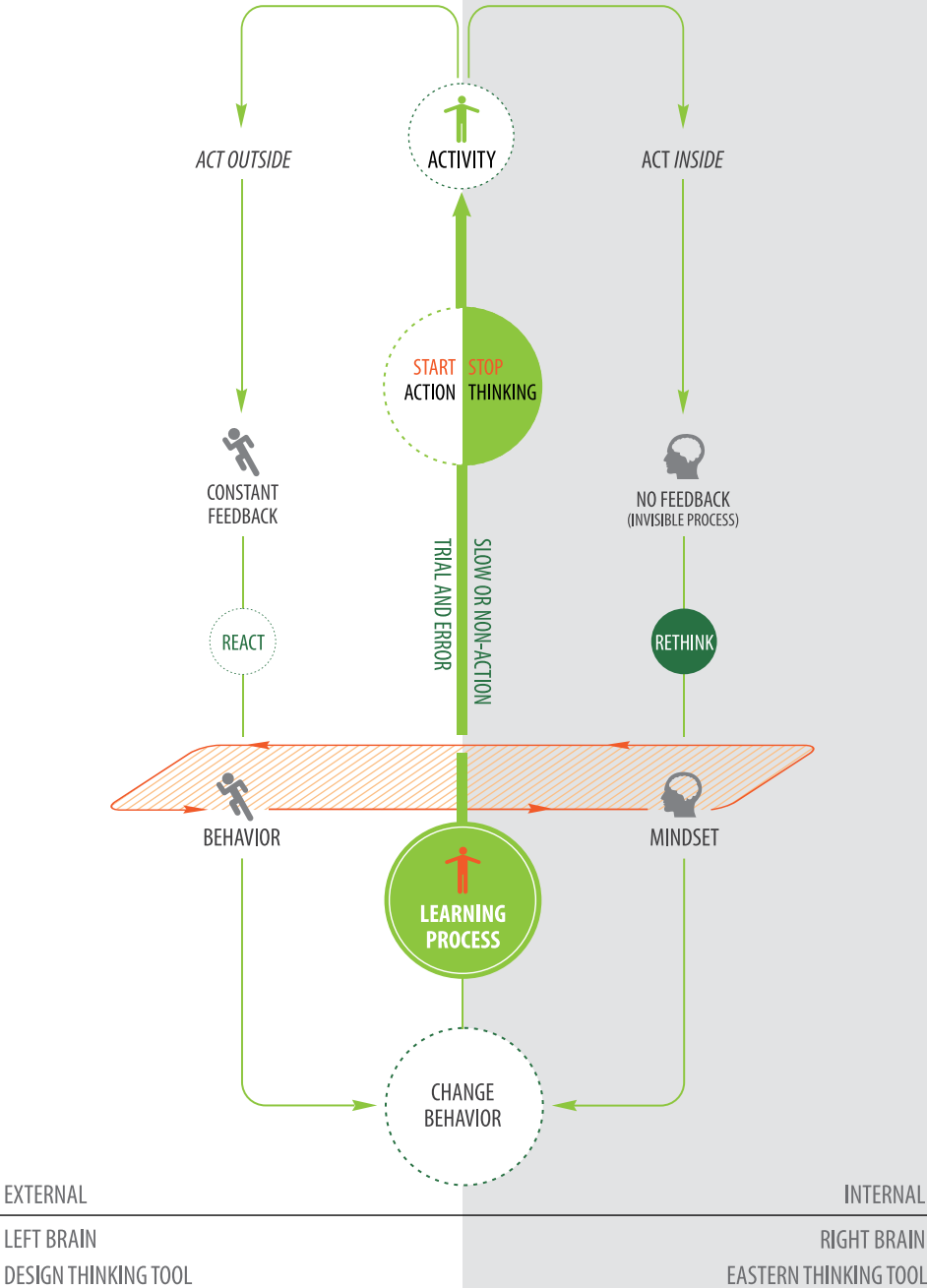
The chart illustrates the two opposite approaches of learning process (external vs. internal) that aimed to learn new knowledge for behavior change. Taking the right path of learning, Tai-chi movement for example, in which:

- 1.) The movement starts in slow motion or close to non-action.
- 2.) The action of stopping leads to subconscious thinking.
- 3.) All the action happens internally and has no feedback- learning through an invisible process.
- 4.) The process re-directs your thinking pattern in order to change mindset.
- 5.) Once mindset has been changed, individuals would learn new knowledge and behave differently.

In contrast, the left path of learning could be referred to as role-play activity which not only has been used in the design thinking activity, but also very commonly adopted in people's daily lives. The path goes:

- 1.) Through trial and error, you externalized ways of interaction in that role.
 - 2.) The action of starting leads to another sequence of actions.
 - 3.) All the action which happens externally has constant feedback- learning through visible re-actions.
 - 4.) This process re-directs your action plan in order to reach your behavior goal.
 - 5.) Once goal of behavior has been reached, individuals would learn new knowledge and behave accordingly.
-

Chart: Mindset to Behavior Learning Path





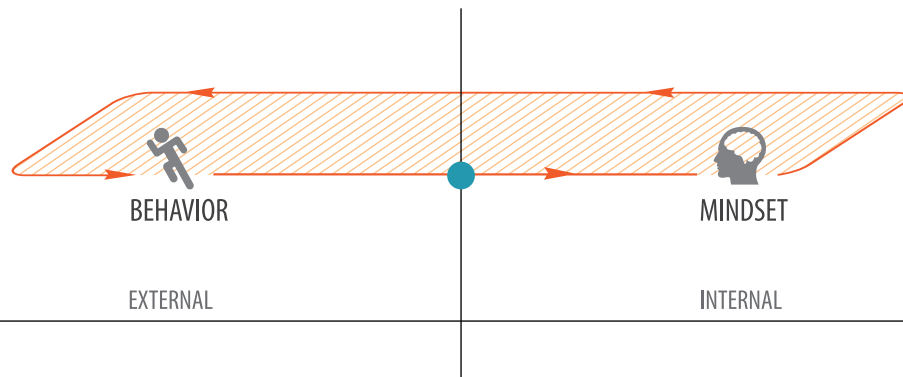
Takeaways

- 1.) The different relationship between human and system explain why Eastern thinking tools have never been developed in the usage of tackling everyday life issues as design thinking tools have. Refer to “Chapter1.2: Cultural Differences in Perception.” which addresses differences in people’s perception of the world based on their cultural orientation.
- 2.) The similarity of the systematic view underlying East and West not only manifests in design thinking, but has also been discussed in the field of modern physics. *Fritjof Capra* in his book “*The Web of Life*” and “*The Tao of Physics*” pointed out the parallel views between Eastern philosophy and Western science.

The Eastern mystics see the universe as an inseparable web, whose interconnections are dynamic and not static. The cosmic web is alive; it moves, grows and changes continually. Modern physics, too, has come to conceive of the universe as such a web of relations and, like Eastern mysticism; has recognized that this web is intrinsically dynamic.

– Fritjof Capra “The Tao of Physics”

The interview tool later created for this thesis project effectively reversed the operation of an Eastern thinking pattern (internalization). The tool aimed to cross an individual's cultural norm and bring their stories and experience out of their heads.



2.4 BRIDGING 1.0 : A boundary Object for Interviews

Paper interview vs. Self-reflection timeline board interview

In the exploration phase of my thesis project, I interviewed ten Asian students by asking questions in their working environment. Most students gave short answers for questions or did not open up to share things were challenging them. Moreover, some interviewees showed anxiety in their body language during the conversation. In the end, only a few active interviewees shared their stories from this contextual interview. I had learned the difficulty of:

- 1.) *Increasing anxiety levels during the paper interview process.*
- 2.) *Getting Asian students to communicate culturally sensitive stories and personal issues.*

Thus I made the decision to design a boundary object for later interviews. A Self-reflection timeline board with “LEGO toy mini figures” and prompts on it successfully encouraged interviewees to share their frustration and life stories through game-like interviews. Comparing the two different methods that had been used during interview processes, I witnessed interviewees’ performance dramatically shift from a reluctant to an expressive storyteller. Evidently, design tools help interviewees to express their internal thoughts across the language and cultural barriers to the external world. Also, it was a springboard for building up the relationship when we had reflected on their personal journey together on the board.

In the Self-reflection timeline interview session, I conducted thirteen interviews with Asian students and six interviews with faculties from UArts.

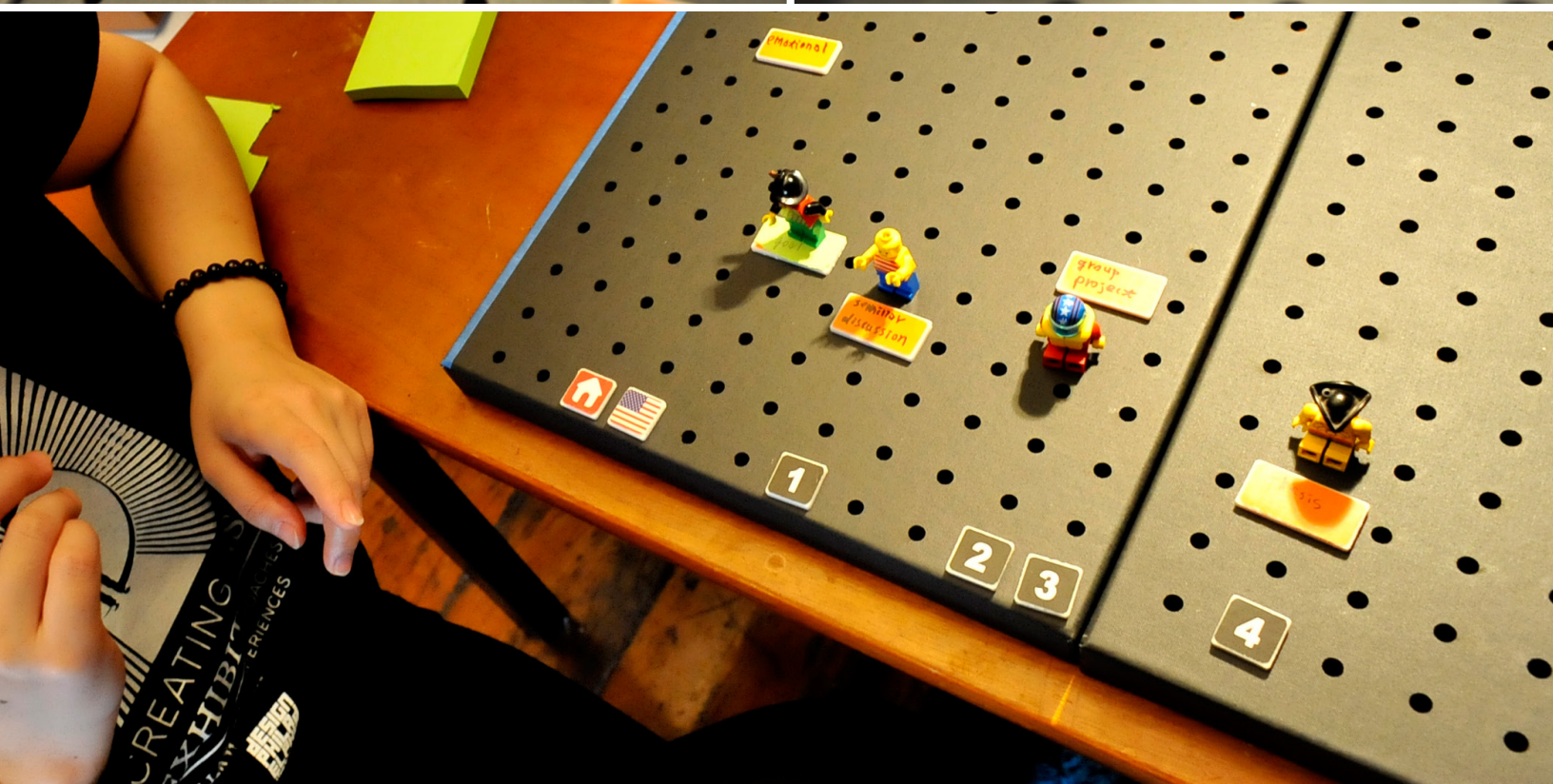
A boundary object is a mediator that serves the purpose of communicating ideas across-disciplines. Take a blueprint for example: it's a piece of paper that shows the underlying structure of a building, which is used to coordinate its construction. Designers, managers and fabricators are able to address their viewpoints and share their ideas, on the same concept base.

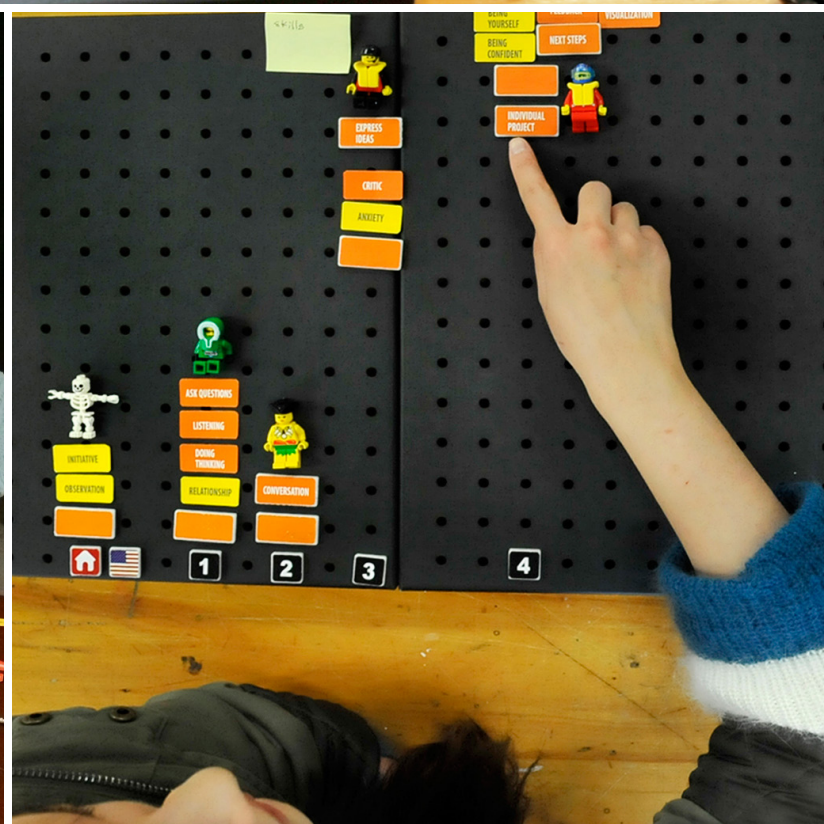
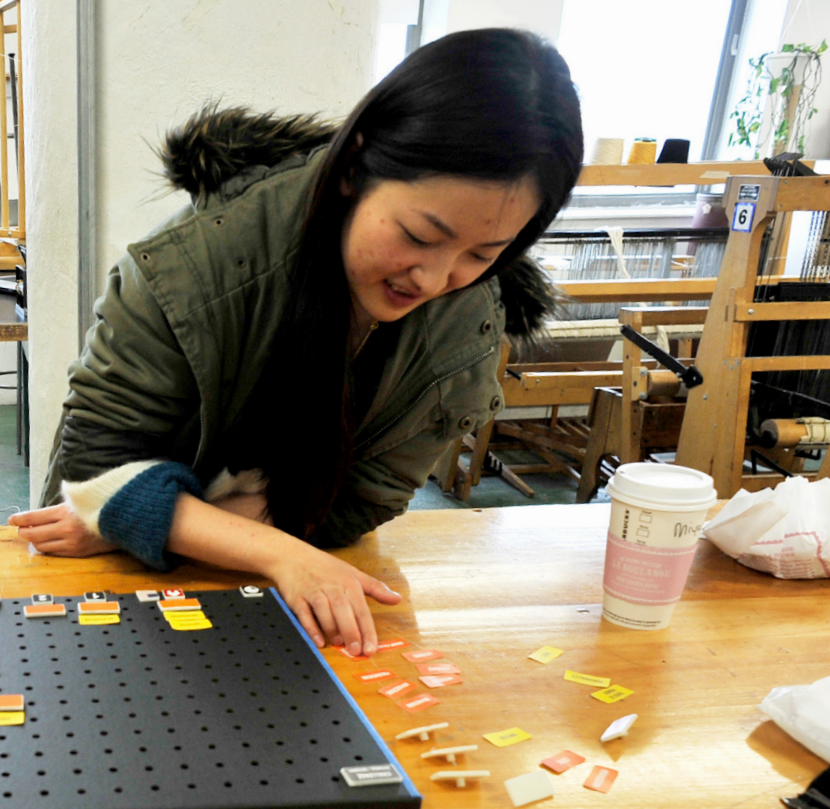
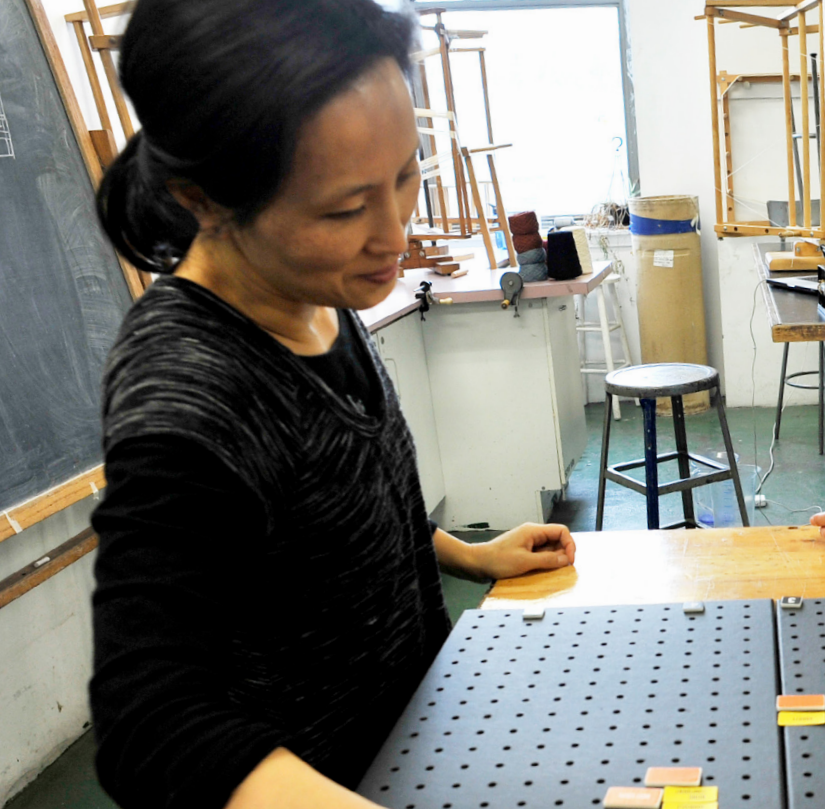
Cultural Differences															
Name _____ M / F _____ Email _____ Country you from? or how long?															
About You															
Let me know who you are in any form!															
<p>1. In most of situation, you rely on personality thoughtfulextroverted to make decision</p> <p>2. In your experience, the way of Westerners and Easterners thinking are... <input type="checkbox"/> not so different <input type="checkbox"/> some different <input type="checkbox"/> very different <input type="checkbox"/> don't know</p> <p>3. Have you ever had difficulty to think like a Westerner or Easterner? Yes / No / Not Sure <small>(the culture opposite from yours)</small></p> <p>4. Rate your culture shock experience since you first time been here? Examples? not at allvery much</p> <p>5. What is your learning from these two culture (West vs. East) that surprised you most?</p> <p>6. How are you satisfied with your learning so far? 0-10 (satisfy—unsatisfy) 010</p> <p>7. How much does your collaboration skill improve? 0-10 (Less—more) 010</p> <p>8. Any anxiety in learning? Yes / No / Not Sure If Yes, When does it happen? _____</p>															

Paper interview vs. Self-reflection timeline board interview

Hands speak as loudly as voice: student

One Asian student told her story of having trouble with a group project, describing what the situation looked like. Using the LEGO mini figures encouraged interviewees to tell their emotional stories from a detached view. Thus, when the Asian student reflected back to the event, she was able to address the issue she identified and what she had learned from the event.





“ It’s difficult for me to change the way of thinking during the thesis development time... „

“ Our culture taught us to be humble instead of being confident; we tend to blame ourself when things go wrong... „

“ You need to take initiative, being active in your personal and academic life. Keep trying and don’t be afraid failure. „

“ The mistakes I made, and difficulty I confronted in previous years made me what I am today, so I wish it happened earlier. „

“ I didn’t make any friend in my first year, and my poor language skill made me close myself up from social life. „

“ If I could do MiD again, I will try to be myself more and learn how to use my cultural background as a strength. „

“ For 20 some year, I don’t ask questions in the classes, now I don’t know where to get started. „

“ Both in school and in my life I got confused a lot, it’s the first time I live by myself and language is a big challenge for me. „

“ Be bold, be confident! „

External
Challenge

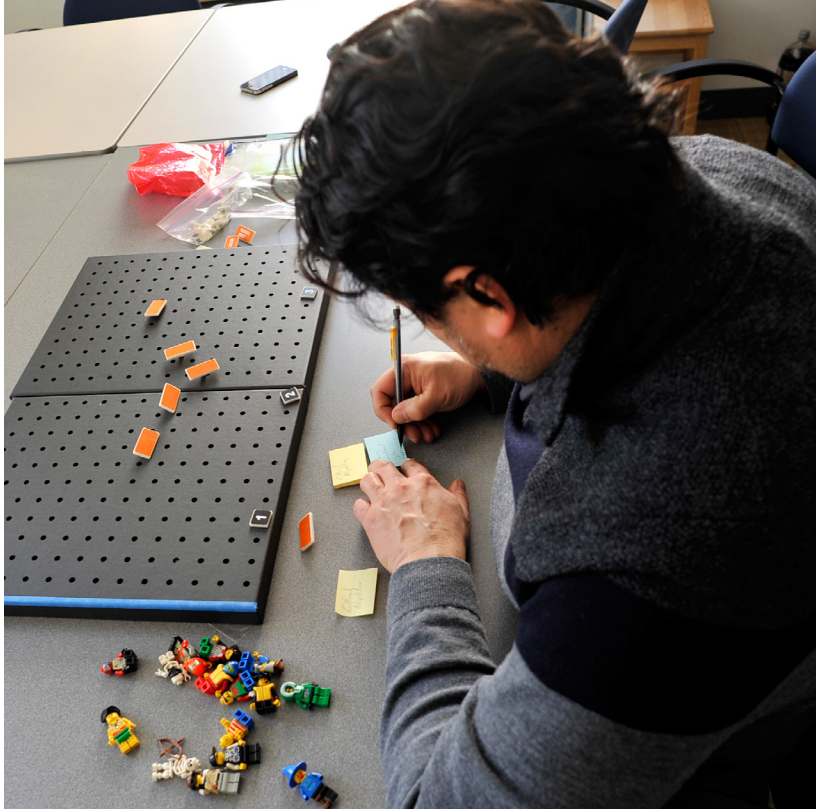
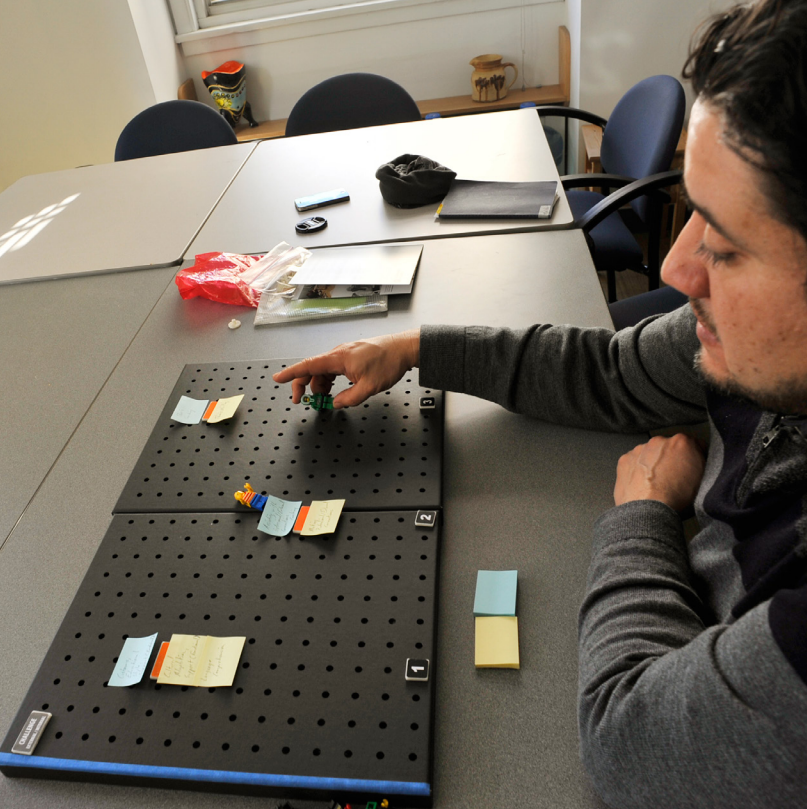
Internal
Challenge

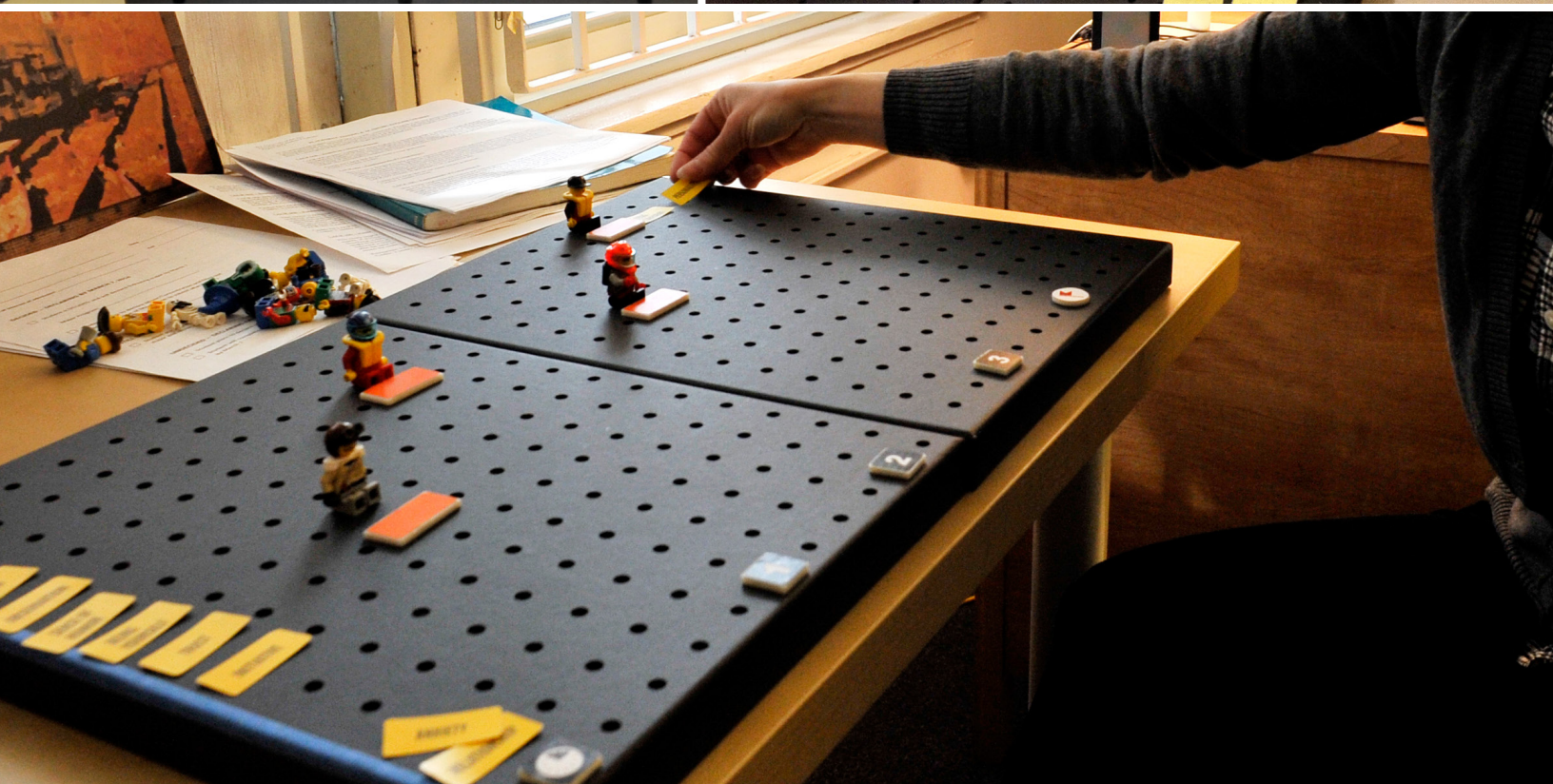
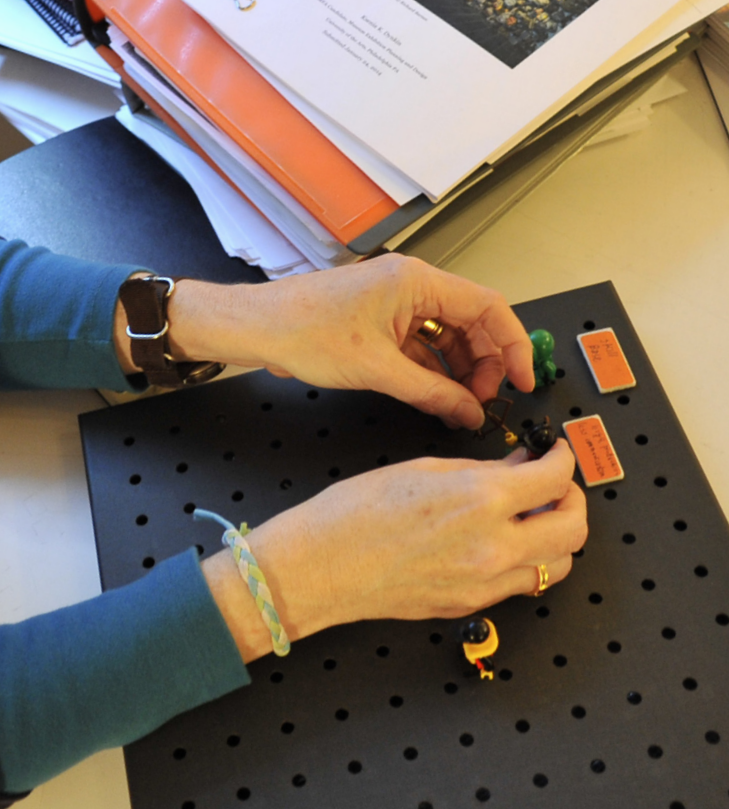
Advice
for Student



Hands speak as loudly as voice: Faculty

A professor tells a story of a student whom he chose to represent by a green LEGO man. Placing the LEGO student on a linear path caused the professor as he put it to “visualize a student’s evaluation for the first time.”





“ I think being confident is most challenging for Asian student when they first get into their program where were not only international students in the classes. „

“ We as a professor doesn't have a tool to work with the Asian student who never spoke, it wasn't her problem, it was our problem. „

“ Individual tutors helps students with very issues related to language and academic life adaption. „

“ Asian students' existence says their courage to be out their comfort zone. But what happen after is Asian students feel comfortable to being with their own people. „

“ If university want to recruit more international student, informative training would be better for us, for me, for my students. „

“ If students feel confident in their language and can communicate that will help them to navigate, do their work and tell me what they need for help. „

“ Student from Asian cultures tend to think it's not appropriate to bother professor out of the classtime. „

“ Teachers can be more clear about their expectation and clearly speak about it. „

“ The first semester's experience set the tone for student's success or not in their rest learning years. „

Students' Challenge Faculties' Needs Guidance



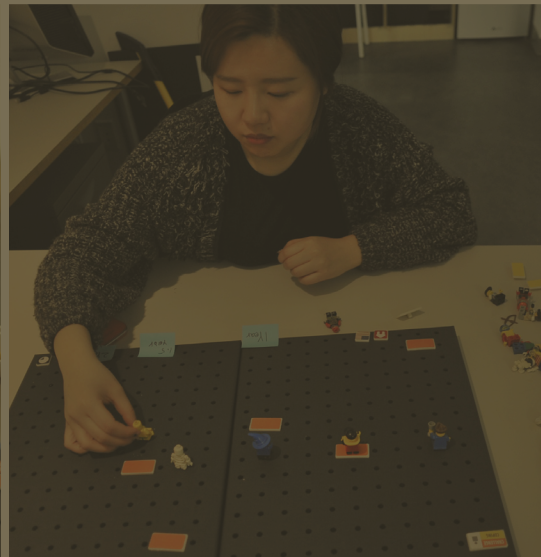
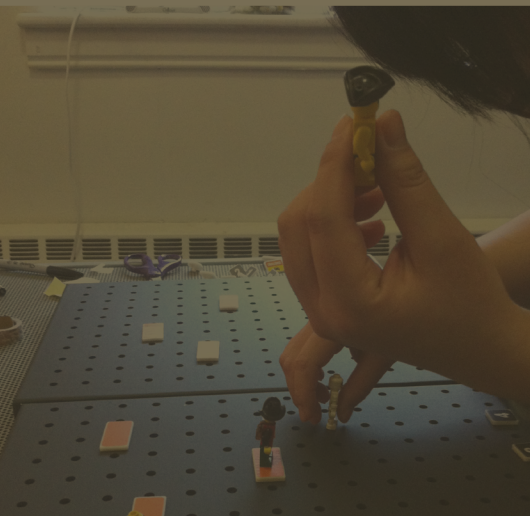
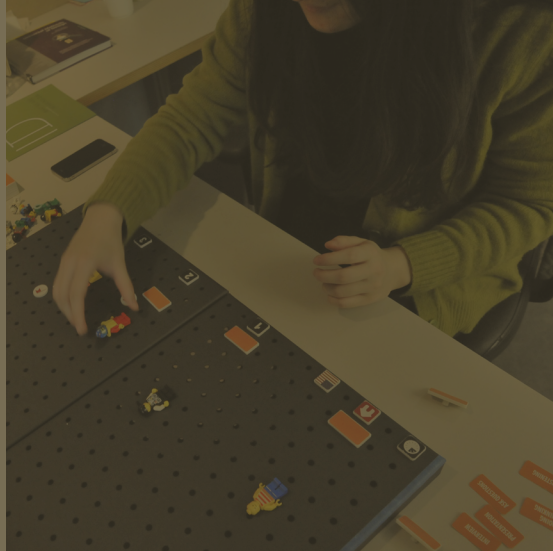
The development of the Self-reflection timeline tool over time

At the beginning of using the Self-reflection timeline interview tool, interviewees generated their prompts, keywords and scenarios through the process.

- 1.) Setting the bottom horizontal line as a timeline(range from the time in the home country to present).
- 2.) Arranging the orange squares from high to low vertically which represents different levels of overall life challenges.
- 3.) Using post-its to note scenarios and key words for events on the timeline.
- 4.) Choosing the LEGO man which best represents themselves on each time phrase.
- 5.) Reflecting and telling a story according to the chart.
- 6.) Giving advice to an Asian student who is going to have the same journey of studying abroad.

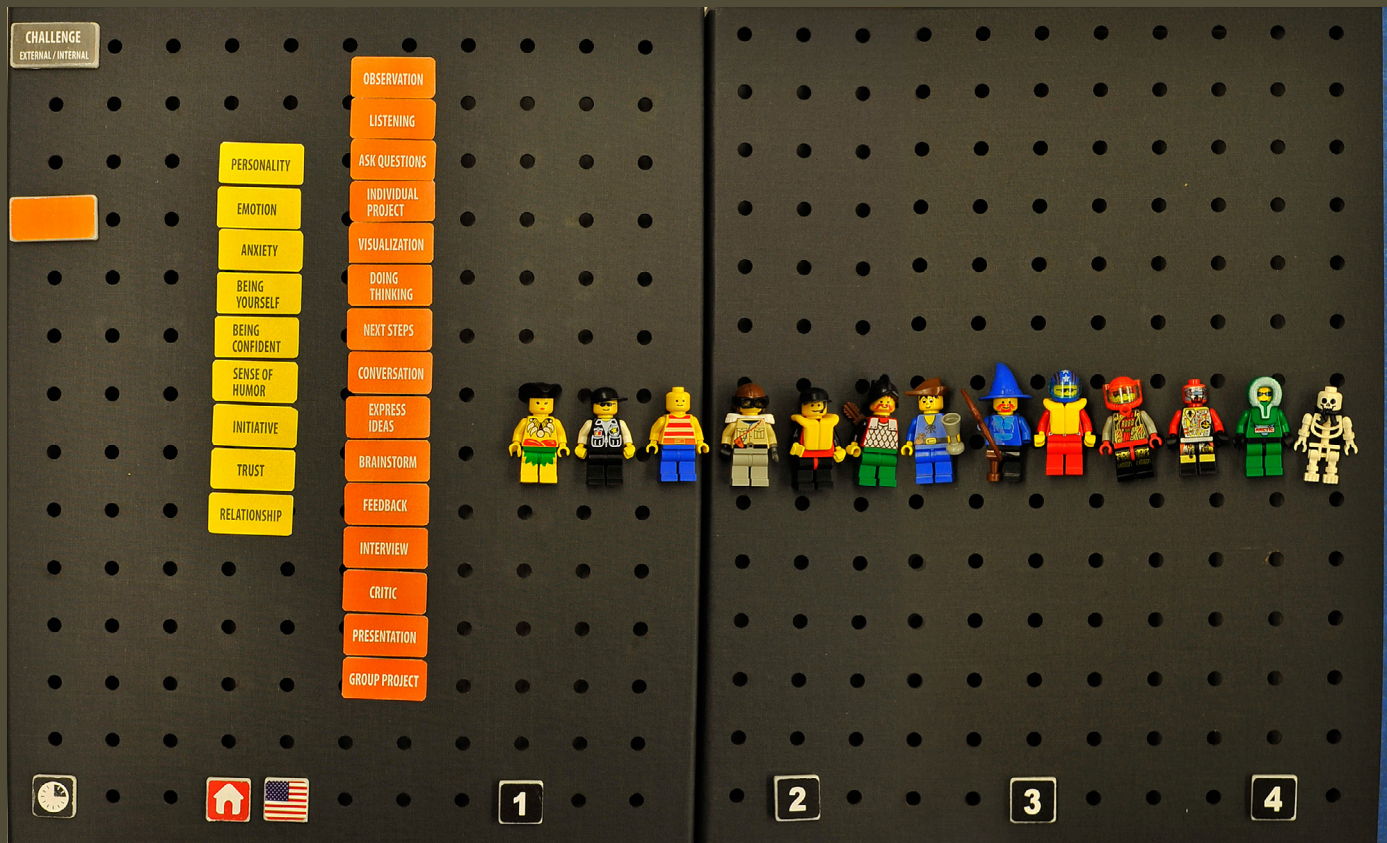
Afterwards, a number of interviewees identified similar internal challenges and external scenarios, based on the interaction issues they had. This interview tool had been customized with prompts which keep interviewee's story focused on the issue of cross-cultural interaction better.







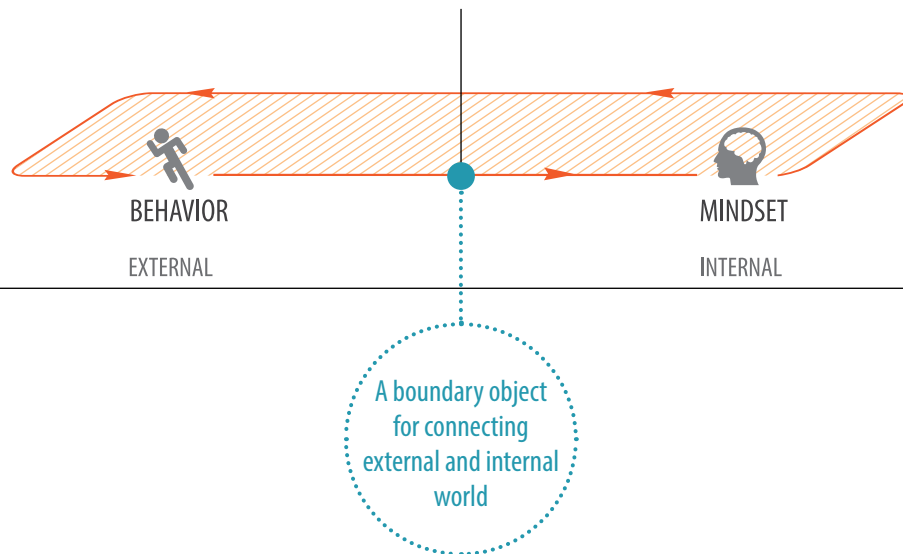
13 Students

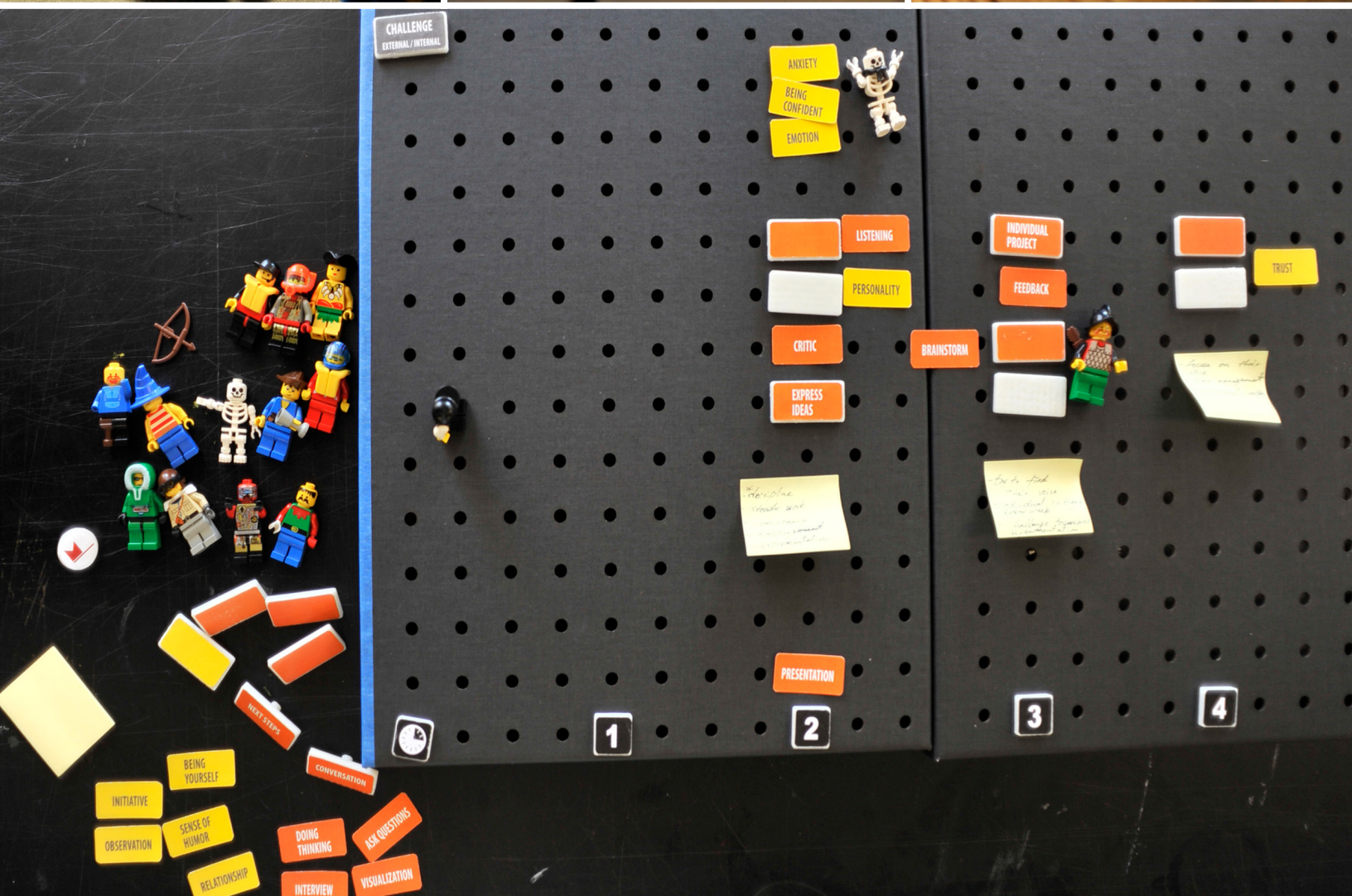




Takeaways

- 1.) During my generative research, the boundary object serves a significant role when considering an interviewee's personal cross-cultural experience.
- 2.) It reduces the anxiety of using a second language to address complicated experience/stories. Interviewees are able to reflect from their experience and turn on their thinking mode as they move the objects around.
- 3.) It allows me to present a structure through which interviewees are able to plug their individual experience into the subject. The goal is to reflect "interaction" from cross-cultural learner's perspective.
- 4.) It inspires deeper-level conversation from seeing the ideas being displayed and how they relate to students' thinking pattern and cultural perceptions.





III. MINDSET AND CROSS-CULTURAL LEARNERS

- 3.1 Cultural Adaptation
- 3.2 Mindset vs. Behavior
- 3.3 Roadblocks to Expression
- 3.4 Workshop One : Group Reflection

“Mindset is a simple idea that makes all the difference.”

– Carol Dweck



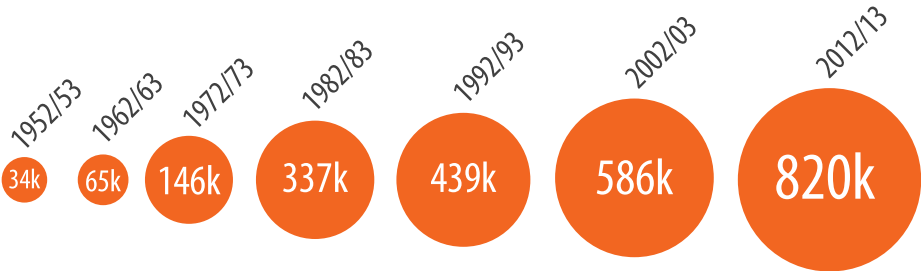
3.1 Cultural Adaptation

Define Asian student's need for adaption to new cultural norms.

The increasing numbers of international students in the USA and UArts

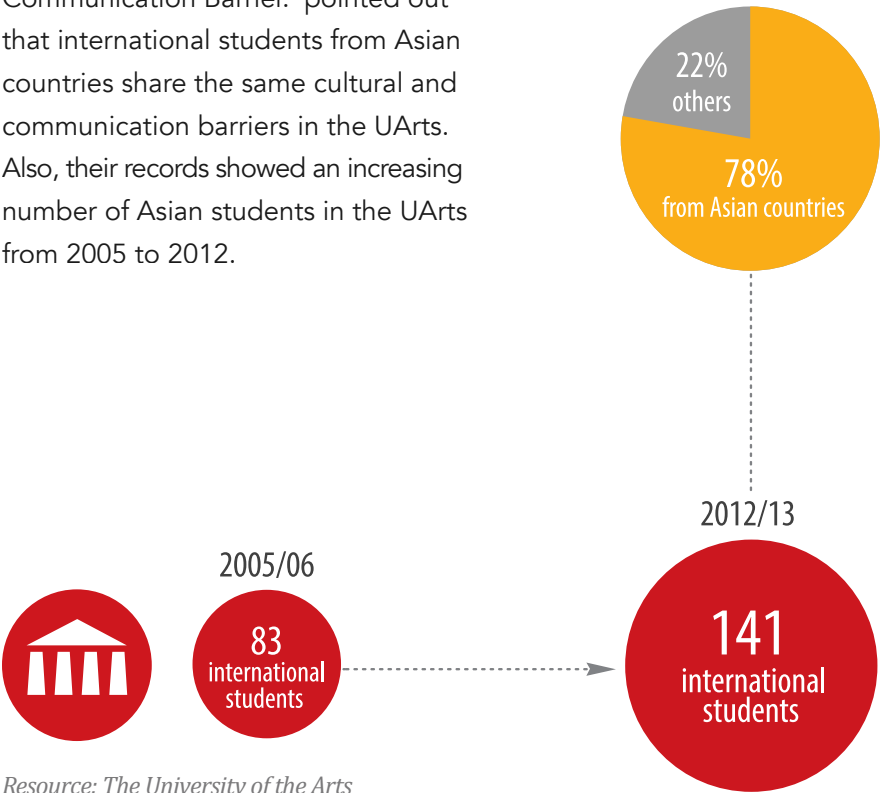
In 2012 to 2013, 55,000 more international students enrolled in U.S. higher education compared from 2011 to 2012, with most of the growth driven by China and Saudi Arabia. There are now 40 percent more international students studying at U.S. colleges and universities than a decade ago. (Institute of International Education) International students can add diversity to a college or university, enriching the experience of other students on campus. Schools with a strong global presence often have a wealth of cultural groups and events, allowing international students an opportunity to share their food, music and traditions with their U.S. peers. The infographic report for international students in the U.S. provided by institute of international education can be seen in illustrations.

The number of international students staying in the U.S. grew by 7% over the prior year, and 40% more than decade ago. It's now at a record high.

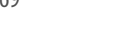
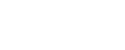


Resource: Open doors: Institute of international education

The research done by Daeun Song and Charles Lee in "Breaking Cultural & Communication Barrier." pointed out that international students from Asian countries share the same cultural and communication barriers in the UArts. Also, their records showed an increasing number of Asian students in the UArts from 2005 to 2012.



Resource: The University of the Arts



Asian student's need for adaption to new cultural norms

From the "Self-reflection timeline" interviews, Asian students told their stories about the needs for adaption to new cultural norm in the States. Also, faculty addressed their needs to have ways to provide their support and gain more understanding from Asian students who they rarely gained feedback from in their interactions. Cross-cultural learners could be identified in two parties, one is international students who travel to the States for their academic learning. The other is America students and faculty who could learn from different cultures in the collaboration and interaction with international students. Refer to Daeun Song and Charles Lee's research in "Breaking Cultural & Communication Barrier" that focused on Asian students as a control group who have cultural and communication issues more than other international students. According to their research, Asian students have high anxiety about voicing their opinion in public and their new lives in the new environment.

"We believe that researching Asian students and discovering the roots and nature of their anxiety could help frame ways to integrate them with the America students and faculty members in the future.,"

- Daeun Song & Charles Lee

There are a lot of complaints about students not talking at all in the classes etc... We need to have some sort of standards for them to achieve teachers' expectation.

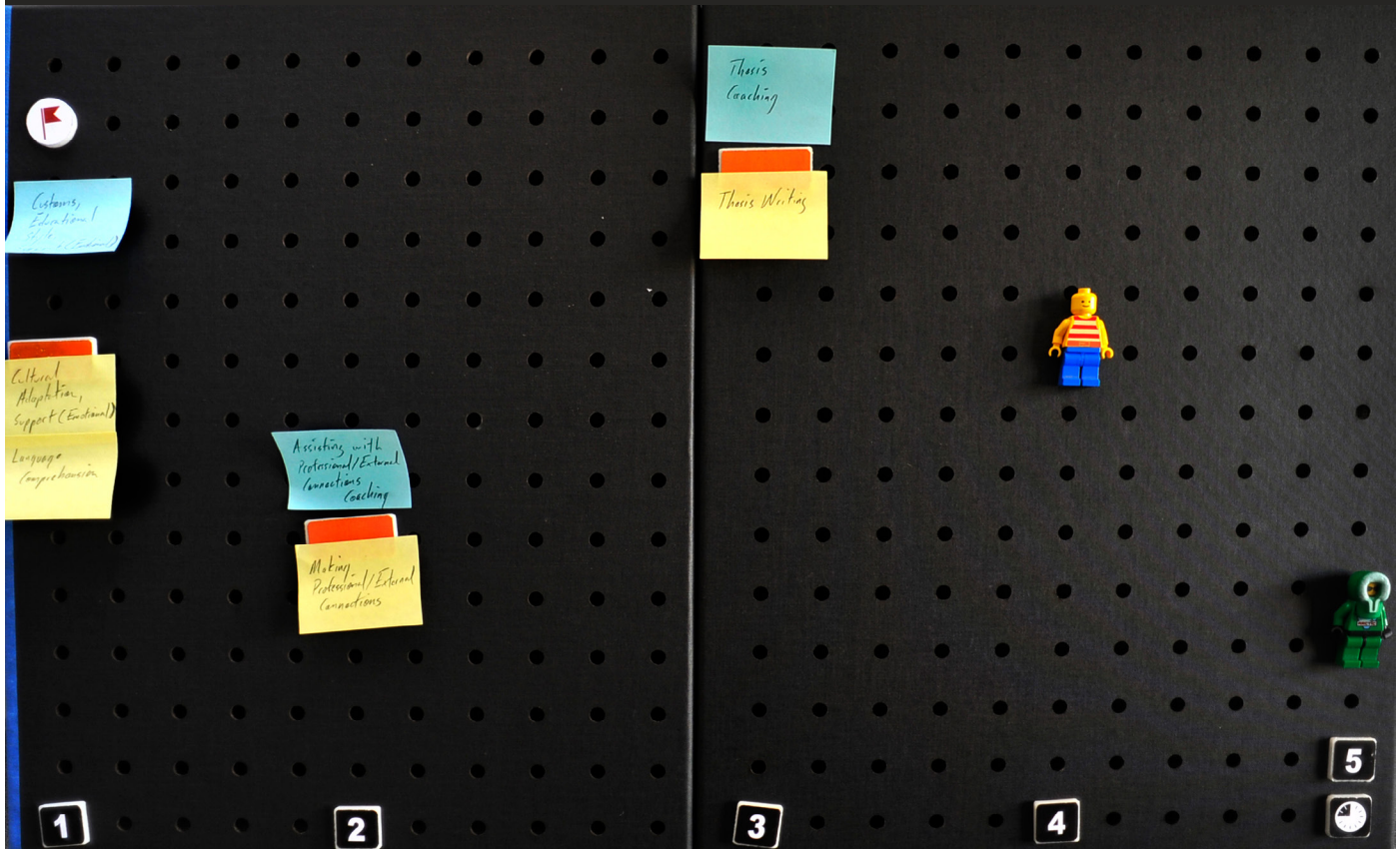
For 20 some years, I don't ask questions in the classes, now even I am trying to, I really don't know how to start...

For Asian students, they don't feel comfortable to participate in the class discussions due to many reasons, they might feel their classmates and teachers speak so fast and so much content...

I had hard time to fully engage in group discussion, those contents are all new, something I have not heard before and the culture differences make it even harder to join the conversation...



“There is a grey zone (misterious time) when instructor couldn’t get feedback from their instruction, they can only wait till the end results tell them the good or bad. „



A scenario from an Asian student:

A student has just finished his project critique session in class, but has only voiced a few sentences in response to feedback. Most of his response is sealed in his mind, known only to him. He wasn't sure what was the right answer for his project or how to take the next step, if there even was one. What was going wrong? He always achieved academic excellence in the school back in his home country. When he asks about the experiences of alumni and Asian friends, the answers are always like: it's a matter of time or you will get there. He doesn't know when he will be able to be confident and fit into the class like other active students, and how?



Takeaways

The barriers blocking cross-cultural interaction not only have been recognized by the Asian students themselves but have also been recognized by faculty who are also looking for a better way to connect to students.



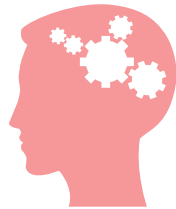
3.2 Mindset vs. Behavior

How does mindset impact cross-cultural learners' behavior.

Define mindset:

According to Oxford dictionary, mindset is: The established set of attitudes held by someone. Our behaviors are an embodiment of mindset. Carol Dweck classifies mindset into two camps growth mindsets or fixed mindsets. In a fixed mindset students believe their basic abilities, their intelligence, their talents, are just fixed traits. In a growth mindset students understand that their talents and abilities can be developed through effort, good teaching and persistence. The different mindsets could make one's reaction toward tasks different, because individuals with a "growth" mindset are more likely to continue working hard despite setbacks. Also, they tend to be affected by subtle environmental cues and awards. A story from Carol Dweck's book, describes how a fixed mindset functions in a school scenario:

"Students with the fixed mindset stayed interested only when they did well right away. When they found work difficult they showed a big drop in their interest and enjoyment. If it wasn't a testimony to their intelligence, they couldn't enjoy it."



Growth Mindset

Intelligence can be developed

Leads to a desire to learn

“it’s about stretching yourself to learn something new. Developing yourself...”



Fixed Mindset

Intelligence is static

Leads to a desire to look smart

“success is about proving you’re smart or talented. Validating yourself..”

Carol Dweck: Growth mindset & Fixed mindset

In my thesis project, Asian students appear to have fixed mindsets toward their ability to overcome culture differences, especially when they are facing both internal and external challenges of cultural adaption. This is the opposite of their mindset when they were engaged in making the crucial decision to study abroad and overcome obstacles. It implies that besides an individual’s fixed or growth mindset, cultural background plays a certain role for their mindset’s change.



Synthesize from interviews: close-minded or open-minded for challenges:

Students chose the LEGO man to represent their status of mind in the different challenges and events on the timeline. There are thirteen different avatars for levels of their open-mindedness during their study journey at UArts. (From vacationer to dead man: represented from yellow to black colors.) The interviews show Asian students' state of mind in their time of learning. Their first year in the States appeared in both close-minded and open-minded in two extremes. Later in the ESL class, they showed most of open-minded, but changed into close-minded dramatically when they once got into the programs the first semester and last one.

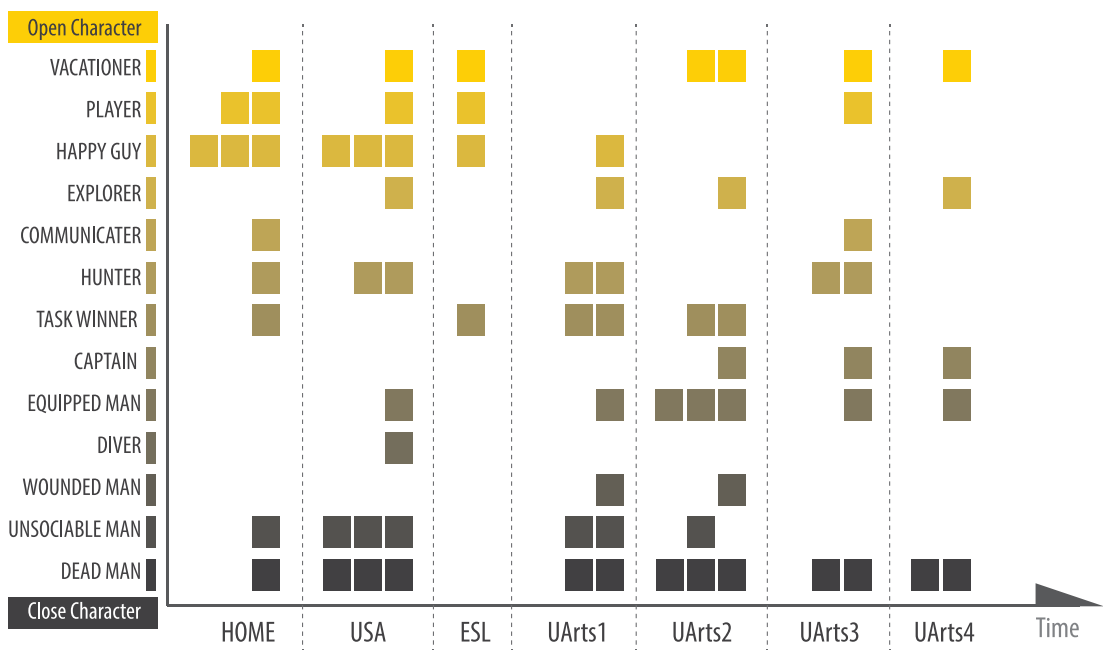


Chart: Asian students' mindset of openness in their time of learning

Challenges over time of learning

The challenges Asian students are facing could be identified through synthesizing data. From the interviews we can see the overall challenges and the characters represented themselves in the Chart below. The average challenge levels reached its first peak in student’s first arrival in the States; it was the time for them to adopt to a new culture and environment. The second peak happened when students were in the fourth phase of their academic learning. It was thesis work time and job-hunting season.

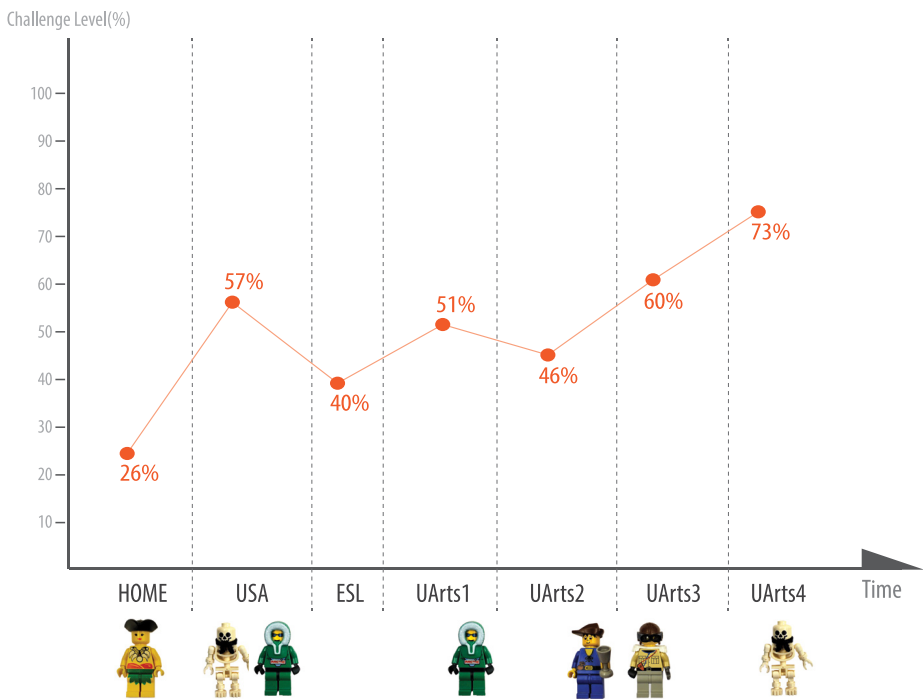


Chart: Asian students’ challenge level in their time of learning



Takeaways

1.) Most of Asian students had low level of challenge and being open-minded when they were in their home countries. When they travel to the States, they express their close-minded character in the stories with LEGO man during the interviews. Exceptions that show in the chart are the students who had years of experience studying and living abroad before attending the UArts.

2.) From Dweck's theory it suggests that people can change or influence their mindsets, when praised for their effort rather than their outcomes. For Asian students to change their mindset to the open-minded one, the research suggests creating positive feedback for their effort of trying rather than just observing the outcomes. Especially when they first arrive in the States and confront cultural clashes at the beginning of learning,

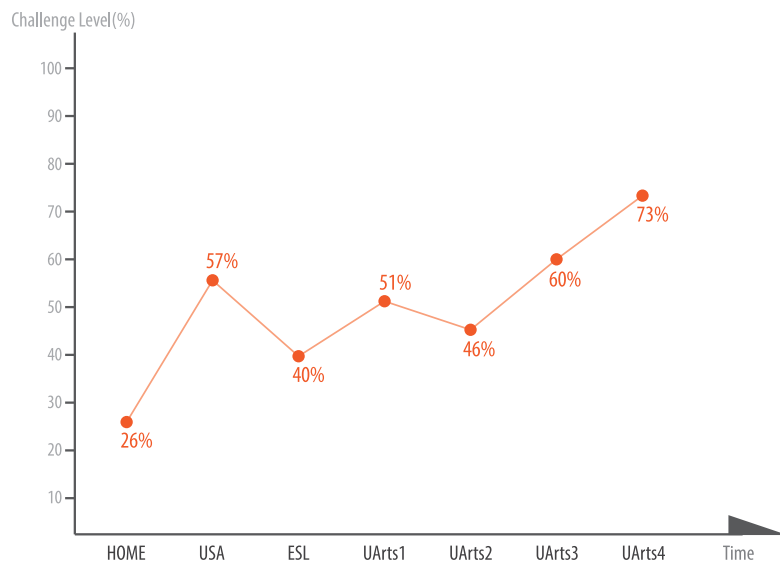
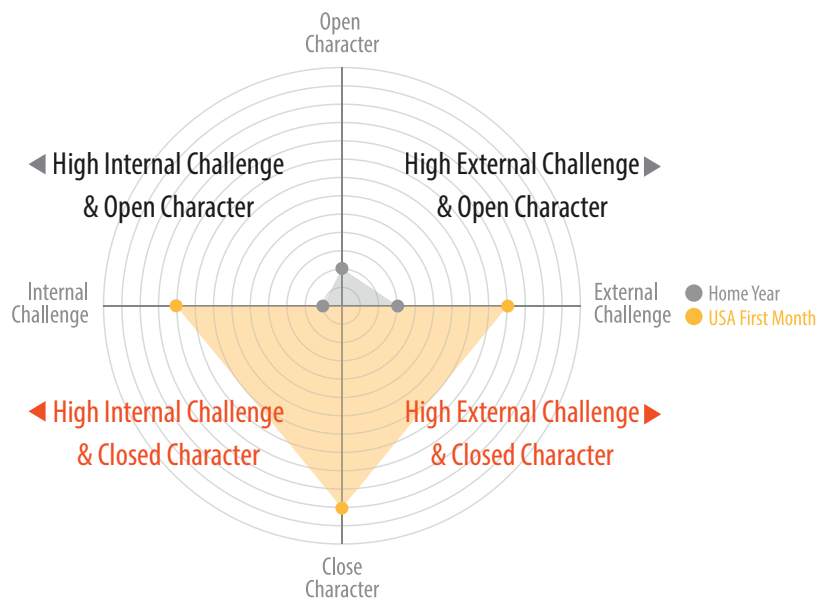


Chart: Asian students' average challenge level in their time of learning

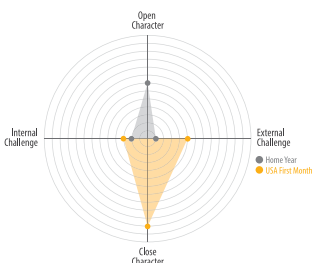
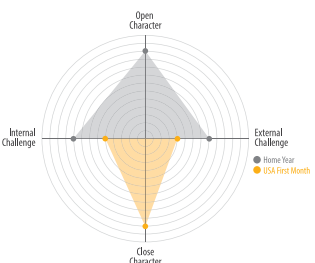
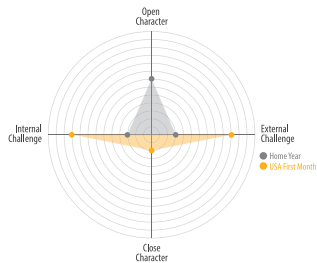
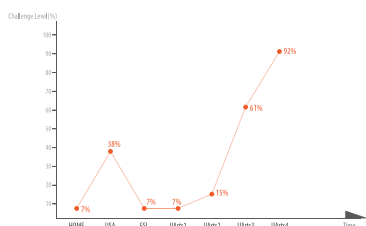
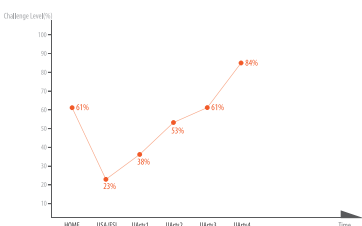
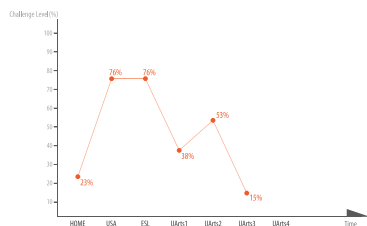
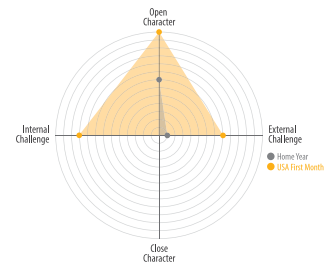
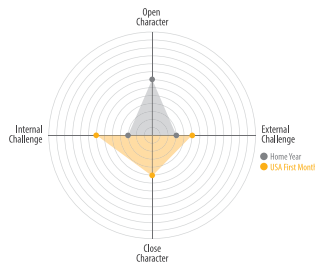
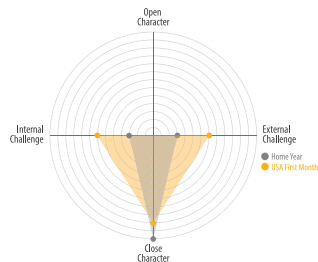
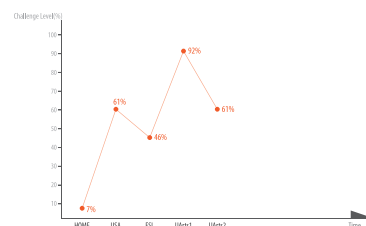
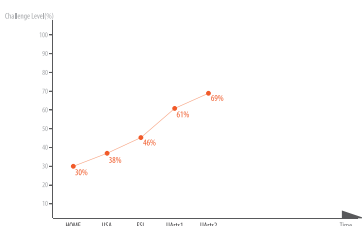
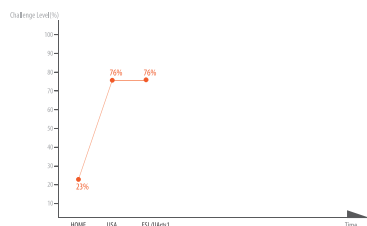
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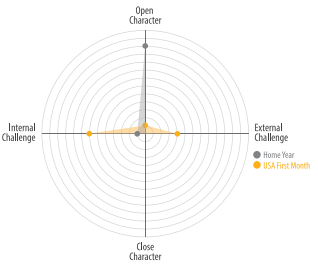
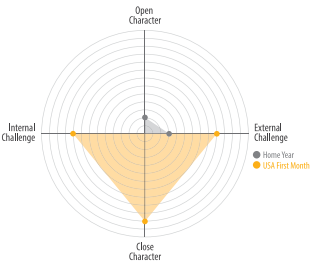
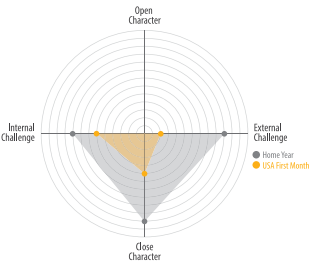
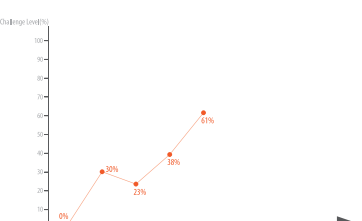
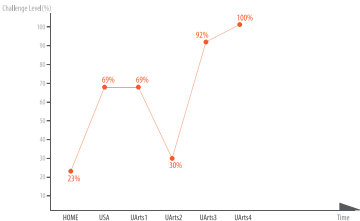
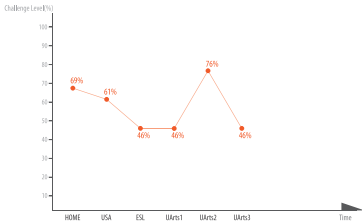
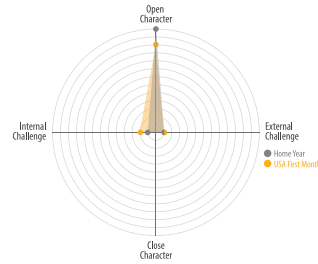
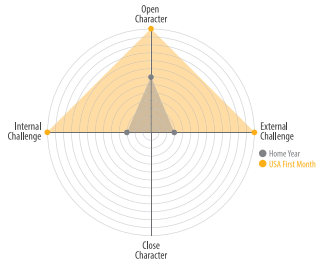
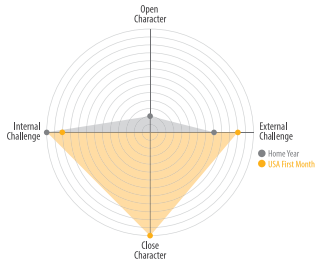
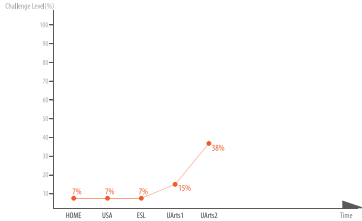
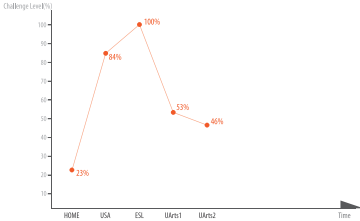
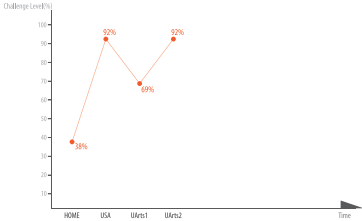
Circle Chart: Asian students' mindset of openness in their time of learning

Asian students arrived in the States (Yellow area), they became more close-minded (the lower hemisphere) in their characteristics and at the same time faced more challenge both internally and externally (Right and left hemisphere).





From interviews : Asian students' mindset of openness & challenge level in their time of learning



3.3 Roadblocks to Expression

What are the main roadblocks for Asian students to express their thoughts?

The culture of shame

The emotion generated from a cultural clash experience also has been addressed in Brene Brown's research on "shame". In her research, she explained the link between shame and fear. In my thesis project research,

“Shame is about the fear of disconnection. When we are experiencing shame, we are steeped in the fear of being ridiculed, diminished or seen as flawed. We are afraid that we’ve exposed or revealed a part of us that jeopardizes our connection and our worthiness of acceptance.”

Asian culture highly focuses on the relationship and connection in the family and society structure. Making relationships and connections under the unfamiliar cultural norms could be one of most serious cultural clashes for Asian students' adaptation to the new culture in the States.

Brown's research supports what Asian students expressed during the interviews to be their greatest challenges: making friends, building relationships and group projects. All these challenges link to their internal high anxiety.

The anxiety of making connection also has been researched in Jean Baker Miller and Irene Stiver, Relational-Cultural theorists from the Stone Center at Wellesley College, *"We believe that the most terrifying and destructive feeling that a person can experience is psychological isolation. This is not the same as being alone. It is a feeling that one is locked out of the possibility of human connection and of being powerless to change the situation. In the extreme, psychological isolation can lead to a sense of hopelessness and desperation. People will do almost anything to escape this combination of condemned isolation and powerlessness."* Brene Brown has interviewed over three hundred people of different genders, culture and age and found that shame is often what drives us to hate our bodies, fear rejection, stop taking risks or hide the experiences and parts of our lives that we fear others might judge. This same dynamic applies to feeling attacked as a mother or feeling too stupid or uneducated to voice our opinions.

In the case of Asian students, when the interview question asked how they would advise another Asian student, who is going to have the learning journey like theirs. All of interviewees encourage students to make mistakes and be confident. That suggested that Asian students recognized the fear in their mindset when they reflect their learning path.

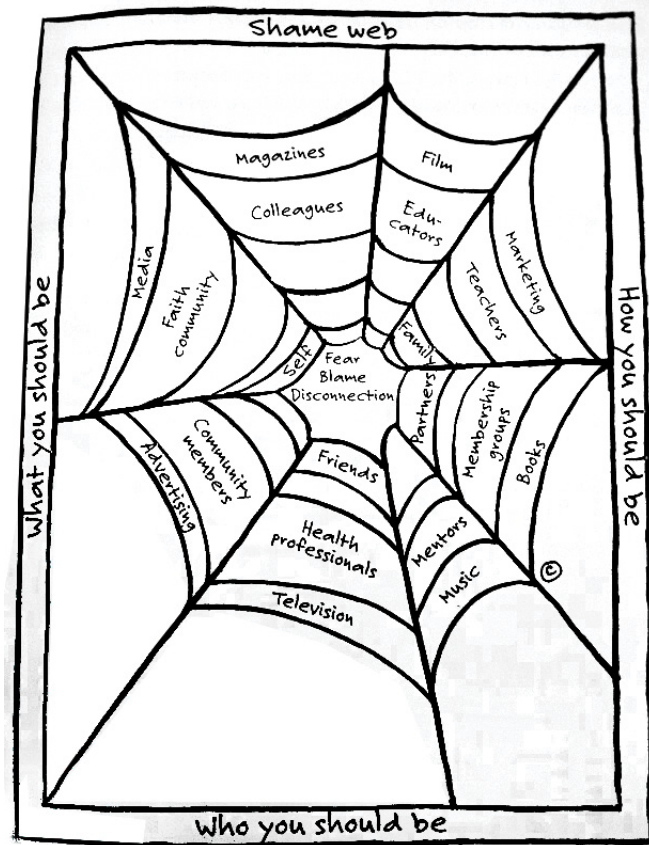
"Shame is the intensely painful feeling or experience of believing we are flawed and therefore unworthy of acceptance and belonging.,,

– Brene Brown's definition of shame



I didn't make any friend in my first year, and my poor language skill make me close myself up from socialization. – An Asian student from the Self-reflection timeline interview.

Shame web: Partners, family, friends and self are drawn closest to the center of the web. People most fear disconnection from the people closest to us. Shame is the most powerful when we enforce the expectation ourselves, or when it's enforced by those closest to us.



Shame and empathy

Shame is a highly individualized experience that could vary in people's relationships and their cultures. However, students from the same cultural background share similar ways of thinking and interaction patterns, certain qualities of shame could be identified from their cultural root. *Brene Brown*, as a shame researcher, she has interviewed over three hundred people on the topic of shame. She defines empathy as the skill or ability to tap into our own experiences in order to connect with an experience someone is relating to us. Brown's emphasis on empathy as a skill resembles a designer's approach where being empathic, or having the capacity to show empathy, is not a quality that is innate or intuitive. *Teresa Wiseman*, a nursing scholar in England, identifies four defining attributes of empathy: "1.) to be able to see the world as others see it; 2.) to be nonjudgmental; 3.) to understand another person's feelings; and 4.) to communicate your understanding of that person's feelings."

Design tools and methods for my thesis project research are activated by empathy – a mindset for a Human Centered designer. Also, it has been mentioned in Brene Brown's research as a key for developing "Shame resilience."

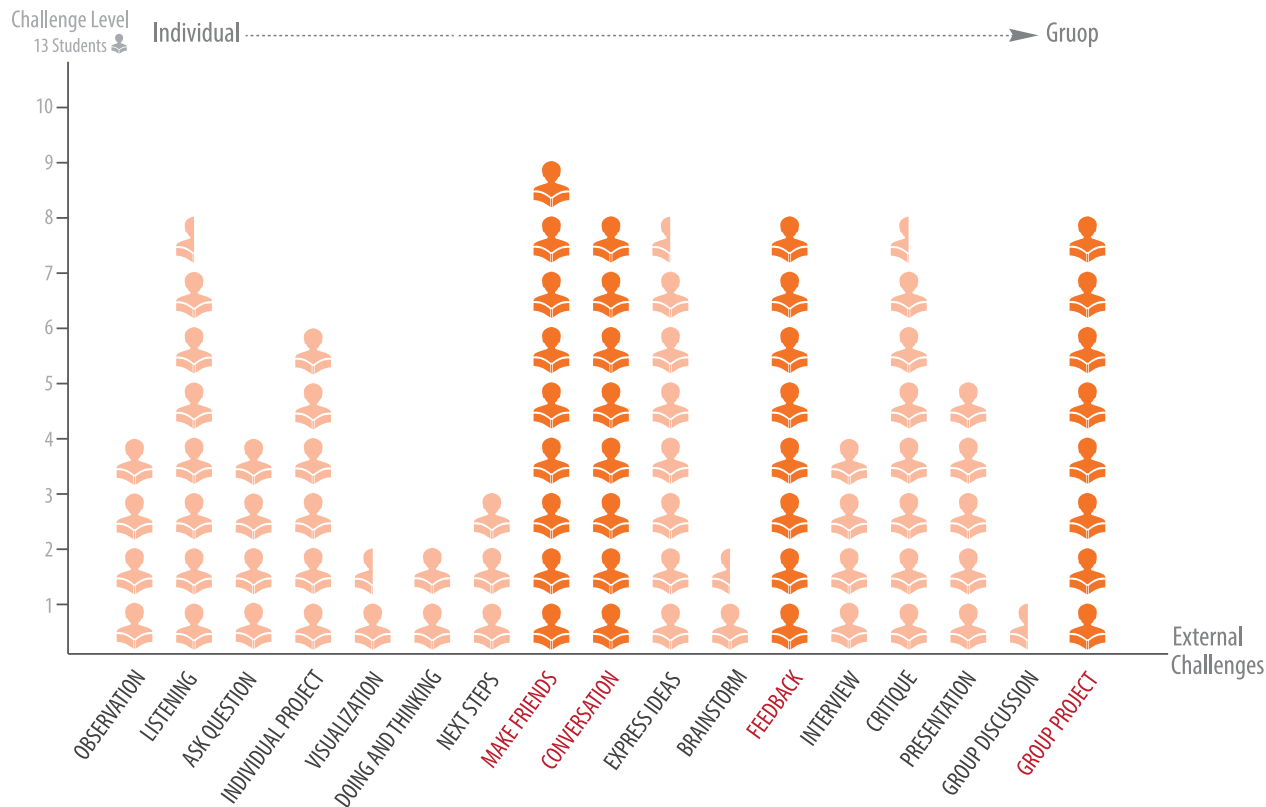
"Shame resilience" and my interview tool "Self-reflection timeline"

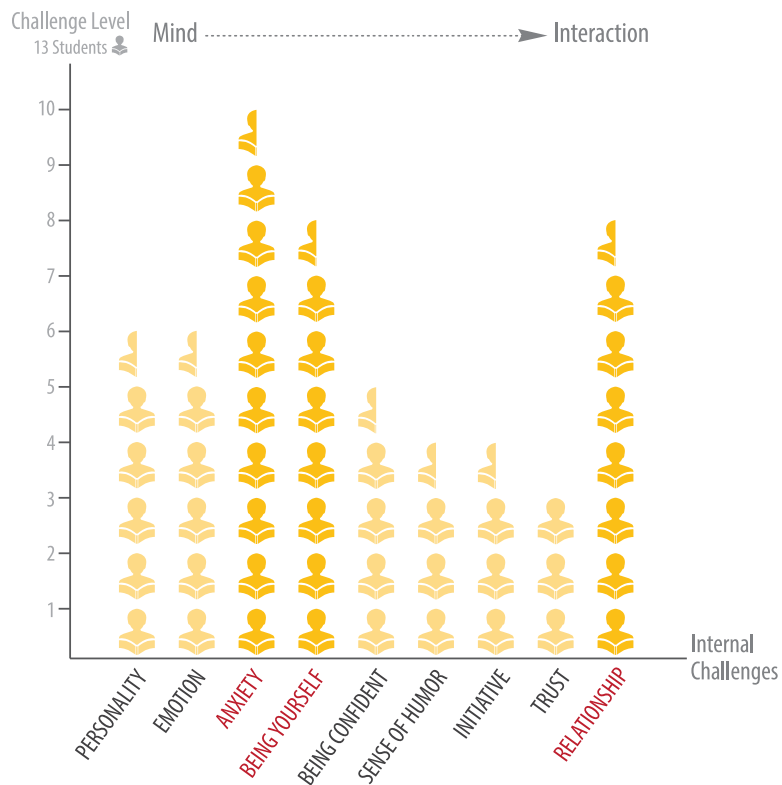
Shame resilience is the ability to recognize shame when people experience it, and move through it in a constructive way that allows people to grow from their experiences. And in this process of consciously moving through shame, people can build stronger and more meaningful connections with the others in their lives. My research tool: Self-reflection timeline board invites individuals to recognize their frustrations by playing with LEGO men and prompts in the toolkit. Also, by giving advice to others based on what they realized from their challenges, they were able to reinforce their own learning regarding unsuccessful interactions. The toolkit itself includes a self-reflection part and a conversational part that will help individuals to connect with others over a boundary object.



Internal and external challenges vs. learning scenarios

The overall challenge can be separated by the internal level of challenge and external level of challenge. Since the control group in my thesis research projects are students in active learning environment. Most of interviewees have experienced teamwork and collaboration in their learning. In the external challenge, learning scenarios could be ordered by individual-oriented (observation) to group-oriented activities (group project). Internally, challenges could be put in the order from individual's mind to challenges caused from interaction with others. The outcomes from this chart show that most of internal challenges relate to individual's state of mind.





The internal challenges on “relationship” score high in the chart echoing the “Making friends” in the external one.

“Making friends” was not included in the learning scenarios but surprisingly was brought up as a significant issue for them. Overall, challenges in group interaction over-weighed challenges in individual’s skills.

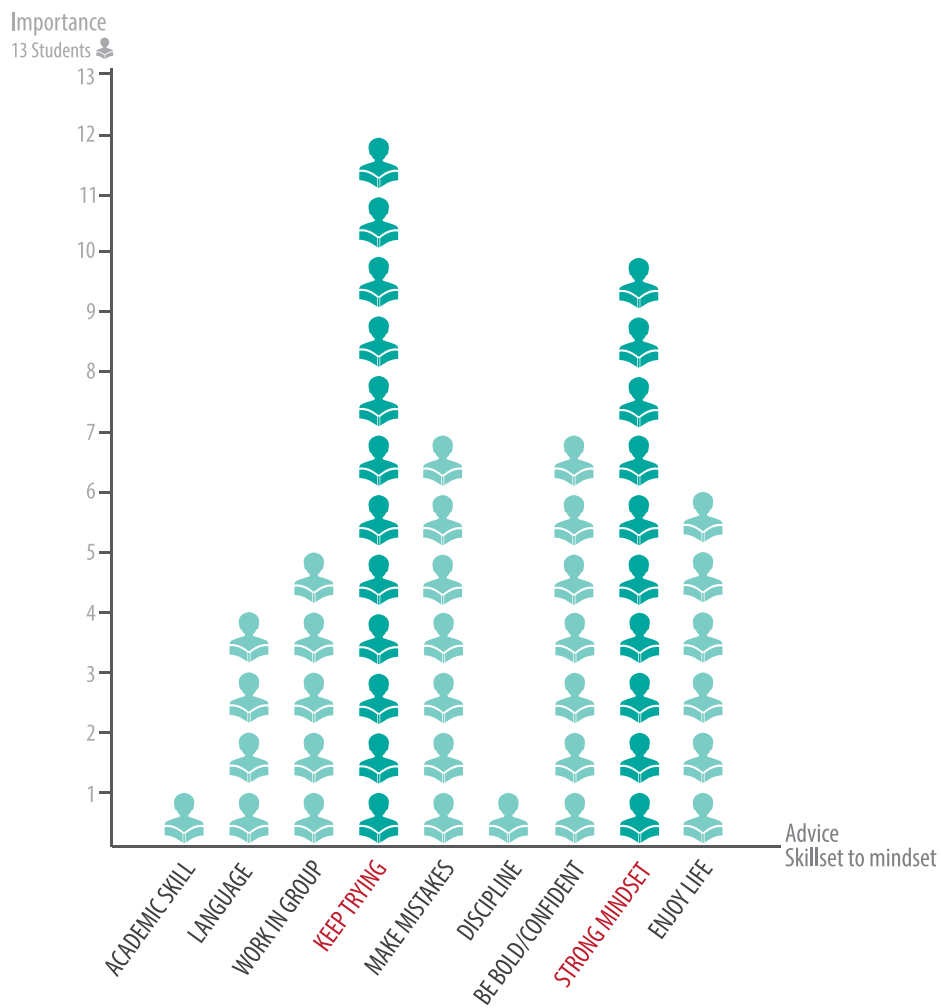




Takeaways

Skillset vs. Mindset

After identifying internal and external challenges Asian students were facing, each of the interviewees was asked questions about how would they advise another Asian student who is going to have a learning journey like theirs. The result shows in chart that “keep trying” and have “strong mindset” overpower the language skill. Between the interviewees, some of them were equipped with a sufficient English skillset before coming to the States, and yet they still encountered the issues of how to fit into group projects and conversations.



3.4 Workshop One : Group Reflection

How could the self-reflection tell your learning story and pattern of change?

Learned from self-reflection timeline interviews

The self-reflection timeline interviews helped thirteen interviewees reflect on their learning journey. Most importantly, individuals were able to point out key words for their internal and external challenges. The challenges and stories from their journey sometimes could be very personalized depending on the individual's personality. In order to identify barriers for cross-cultural interaction, I made a design decision to have a workshop for group reflection. I learned from my Self-reflection timeline interviews that Asian students become more comfortable sharing their stories when there is a human-like figure (LEGO man) to refer to. In the group reflection workshop, a hypothetical student, "Miss A" (an Asian student in her third month in the States) had been established as a hypothetical example in the group discussion. The goal of the workshop was to engage Asian students in group reflection and conversation to identify their needs and fears in their learning progress and cultural adaptation.

Workshop one - cross cultural interaction experience sharing





Cross-Cultural Interaction Workshop

5th Floor
Room 518A
2:00pm-4:00pm

Cross-Cultural Interaction Workshop: Share Your Cross-Cultural Learning Journey

March 8, 2:00 – 4:00

Participants:

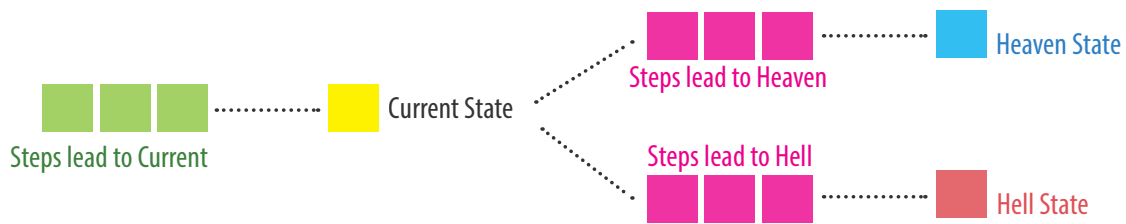
5 Asian students (2 Koreans and 3 Chinese), from Museum communication, Art education, Industrial design. Their experience of living in the States ranged from ten years to six month.

Design method: “The Future, Backwards”.

Process:

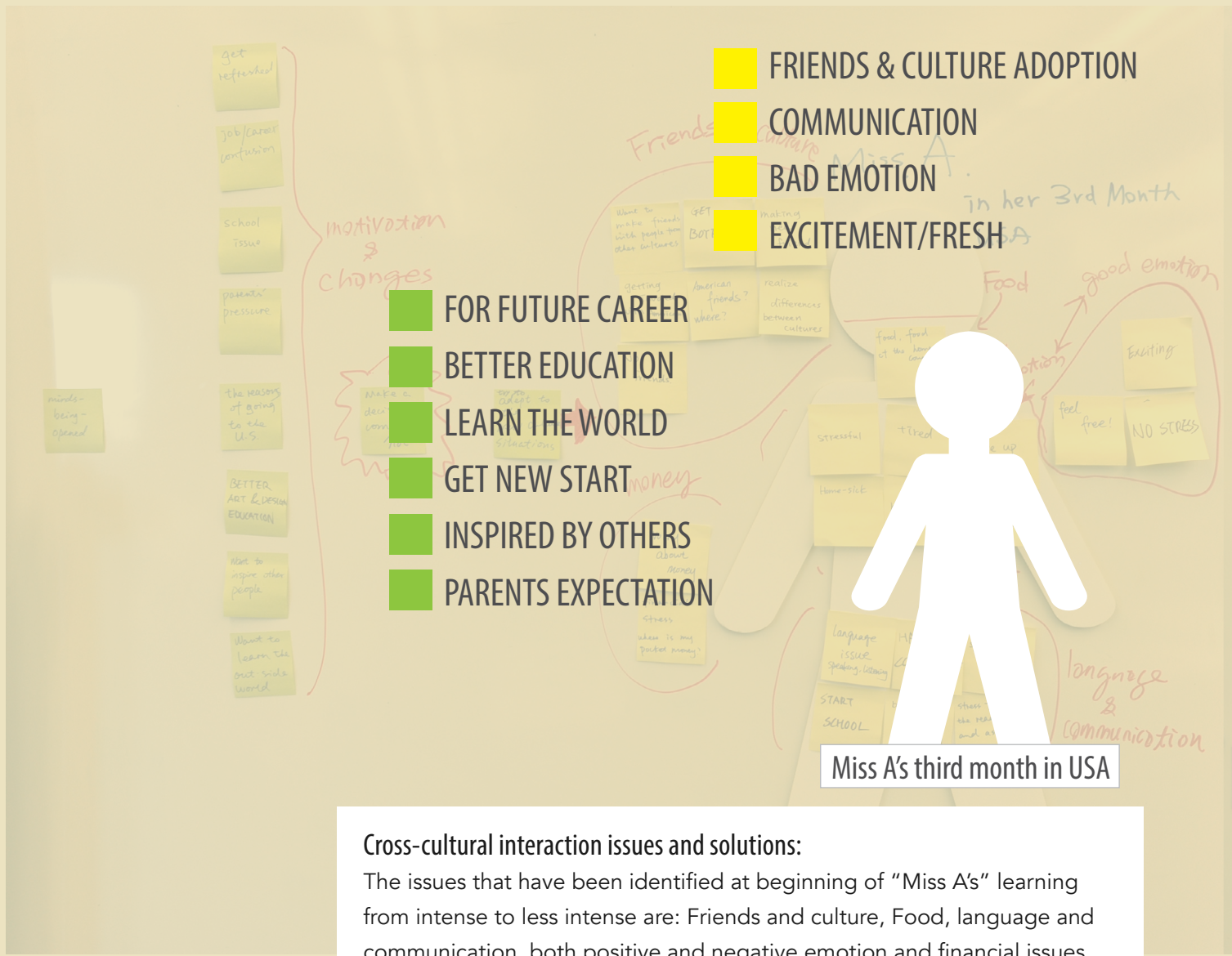
The purpose of this exercise was to allow participants to describe their long-term and mid-term goals and fears in discrete anecdotes that are not restricted by their perception of obstacles. What we will harvest from this exercise are short descriptions of the world that the participants would like to build.

Using “The Future, Backwards” design method, 1.) A hypothetical student, “Miss A”, is an Asian student in her third month in the States. 2.) Describe her current state, write down her situation in post-it notes after discussion in the group. 3.) Describe her heaven state – what does it look like if she is in the heavenly situation. 4.) Describe her hell state. 5.) One step back at a time, tracing back to the previous step of what caused the heaven state to happen. 6.) Include two accidents both happening in the steps of heaven and hell. 7.) Group voted on the most important steps that lead the students to the heaven state.



Design Method: The Future, Backwards





Cross-cultural interaction issues and solutions:

The issues that have been identified at beginning of "Miss A's" learning from intense to less intense are: Friends and culture, Food, language and communication, both positive and negative emotion and financial issues. After steps toward the heaven state have been described, the group voted for the most important steps (solutions) for "Miss A"; they are: realize problem (self-reflection and support), cultural guidance, a community and having a positive mindset. Among them, realizing problem (self-reflection) and forming a community gained the most votes.

Overall observation

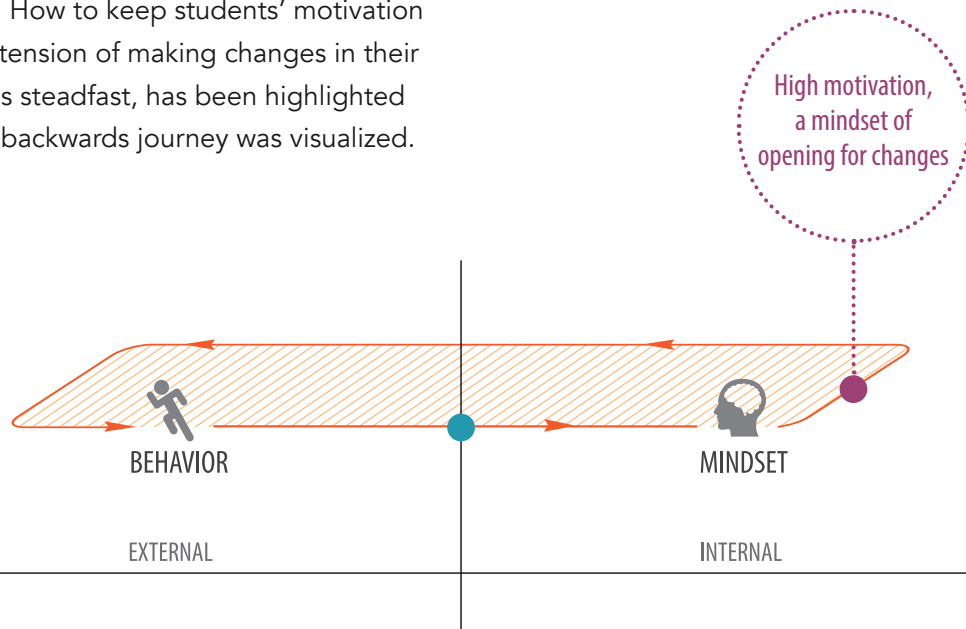
Since the participants are all in different stages of their learning and cultural adaptation, a hypothetical student, “Miss A” helped bring everyone back to their experience at the beginning of their arrival in the States. The example of “Miss A” helped facilitate the group discussion by focusing on the reasons for adjustment or lack of adjustment and by focusing on their stories. Then the group could prioritize one opinion over another. Participants were very engaged in the process and they spent a lot of time trying to clarify and find the right words for their viewpoints. The workshop brought out participants' fears and barriers experienced when they were adapting to a new culture.





Takeaways

The critical learning point of this exercise is that the Asian students began with high motivation and were very determined in the beginning of their journey. In their third month in the States, having anxieties like concern for financial issues, language and communication barriers, cultural barriers potentially led them to hell-like experiences. How to keep students' motivation high and their intension of making changes in their learning and lives steadfast, has been highlighted when this future backwards journey was visualized.



IV. A SYSTEM FOR REFLECTION TO TRIGGER CHANGES

- 4.1 Individuals and Collaboration
- 4.2 Routines
- 4.3 Object Tools for Mindset and Behavior Change
- 4.4 Workshop Two : Co-Design a Reminder


“Great collaboration depends on participants clearly expressing their ideas, their feedback, and their questions. Any obfuscation prevents people from achieving a shared understanding.”

–Dan M.Brown – “Design Together”





4.1 Individuals and Collaboration



Individual's reflecting and learning in collaboration, and group support.

“ ...the word person, in its first meaning, is a mask. It is rather a recognition of the fact that everyone is always and everywhere, more or less consciously, playing a role...It is in these roles that we know each other; it is in these roles that we know ourselves. „
–Robert Ezra Park

Group collaboration and individual's performance

The value of cultural and ethnic diversity in group work settings has been widely recognized. This value is especially endorsed in educational and work environments which are enriched by having people of different backgrounds. Referring to *Richard Nisbett's* research, mentioned in the Chapter 1-3 , the cognitive orientation differences between Eastern and Western cultures seems highly likely to complement and enrich one another. However, successful collaboration between people from different specialties and cultural backgrounds is always a challenge.

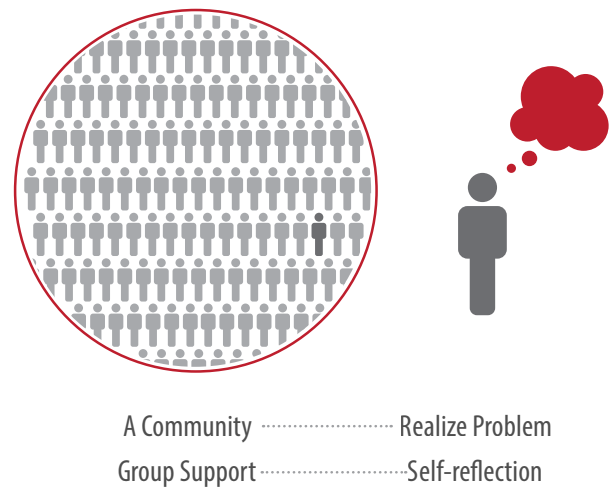
The class observations in the collaborative learning environment at the beginning of my thesis project revealed that Asian students tend to perform in a passive way through workshops and meetings. Also, they are reluctant to speak about their frustration in learning and interaction. If we look at this phenomena from the perspective of individual's presenting and receiving information from others, collaborators might not get enough information out of Asian students because there is a lack of both verbal communication and facial expression. *Erving Goffman*, in his book "*The Presentation of Self in Everyday Life*" talks about how information about the individual helps to define the situation of them, enabling others to know in advance what he will expect of them and what they may expect of him. Informed in these ways, the others will know how best to act in order to gain a desired response from him. *Erving Goffman* uses a term "personal front" to refer to the expressive equipment that people most closely identify with the performer himself and that we naturally expect will follow the performer wherever he goes. Personal front includes things such as clothing, gender, age and racial characteristics etc...

When people can't access the information from the Asian performers (students), they will apply their past experience, assumptions and stereotypes according to the "personal front" they observe from the performers.




Individuals and group:
Conclusion and feedback from workshop one

In the group reflection workshop, Asian students came out with ideas for individual’s better cultural adaptation. The top two solutions having equal votes were: self-support for realizing problem and a community of group support. It reveals their need to deal with both issues in individual and group interactions. A discussion about having a community serve and gather students from Asian counties was raised right after the workshop. Moreover, participants reached a consensus that the purpose of a community should encourage cross-cultural exchange rather than create a comfort zone for Asian students avoiding interaction with other cultures.





4.2 Routines



What are the main factors causing Asian students to stay in their routines?

Routines

Routines are the activities that don't require considerable conscious planning and thought. People don't put their energy into trial and error: trying a first approach, then backtracking on their everyday activities. Under routine behavior patterns, people act subconsciously a process rapidly and automatically. In an student's case, at beginning of their cultural adaptation (mostly in ESL class) they were both excited and anxious. This is because they were in a totally new environment, were having challenges and breaking their routines in everyday activities. After a couple of weeks adaption, the everyday routines were not being a challenge anymore; most students run their basic lives in the same way after they have learned the basics. Their breaking routine behavior didn't last long.

Once in school they fell into their routine behavior from their previous educational background such as:

1.) Obedience: that means following all the instructions from their teachers.

2.) Avoidance of making mistakes, Asian students filter the bad ideas they generated in their head before expressing it.

3.) Tendency to be polite and say sorry to others even before arguing the right and wrong. 4.) Reluctance to ask professors questions at some point for fear of appearing disrespectful to their professionals.

Donald Norman has pointed out the concept of social pressure that can lead to misinterpretation, mistakes and accidents in everyday life. He discovers and defines the way humans interact with everyday things - how social pressure lead humans to make error in the Korean air flight 007 tragedy. In my thesis project, the same ideas have been translated into the way humans interact with systems. Under social pressure, students follow the four major routines culturally.





Don't be an Asian.

- Anique Design Group

Group support of breaking routine behavior in Asian students

I observed two cases of Asian groups forming to try to break the routine thinking pattern and behavior. These gave me insights and ideas about what are Asian students' expectations for what a supporting group (community) might offer and what might be the constraints of sustaining these groups.

One is Anique Design Group. The founders are students from industrial design at UArts. The group was student-initiated; They wanted to bring their school projects to further development and create new ideas over synergy in a group. Co-incidentally, when the Korean student founded the group, it attracted mostly Asian students. Therefore, during their meeting and brainstorm session, they were aware of the routine thinking patterns of Asians and tried to change them. By a prompt: "*Don't be an Asian*" which was voiced out loud as a reminder;, their collaboration later also attracted American students' interests.





...Because I am always interested in how people learned from different cultures... - Amada, member of CCE

Chinese Cultural Exchange Meeting

Group support of breaking routine behavior in Asian students

The other is the newly founded community: Chinese Cultural Exchange at UArts. It was born from the conversations between students who felt the need to have a community related to Chinese culture for re-learning the culture and encouraging cultural exchanges here in the Philadelphia. There were debates about whether the purpose of community should extend beyond social activities for Chinese students. Thus, based on group decisions we have a Chinese Cultural Exchange group which recruits not only Chinese students but also students from other cultures who are interested in different cultural experiences. As a designer, I facilitated a card sorting activity in the meeting to identify the goal and name of this group.



Takeaways

As far as the constraints of these group formed by minority cultures, they tend to attract only students with the same cultural background. In the long term, the groups became a comfort zone for students speaking their mother languages and avoiding change in their routine behavior or thinking patterns.



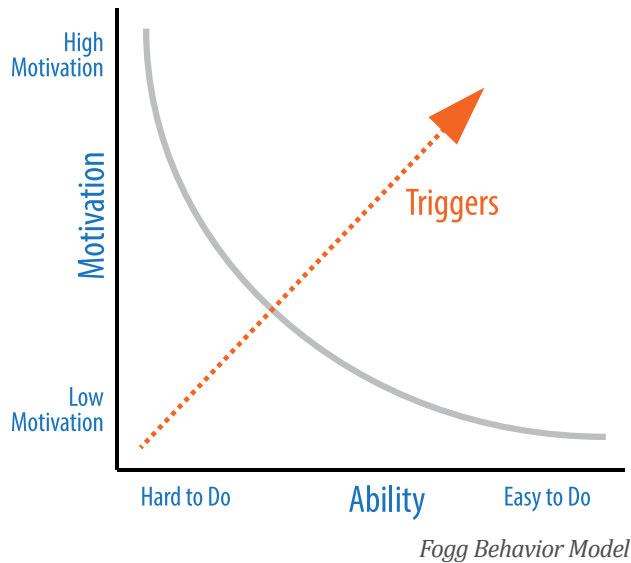
4.3 Object tools for Mindset and Behavior Change

How might an object trigger changes and reinforce their habits?

Motivation and triggers encourage behavior change

Routines have been mentioned in the previous chapter. Asian students recovered from culture shock in the first few weeks and quickly moved to the comfort zones in their lives. Here they can depend on the basic skills required from their environment. In addition, having friends from the community from the same cultural background and high accessibility of information from technologies decreases the immediate needs for Asian students to immerse in the culture surrounding them. The key insight from the group reflection workshop revealed that almost every Asian student possessed high motivation for making changes in their lives when they made the decision to study abroad. After their arrival in the States, barriers of making friends, keeping relationships and language issues added challenges on top of their intention to make changes.

From the result of the workshop, the negative parts of motivation all match to the Asian student's current state. This suggests that lack of motivation and ability leads to their passive behavior, even if a trigger exists.



“FBM” Model

BJ Fogg’s “FBM”: a behavior model for persuasive design provides a systematic way to think about factors underlying behavior change. There are three factors: motivation, ability and triggers influence whether a target behavior would happen or not. Among of the factors, motivation and ability are not in an arbitrary relationship; they can be traded off. If motivation is high enough, people might do extraordinary things – even difficult things – to perform the behavior. However, when people want to perform the behavior being triggered but lack the ability, they feel frustrated. Applying this model to the Asian student’s situation in the States, they listed frustrations during both individual interviews and workshops. The impediments of motivation according to Fogg’s “FBM” model are: 1.) Pleasure and pain. 2.) Hope and fear. 3.) Social acceptance and rejection. The results from the workshop I conducted mirrored the “FBM” models attributes in terms of the Asian students current state.



An object of reminder

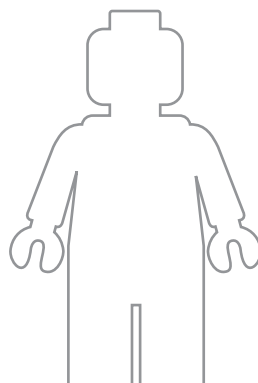
What could be a trigger to activate students' mindset, and serve the function of retaining their high motivations all the way from their journey to study abroad all the way to their current state? Based on my interview observations: when Asian students hold a toy (LEGO man) when they reflecting their past, they appeared to be less anxious. The object functions in a similar way as a fidget toy for autism children to release their anxiety by a physical distraction. Nevertheless, in Chapter 3-1 is illustrated an individual's interaction with others in the metaphor of performance and role-play, which revealed that a human figure image could potentially trigger changes in everyday performance.



Takeaways

Design decision

I learned from self-reflection timeline tool and group reflection workshop that reflection itself is a key for awareness of problems and possible solutions. However, when Asian students adapted skills for their basic lives, instead of making an effort to change, their routine thinking pattern started to kick in. In addition, the anxiety they experience in the learning environment constantly blocks their conscious thoughts. In conclusion, if self-reflection could be a method to reinforce a habit change; what could be the object trigger that changes mindsets in daily life. This became the objective for a co-design workshop.



4.4 Workshop Two : Co-Design a Reminder

How could learners be triggered to change their mindset into active ones by an object of reminder?

Workshop: Co-design a reminder for change Individual's mindse

March 31, 6:30 – 9:00

Participants: four Chinese students from industrial design, museum communication and art education, three Korean students from industrial design and one European students from MID.

Premise:

After sharing my interview results, a group of students in Anique Design Group and other international students brainstormed ways to change the student's passive mindset into active ones. Based on the pre-set four scenarios where the most issues happen that impact international student's learning journey.

Workshop process

Ice breaker:

The workshop started with improv acting activity as an ice breaker in which participants observed each other's appearance in pairs. They then identified the three major changes in appearance their partners made.

The goal of this workshop is to co-design a reminder for triggering Individual's positive mindset.



Co-design workshop: improv acting session



Workshop process

Mind and Behavior sorting

Based on the four scenarios: presentation, group discussion, individual conversation, and phone conversation, participants wrote down what happened when a hypothetical student, “Miss A” (an Asian student in her third month in the States) found herself in these situations. Following these two prompts: 1. What’s on her mind? 2. What did her behavior look like? Participants grouped the answers into categories.

The new mindset

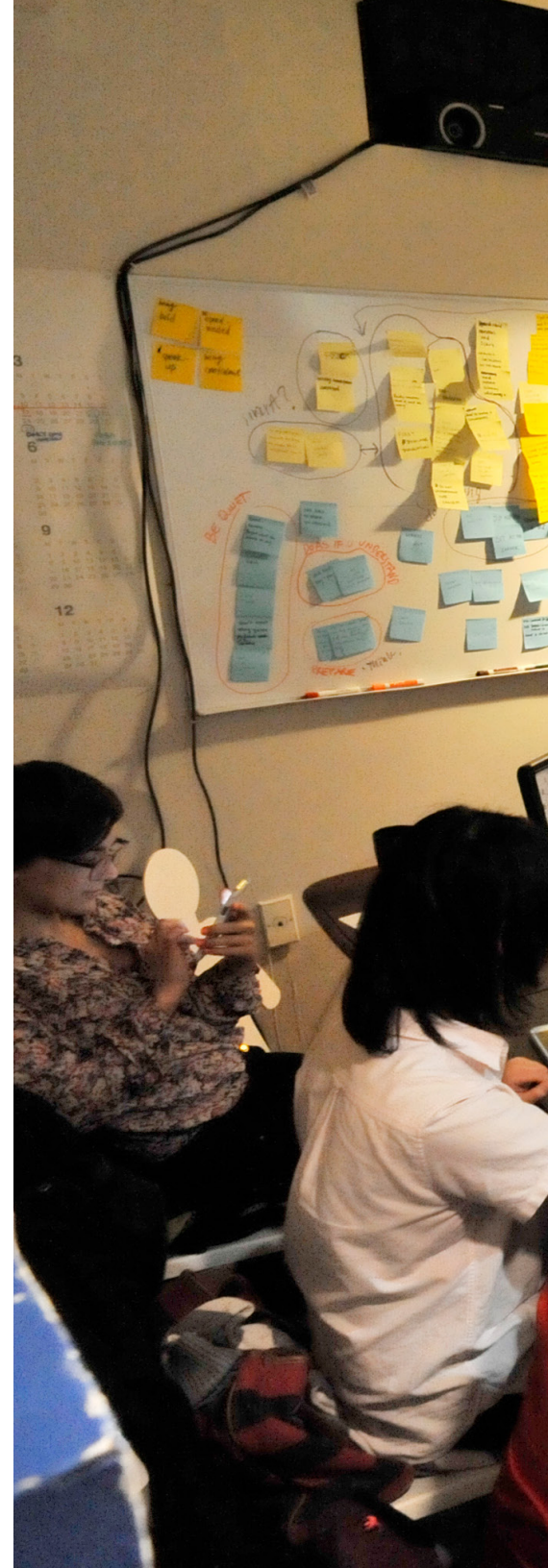
Using a new color of Post-it to represent the situation in question one, participants consider Miss A’s mindset if it were the opposite of their initial expectations of her. This refers back to participants’ own flexibility of mindset when approaching these scenarios.

Your personal management system

Share what kind of physical reminders are you using to manage your day-to-day lives?

Developing a new tool as a reminder of “Miss A’s” new mindset

Participants have a group brainstorm session on how to create a physical reminder or trigger, inspired by their own personal management systems, that would remind Miss A to take different actions during interaction with others.



Co-design workshop: What is Miss A's new mindset?



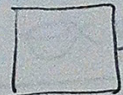


Co-design workshop: Brainstorming

Elements to be included in the design of the reminder:

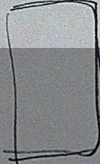
- 1.) It's significant to have a cultural or emotional connection to the reminder.
- 2.) Game elements should be included, it encourage people to participate.
- 3.) The reminder needs to be physically close to user.(Reference to the personal management system chart)





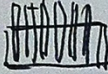
Handkerchief

Back of your phone



Mug + sticker

Gum + sticker



Pin + sticker

- Being Active
- speak up
- Hang out w/ Americans
- enjoy conversation.

- being confident
- being Bold
- I know what I am doing
-



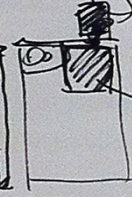
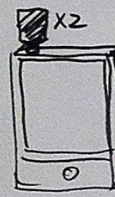
mindset

NOT AFRAID
To Make mistakes
Keep trying



Culture Authority
games
Competition.
Personal.

ideas
sticker / too
charm bracelet ++
rings
things, mug
friendship pin



COINS
Snacks, Food

prompt

Reminder
Start conversation
- interesting
- games
- curious
- funny objects

self-reminder system

All

1. note book
2. piece of paper
3. writing on hands
4. memory
5. Pen

Phone

Feedback
Suggestion
prompts
from others.

only
can be open
in your key moments

week 1	wk2	wk3	wk4	reward Area

objects
you brought
from your
country

for interaction

culture
ing model.

Stakeholder

Facilitator

teachers

learners

passive

What make them
passive learners
What's challenge

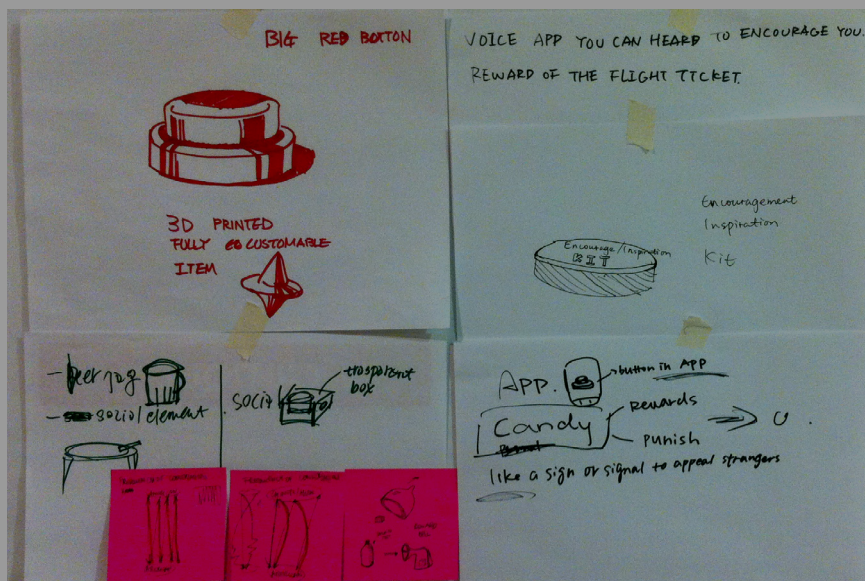
Barriers?

less
Physical
intimacy
Object

Reminder

Ideation from both workshop and Interviews:

Visualization data from interviews and two workshops helped me to see what is the best choice for the idea of a reminder. A reminder could coordinate with the self-reflection system. Thus, the final decision came out from the overlap ideas in the design together workshop.



Ideas generated from workshop:

1. Big red button
2. Beer jar
3. Encouragement candy kit
4. Voice app
5. Personal icon
6. Lottery
7. Badges

CHALLENGE
EXTERNAL / INTERNAL

ANXIETY

BEING
CONFIDENT

EMOTION



The ideation:
A LEGO man avatar can be
attached to a smart phone that
adds a physical reminder to a
digital device.

STENING

INDIVIDUAL
PROJECT

FEEDBACK

BRAINSTORM

CRITIC

EXPRESS
IDEAS

PRESENTATION

1

2

3

BEING
YOURSELF

SENSE OF
HUMOR

RELATIONSHIP

DOING
THINKING

INTERVIEW

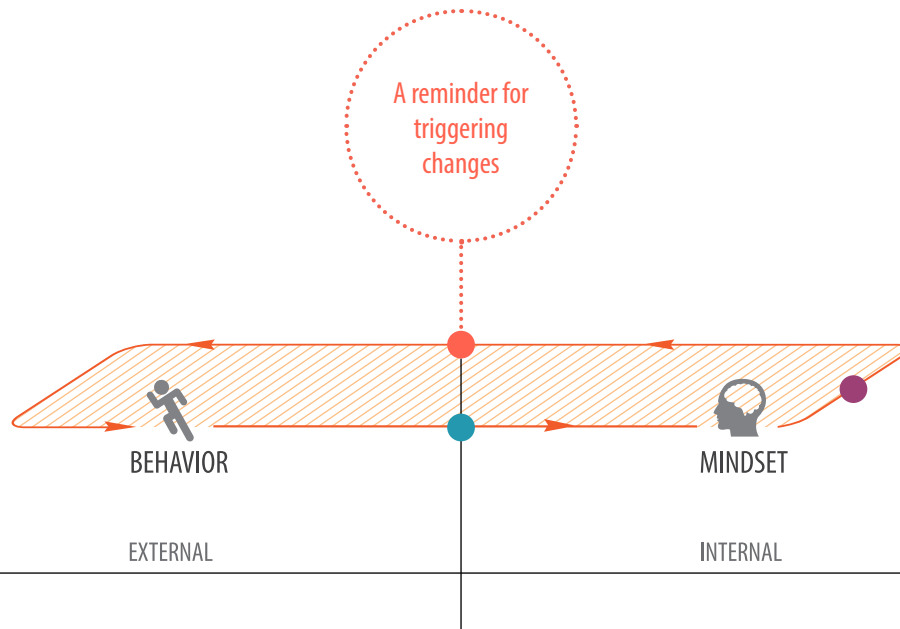
ASK QUESTIONS

VISUALIZATION



Co-design workshop

- 1.) Things to improve: The ideas of an object for individual mindset change had been focused on both individual reminders and social engagement. This shows that idea of a personal object as a reminder could be better confined by the design process.
- 2.) Things went well: The ice break at beginning used the performance element to activate participants mindsets to be bold, and also underlines the question of how people can change their mindset by changing the way they behave. Overall discussion was open and active; participants were enthusiastic about the topic and could relate to their personal experience.



V. PROTOTYPE TOOLKIT: BRIDGING2.0

- 5.1 What is BRIDGING Toolkit?
- 5.2 BRIDGING 2.0 Evolution
- 5.3 BRIDGING Toolkit Testing and Audience

“Storytelling needs to be in the tool kit of the design thinker—in the sense not of a tidy beginning, middle and end but ongoing, open-ended narrative that engages people and encourages them to carry it forward and write their own conclusions.”

Tim Brown “Design thinking”

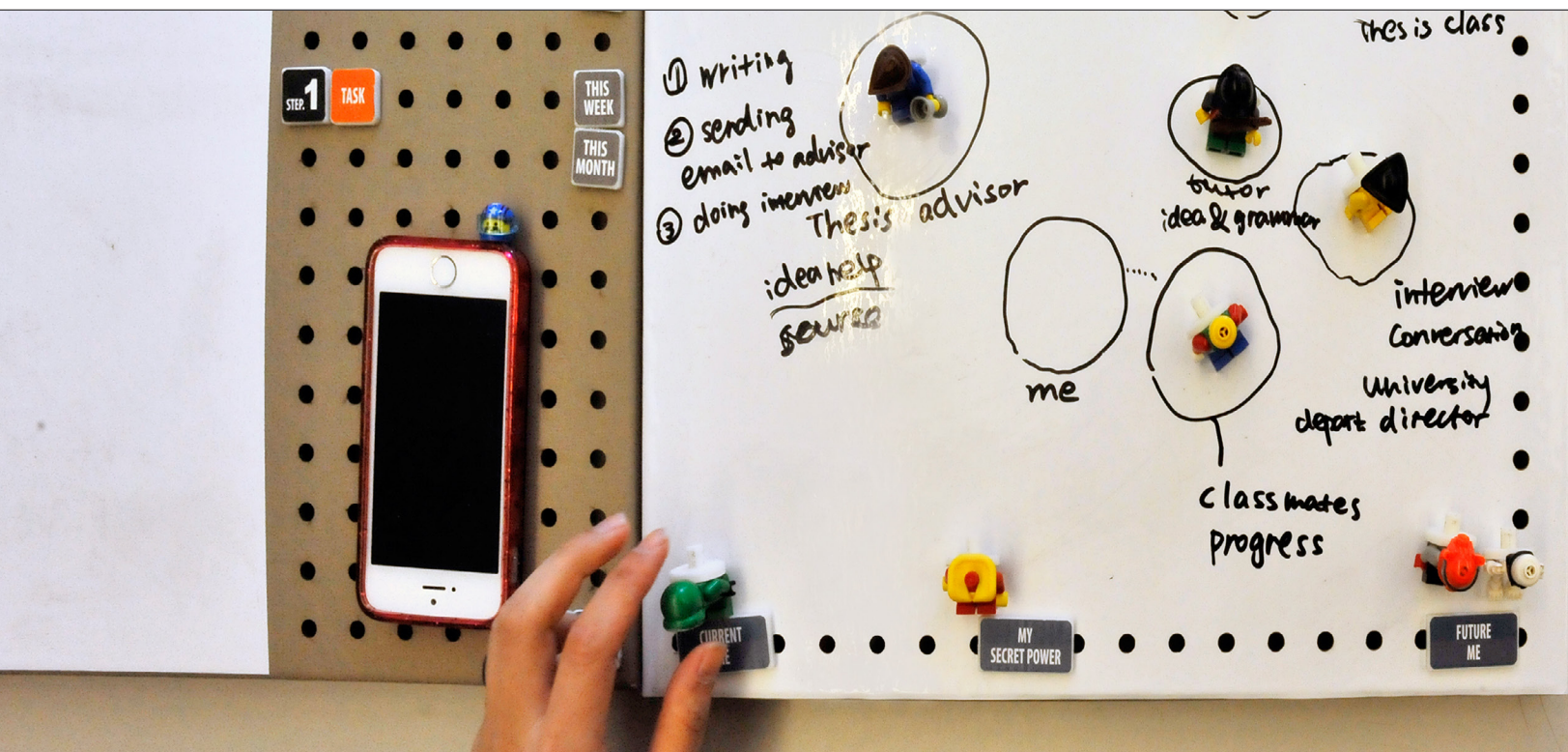


5.1 What is BRIDGING Toolkit?

A reminder, self-reflection tool and a boundary object.

1. Use as self-reflection tool

In this usage it is comprised by four actions: Task, Role, Sharing and Help. The first two parts require individual to identify their task in actionable steps and a specific role they commit to play in the task.



2. Use as a tool of reminder

As a tool of reminder, the object attaches to an individual's smart phone, to remind them of their task and role during the day. If the toolkit is used in the group setting, other players can offer their help by giving a reminder as support.

3. Use as a trouble-shooting and conversational tool

When this board is used as a one-on-one conversation tool, it becomes a boundary object that encourages users to review the issues in a systematic view. The tool focuses on bringing out the unrevealed stories and building trust between the users. trust between the users.



4. Use as a group support boundary object

In the open studio setting, the self-reflection board also invites visitors to make connections and offer help for what is happening in the user's project and life.

BRIDGING 2.0

Instructive map

Personal task management

START

1. Think of one challenge or task on the top of your mind now.
2. Think of your current situation and the people involve in task.
3. Using the **LEGO man** in the toolkit, choose one to represent yourself and others to represent people involved in the task.
4. **Draw connections and keywords** to describe your relationship in the task.
5. Tell the story to someone or review by yourself.
6. Write down **an action plan** you will take in the future to finish the task.

STEP. 1

TASK

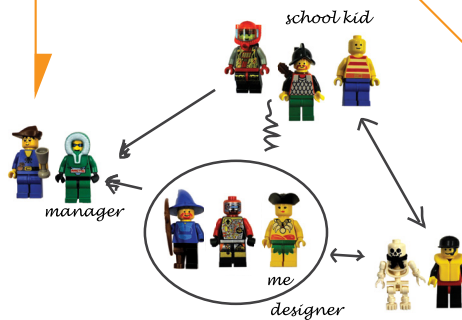
CURRENT
SITUATION

TODAY

THIS
WEEK

THIS
MONTH

ACTION PLAN



1. Finish writing
2. start layout design
3. Watch online tutorial

[illegible][illegible]

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BRIDGING 2.0

Instructive map

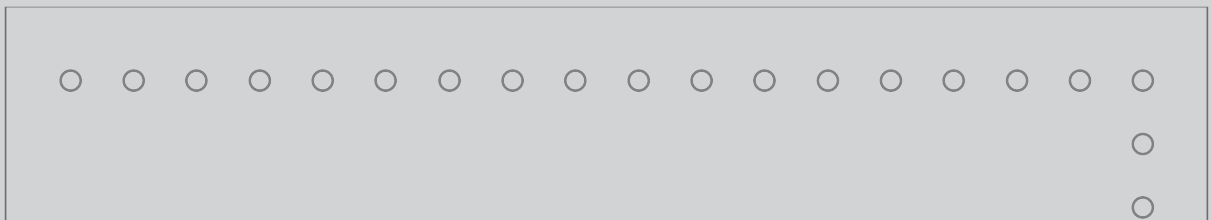
One-on-one Conversation



PLAYER 1



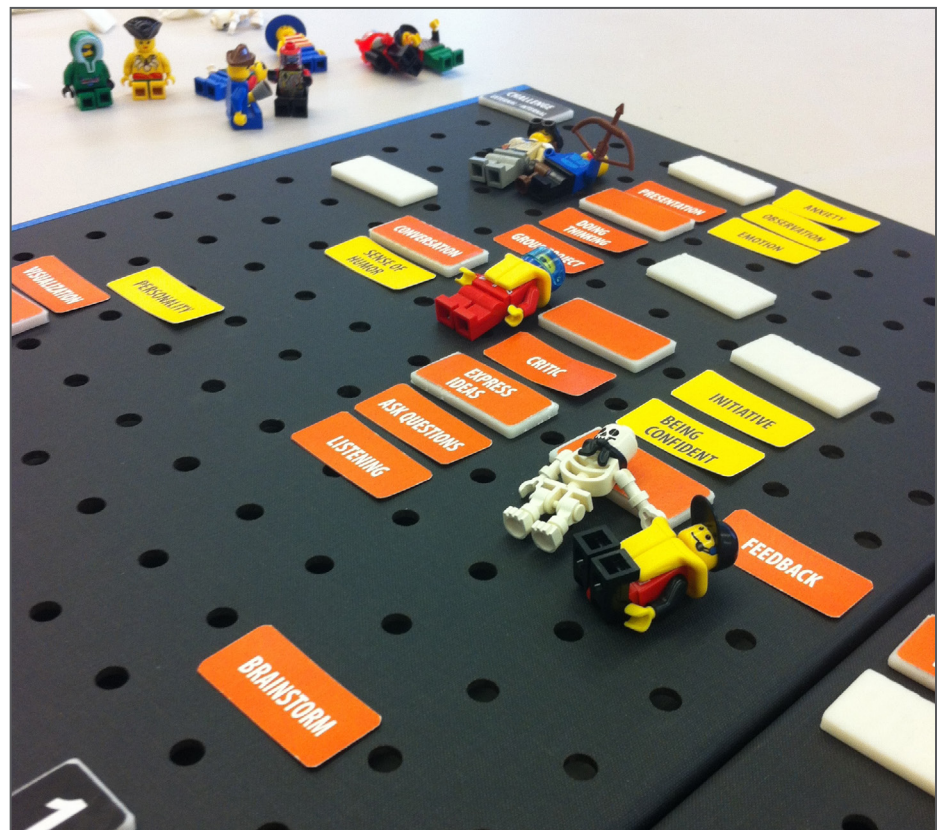
PARTITION from player 1's side



5.2 BRIDGING 2.0 Evolution

1. For learners: Self-reflection timeline interview tool

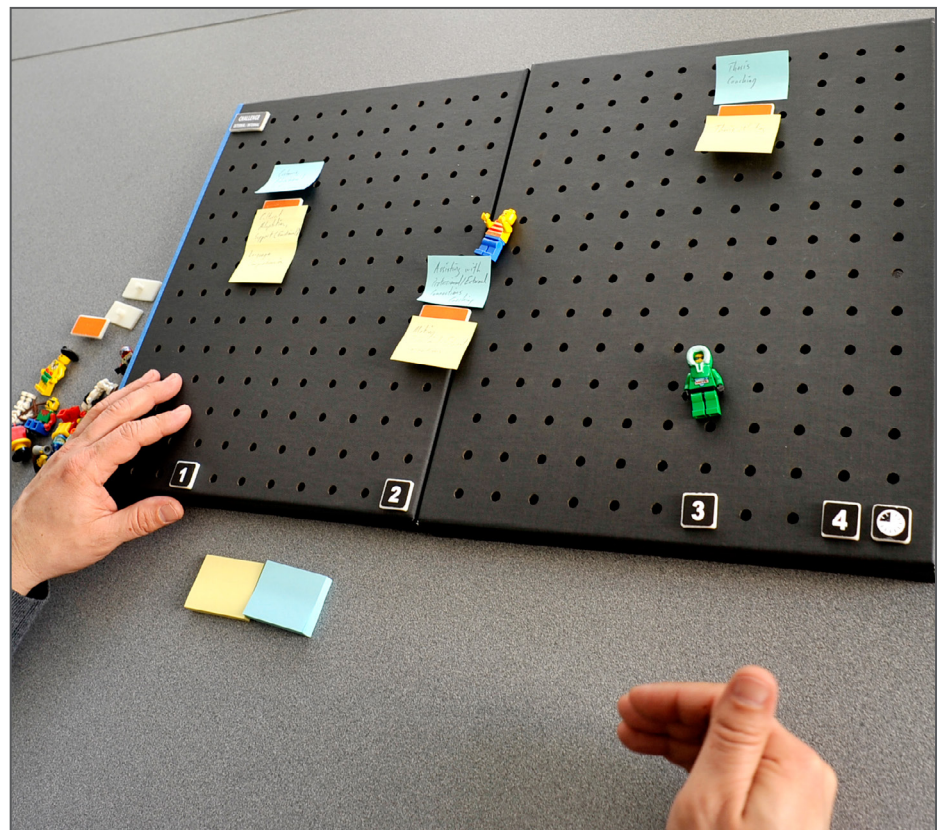
At beginning of using the Self-reflection timeline interview tool, interviewees generated their prompts, keywords and scenarios through the process. After a number of interviewees identified similar internal challenges and external scenarios. This interview tool had been customized with prompts, which keep interviewees' story focused on the issue of cross-cultural interaction better.





2. For instructors: students evaluation timeline interview tool

The self-reflection board was used in the interviews with Faculty who highly collaborative programs. From the faculty's side we see a worst case scenario of an international student struggling during their learning. We also see how the faculty evaluated the student's performance and reflected on the situation. The faculty were asked to write down their suggestions for students to be successful in their academic lives. In these interviews, the tool showed a great potential to be developed into "a bridge" for discussion of personal issues that often influence a students' performance.

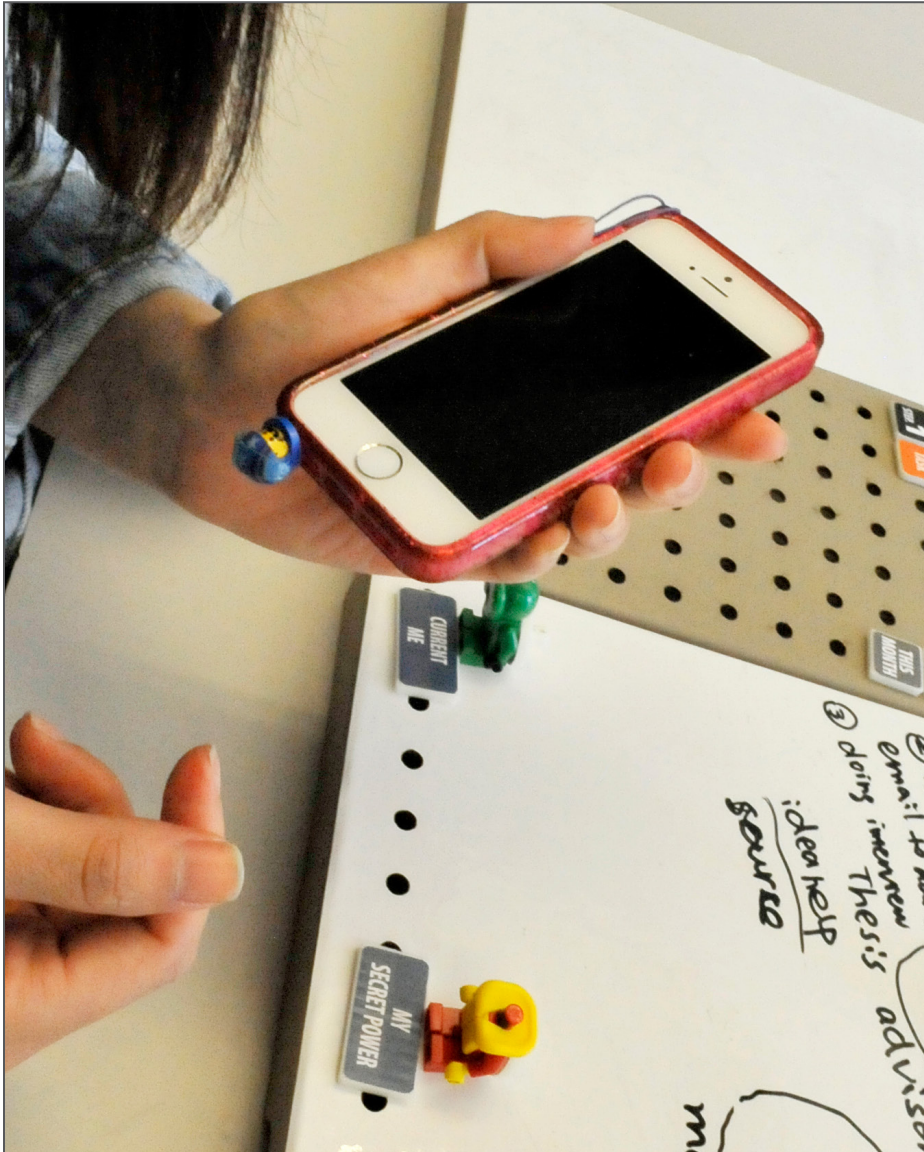




3. The development of a reminder

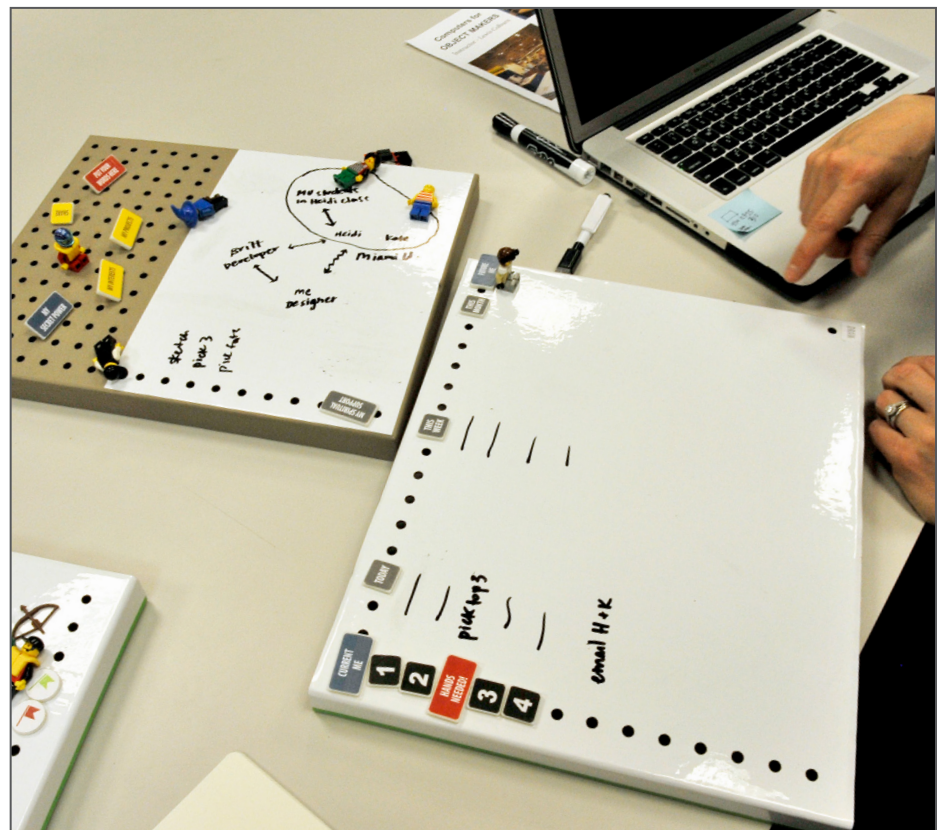
A reminder is developed for triggering a performance change in the student's every day interaction. Ideas generated from the co-design workshop indicated that a reminder should include a quality of cultural or emotional connection, contain game-like and social elements and be physically close to user.

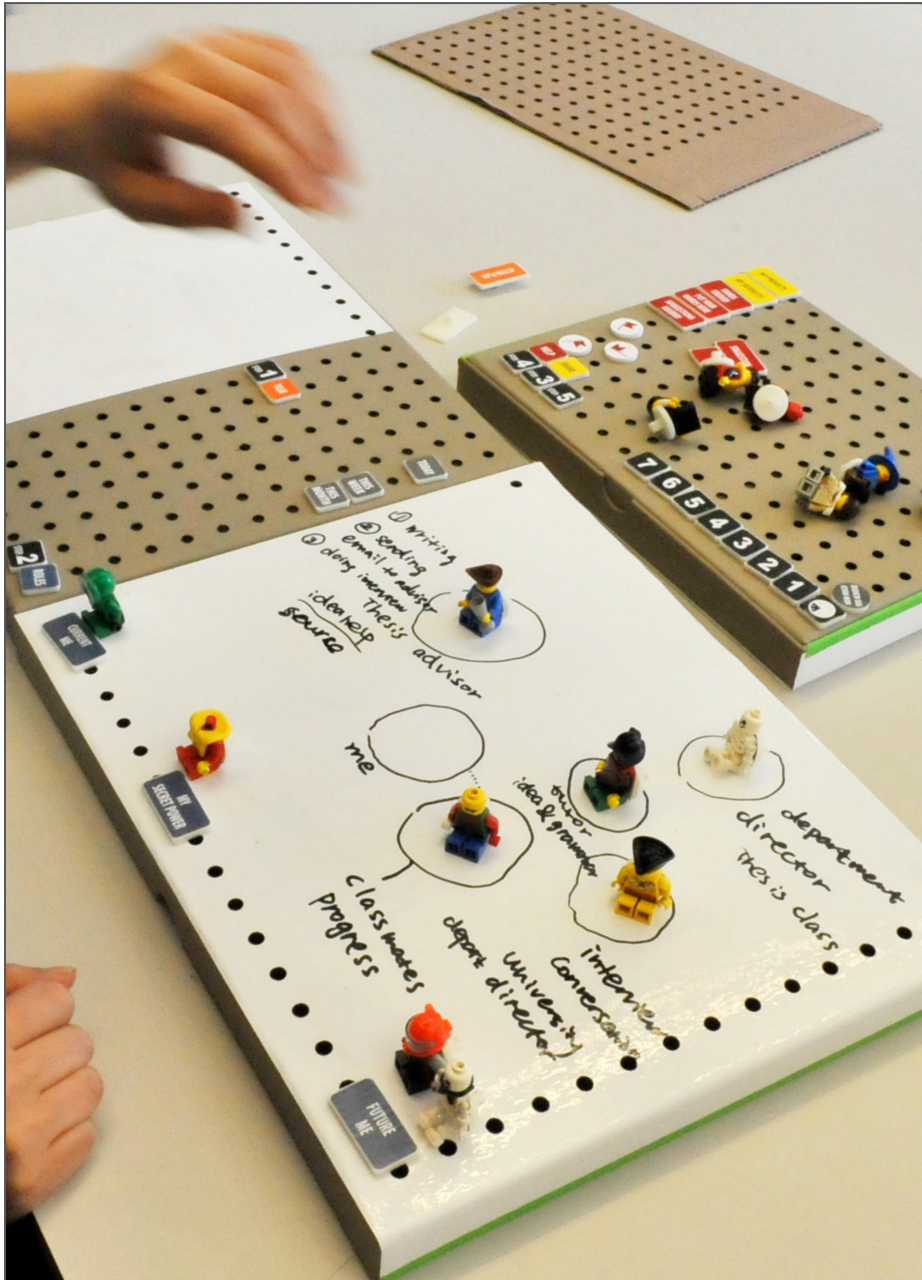




4. An interactive boundary object

It is a task management tool that uses an object and a map to remind individuals about their intended path. It also serves to open a channel for conversations with visitors to their studio prompting the student to be accountable to his/her studio mates or professors. Visitors are able to make comments or connect on the board, since part of the tool stays in the open studio space. When the tool functions as a one-on-one conversation board, it serves a purpose of revealing issues and supporting insightful conversation from both sides of players in a short period of time.





5.3 BRIDGING Toolkit Testing and Audience

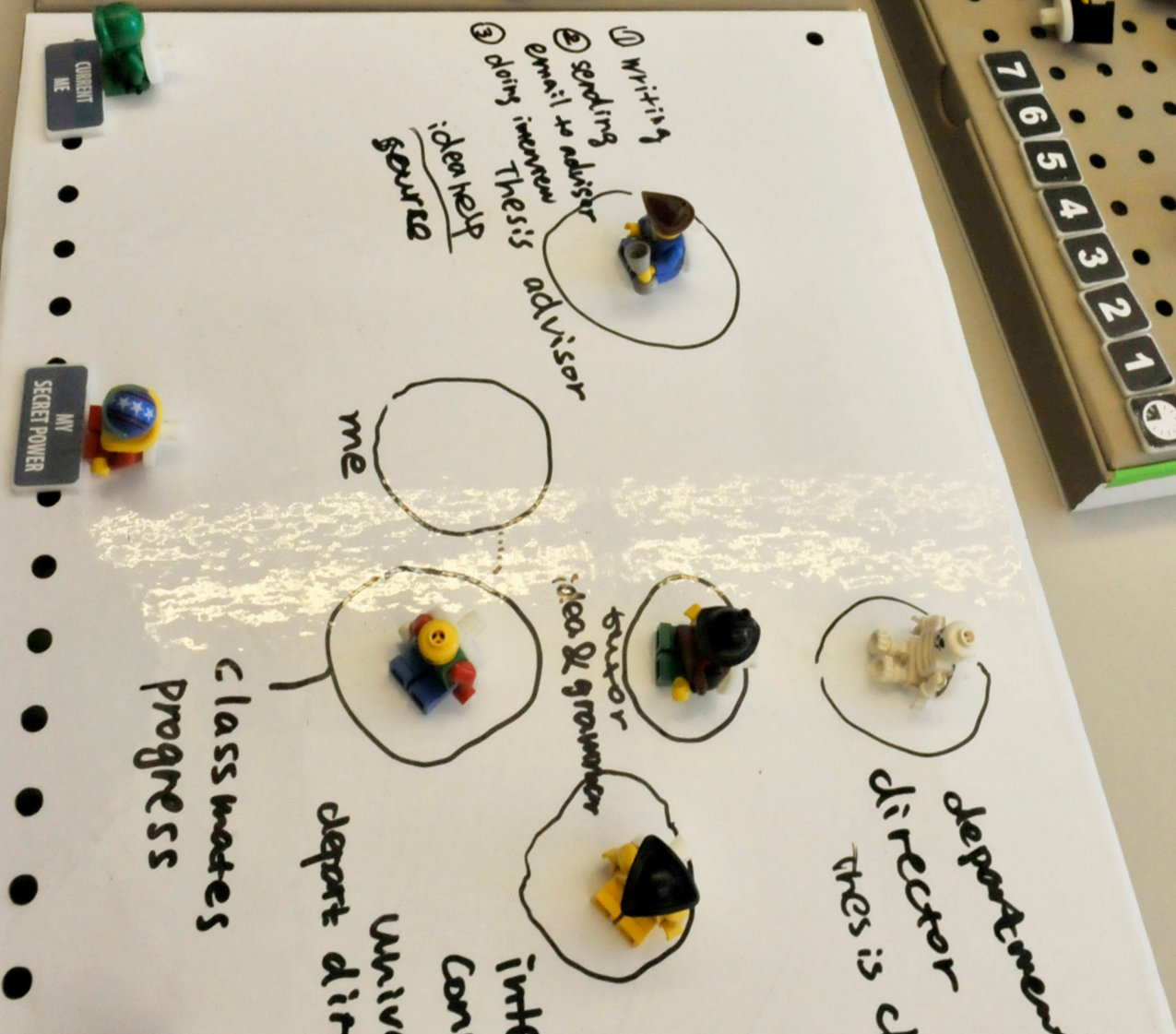
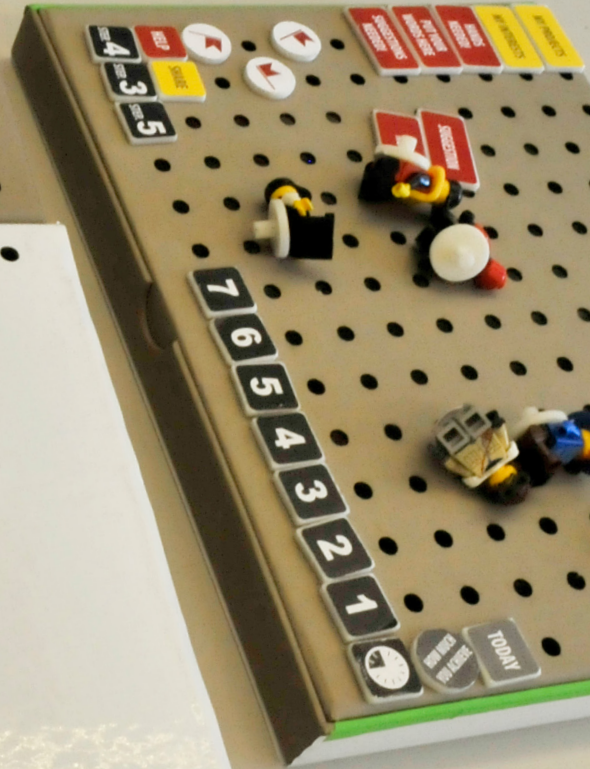
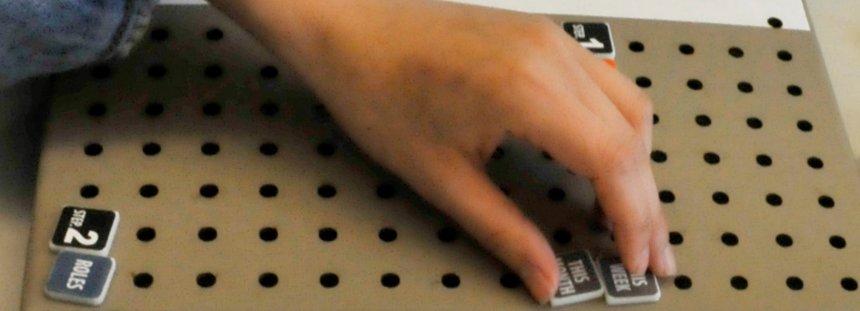
The types of audience

- 1.) Students who are adapting a new culture or learning environment.
- 2.) Instructors who think about trying another way to communicate with learners.
- 3.) Individuals who attempt to visualize their tasks or progress, also sharing the information with their groups.



UAarts Faculty
International Student-Veteran
International Student-Beginner
Student





BRIDGING 2.0 testing & evaluation

The toolkit BRIDGING 2.0 had been tested on an audience of international students and individuals who need physical task management and platform for sharing. For the international students, they were excited about the visual presentation of avatars and their tasks. They were also concerned about the reminder's sufficiency when there are no other players of the task management game were with them. The instructive guide could be simplified for users to see thing in a systematic way.

Additionally, BRIDGING 2.0 got feedback from the users about its flexibility of usage. They gave positive feedback on the free structure of movable tags and writable boards. In conclusion, self-reflection is still the key driver in BRIDGING 2.0 to lead to the further steps of the game. The reminder could work better if it included social or competitive elements on the board. Creating different levels in this open structure could be crucial takeaways from the testing exercises.



VI. CONCLUSION

6.1 Project Reflection

6.2 Where the Toolkit Lives and Future Development

Asian international students in this project were identified as having barriers of language and cultural differences more than other non-active learners. In fact, meaningful interaction takes motivation from two sides' to be achieved...

6.1 Project Reflection

The goal

This thesis project is to develop tools or methods that activate an individual's mindset in order to trigger his/her behavior changes for active learning. Asian international students in this project were identified as having barriers of language and cultural differences more than other non-active learners. As a designer, I practiced design methods and tools through this project to engage and gain insights from those students.

Design process and the toolkit prototype

BRIDGING2.0 toolkit evolved from a design process, as a way to build a reminder through an individual's self-reflection, achieved both by themselves or with others. The whole process happens visually and through game play, releasing anxiety from work-related conversation. But through its evolution, it developed to accommodate more than just individual task management. In some cases, my design activities served to generate other unintended, yet positive byproducts.

The toolkit demonstrated a great success in its first version BRIDGING1.0. During the interview process, student interviewees were able to tell their life stories on the board, something they struggled with in typical interviews. And UArts professors were impressed by how the mapping could help them reflect what could they do better in their instruction of international students. This paved the way for BRIDGING 2.0 to be tested in a learner-to-instructor conversation at the UArts.

Co-design workshop and community

One of the byproducts of the group reflection workshop is that it reinforced the students' need for having a community. Later, students established a community for Chinese Cultural Exchange at UArts. In general, design activities in THE BRIDGE project raised discussion and attention to the issues that cultural adaptation for Asian students is not an issue of skillset, but how might we activate a mindset and keep an initial high motivation.



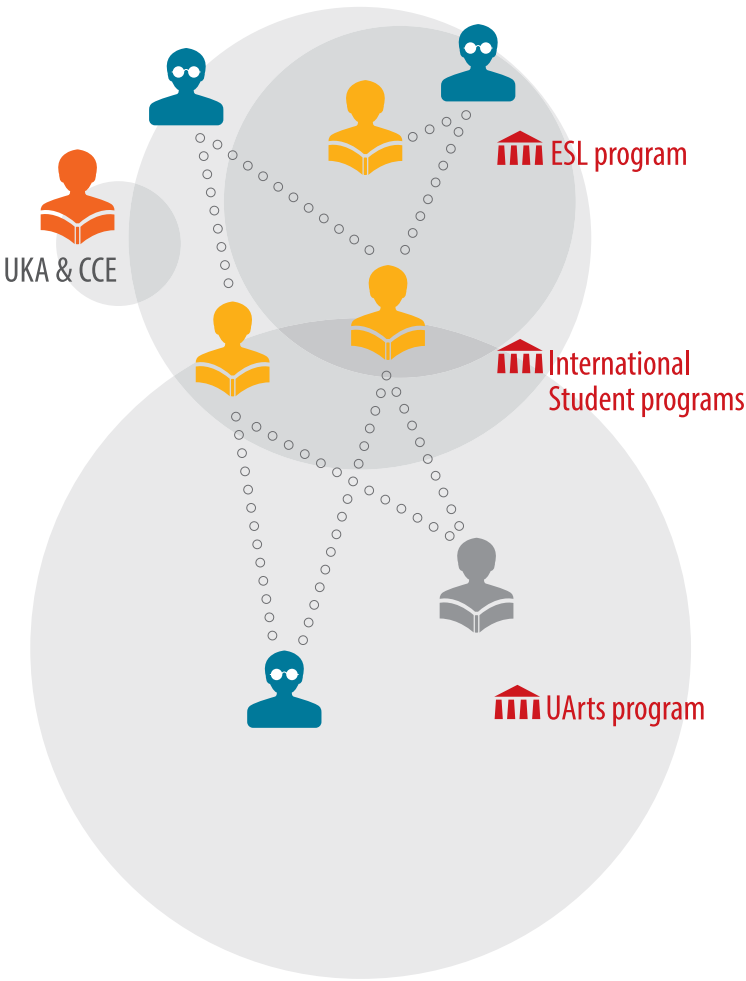
Takeaways

The motivation of this thesis project was based on a simple goal: “every-one’s voice should be heard despite their difference in culture. However, during the process, one of the crucial lessons I learned in the workshop and interviews is: design as a activity allows for playful interaction, but the well-designed process would lead us to both playful and meaningful answers and solutions. That has been proven by my trial and errors all the way through this project.

Also, during this thesis development, I tried different types of systems and techniques to organize my thoughts and processes in documentation. Visualization and synthesis are two major tools for me as an international student to tackle tangled data and insights. Finally, both my experience of struggle at the beginning of thesis development and the quotes from Asian students, “keep trying and make mistakes earlier,” demonstrated that in the end, it’s not a cultural issue, but rather that cultural differences highlight its importance.

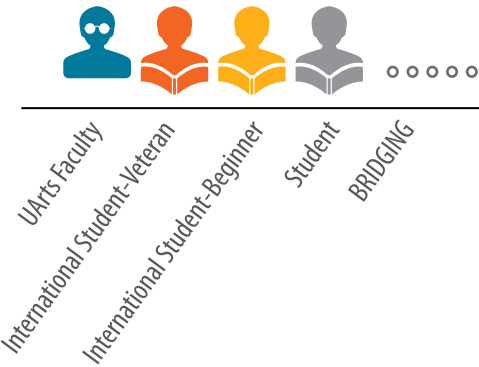
BRIDGING2.0 is an outcome of collaborative work and insights from stories related to individuals’ transformative journeys. For further development, the next step is testing on a broader range of audiences that focus on collaborative learning environments.

6.2 Where the Toolkit Lives and Future Development



Where the toolkit lives?

The first place for BRIDGING to live is in International Student Program (ISP) with ESL teachers and international students. The refinement of BRIDGING 2.0 prototype in ISP should inform its future development on the direction of self-developable framework of facilitation and task manage.



1. BRIDGING 2.0 refinements for its customizable elements, instructive map and facilitation guide

First is to refine an easy to follow framework that supports student task management on one side and, facilitated learner-to-instructor conversation on the other. Thus, an instructive map can be designed into a basic version that avatars are only partly included. The facilitation guide will include advanced functions such as a task management and a conversation mediator.

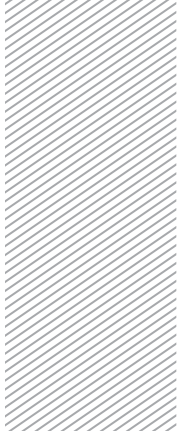
2. BRIDGING 2.0 testing in International Student Programs

Mara Flamm, one of my thesis committee members and the director of International Student Programs, has invited bringing BRIDGING 2.0 into the ESL program. It is a excellent opportunity for testing and developing this toolkit with the primary stakeholders in my research.

3. BRIDGING 2.0 testing in a boarder range of audiences

During the course of my research, I gained positive results from a broad range of audiences, not just international students. American students and other designers saw the tool could help them manage personal tasks and mediate different opinions when they are doing group work. There is a need for testing in a boarder range of audience on both task management and conversation purposes.

■ The future development



Appendix

- Postscript
- Glossary
- Bibliography
- About the Author



Postscript



Feedback from thesis presentation

After presenting THE BRIDGE project during my thesis defense, the feedback I received focused on two areas: one is the boundary object, toolkit BRIDGING. The other is the psychological and cultural issue behind the boundary object.

There was some concern that my presence as a facilitator working with users on BRIDGING had essentially affected the results. This meant that without myself or perhaps without an Asian facilitator, results might be different. In future development I will refine the instructional map so that it includes a facilitation guide, which I would further test to insure the toolkit's independent function. Users should be able to adapt the toolkit to their needs.

One commentator suggested that the toolkit should be given to American students as well, to explore similarities and differences. It was suggested that all students face challenges and anxieties as they enter higher education and confront career choices. Moreover because the toolkit encourages students to project their image of a future self, research into how young people develop self-awareness might be an important context for developing the toolkit. The recommendation was a valid one. The toolkit was not developed for exclusive use by Asian students, but culture differences make the self realization more challenging and more critical for them.



Glossary



Anxiety

A feeling of worry, nervousness, or unease, typically about an imminent event or something with an uncertain outcome.

Avatar

An icon or figure representing a particular person in computer games, Internet forums, etc.

Bicultural Experience

Having or combining the cultural attitudes and customs of two nations, peoples, or ethnic groups.

Boundary Object

A boundary object is a mediator that serves the purpose of communicating ideas cross-disciplines.

Co-Design

A practice where stakeholders are actively involved and influence the outcome of the design process.

Collaboration

To work jointly with others on an activity or project.

Contextual interview

Conducted in the environment, or context in which the service process occurs allowing interviewer to both observe and probe the behavior they are interested in.

Cultural Adaptation

It is the process of adjusting health messages to the intended audience by incorporating their cultural heritage, language and ethnicity.

Cultural Cue

It is a cultural cue can either be a verbal or non-verbal hint, which can be positive or negative. These cues guide conversation and other interactions.

Cultural Perception

Views, ideas, and attitudes about society, place, space, and territory. Studies in psychological science points out that culture influences perception.

Design Toolkit

A set of tools designed to be used together or for a particular purpose.

Empathy

Understand another persons' situation, experience or perspective, as if it were one's own.

Facilitation

The increasing of the ease or intensity of a response by repeated stimulation during a design activity.

Fixed Mindset

In a fixed mindset students believe their basic abilities, their intelligence, their talents, are just fixed traits.

Generative Interview

It is interviews engage users in creative opportunities to express their feelings, dreams, needs, and desires, resulting in rich information for concept development.

Group reflection

Meditation or serious thought about one's character, actions, and motives in a group setting.

Growth mindset

In a growth mindset students understand that their talents and abilities can be developed through effort, good teaching and persistence.

I-Ching

An ancient Chinese manual of divination based on eight symbolic trigrams and sixty-four hexagrams, interpreted in terms of the principles of yin and yang.

Ideation

It is the creative process of generating, developing, and communicating new ideas, where an idea is understood as a basic element of thought that can be visual, concrete, or abstract.

Metaphor

A figure of speech in which a word or phrase is applied to an object or action to which it is not literally applicable.

Mindset

The established set of attitudes held by someone.

Motivation

The drive and desire to achieve goals.

Prototype

A first full-scale and usually functional form of a new type or design.

Reminder

A person or thing that serves to remind.

Role-Playing

Physically acting out what happens where people interact with product or service.

Routine

Commonplace tasks, chores, or duties as must be done regularly or at specified intervals; typical or everyday activity.



Glossary



Scenarios

Illustration a story line describing the context of use for a product or service.

Self-reflection

Meditation or serious thought about one's character, actions, and motives.

Stakeholder

One who is involved in or affected by the action of design.

System thinking

Systems thinking allows us to view whole situations and events rather than individual activities, and allows us to consider how changes to one variable will impact other variables within the system.

The future, backwards

It is a sense making design method. Often used at the very beginning of a client engagement to quickly get a deep sense of how the client understands their context, goals, their own agency, their hopes and fears.

Tai-Chi movement

An body and mind movement to create a simplified form of t'ai chi as exercise for the masses.

Testing

The activity is to determine if the design performs as originally conceived and intended or to identify unexpected consequences prior to design going into final production and description, or implementation.



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About the Author



Min Yeh

With a BFA in Fine Arts and professional experience in graphic design, I have always been interested in visual communication across multiple disciplines. My focus has been to make change for the better and to improve different levels of interaction between communities. When I look back onto this learning journey in the MID program, I find that it demonstrated what design thinking can do to restructure a person's mind. Instead of being taught an answer to the question of what design and designers can do for making how designers can make an impact, for the past two years I have experienced the design process of design for two-years with through collaborative projects. The program has trained me to design with a systematic approach rather than simply beautify an object.

As a designer, I do believe design tools and methods possess the potentials across cultural barriers to shift mindsets and change behavior across cultural barriers. I am looking forward to doing innovative, collaborative work by practicing design thinking in my future career.

