What is Cross-Cultural Design?

Cross-Cultural UX Design Seminar
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Topics

1. Going Global
2. Cross-Cultural Design in Product Development
Going Global
What is cross-cultural design?

- Companies are expanding their customer basis across national and cultural boundaries

- Cross-cultural design is designing technology for different cultures, languages, and economic standings
  - Ensuring usability and user experience across cultural boundaries
Why is cross-cultural design important?

- Technology is always contextualized in a culture and users interpret products based on their cultural backgrounds and values
  - Chinese peasants use washing machine to clean potatoes
  - Cell phones could become means to learn prayer times for Malaysian Muslims
  - Kellogg’s in India
  - ”The washing machine that ate my sari”
Example: American cars in Japan

- The size of the cars were not practical
- The steering wheel was on the wrong side
- Seat sizes and adjustments did not fit the average Japanese
- Engines weren’t designed to run on Japan’s lower octane fuel and performed poorly
- R, D, and L on the shift had no meaning for Japanese
- Repairs required hard-to-find English-based tools
Approaches to cross-cultural design

- Using existing cultural theories
- User-centered design in the specific culture and countries
  - User studies with local people
  - Usability tests
From utility to user experience

User Experience vs. Usability

- **Usability**
  - **Task-oriented:** efficiency, effectiveness, satisfaction
  - Mostly **objective:** e.g. timing, task completion
  - **Prevention of obstacles** and errors

- **User experience**
  - **Holistic:** user / product / usage situation
  - **Subjective:** how people experience products
  - **Positive:** positive outcomes; i.e. positive emotions
  - **Functional** (pragmatic) & **Emotional** (experiential, hedonic)
Cross-Cultural Design in Product Development
Globalization Process

- **Globalization**
  - Transformation of business and processes to support customers around the world, in whatever language, country, or culture they require. The technical processes of internationalization and localization make globalization possible.

- **Internationalization (i18n)**
  - Ensuring that products are designed and developed free of any culture-specific attributes, so they can be easily localized.

- **Localization (L10N)**
  - Making the necessary design changes so that products are culturally and technically suited for the target culture.
Example: UI Localization and UX

1. **UTILITY**
   - Ability to **process and display** the user’s:
     - Native language, character sets, notations and formats.
     - Making sure **concrete** localizable items are somehow separated in order to localize them.

2. **USABILITY**
   - Ability to produce UI and user information that is **understandable and usable** in the user’s native language:
     - The quality of localization and terminology.
     - Highlighting the meaning of context.
     - Methods of usability engineering needed.

3. **USER EXPERIENCE**
   - Ability to produce a system that **accommodates user’s cultural characteristics and hidden meanings**.
   - Abstract cultural meanings.
Product Development

**Requirements**
- Market area studies
- User studies/user needs
- UX concepting
- Languages

**User Feedback**

**Design**
- Product Specification
- UI prototyping
- Usability/UX evaluation

**Execution**
- Executing design according to product specifications
- Usability/UX iterations
- L10N and translation
- i18n testing

**Verification & Correction**
- UX/usability testing & error fixes
- L10N testing (bugs: Linguistic, functional, UX) & error fixes

**Product Launch**
Culture & User Experience

- User experience attributes are culturally bound
- Culture influences human-product interaction
- How to study culture? How to gather useful data, compare it and apply it in a sensible way to your product’s design and implementation?
- There is no simple agreement on a specific definition of culture
Cultural Metamodels

The Iceberg Model
- Surface
- Unspoken Rules
- Unconscious Rules

The Pyramid Model
- Personality
- Culture
- Human Nature
Objective & Subjective Culture

• **Objective** (social and material)
  - Society’s political and economic system
  - Customs
  - Art, architecture, and institutions

• **Subjective** (psychological)
  - Society’s values, expectations, theories of action, and patterns of thinking
Culture: Things to investigate

1. **Cultural metamodels (ie. Iceberg, Pyramid):**
   - Help to understand different layers of culture.

2. **International Variables:**
   - Objective (ie. Writing system) or subjective (ie. Humor)

3. **Cultural model for your own needs:**
   - Helps to design better for different cultures.
   - Can be used for identifying global information for i18n, cultural bias, metaphors, assessing the degree of localization, avoiding cultural mistakes that can be offending or misleading, evaluating the quality of an international product.

• **Cultural Dimensions, eg. Geert Hofstede**
Example of using existing theories - Hofstede’s five cultural dimensions

- Power distance
- Individualism vs. collectivism
- Masculinity vs. femininity
- Uncertainty avoidance
- Long vs. short-term time orientation
High power distance; Malaysia

Design tips
• Focus on expertise, leaders and authority
• Importance of certifications, awards & logos
• Social roles to organize information
• Structured, guided access to information
Low Power Distance; Netherlands

Design tips
- Youthfulness
- Less structured access to information fine
- Emphasize people in images
High uncertainty avoidance; Belgium

Design tips
• Reveal results of actions
• Use task animations to reduce user error
• Encode meaning through multiple cues
• Keep it simple
Low uncertainty avoidance; UK

Design tips
- Less protection from failure; complexity and risks more valued
- Less controlled navigation; links may open windows
Pros and cons of the approaches

• Using existing cultural dimensions (e.g. uncertainty avoidance)
  - Reinforce stereotypical views?
  - Cultures are continuously developing
  - Quick and dirty, cost-efficient

• User-centered design in the specific culture and countries
  - On site
    • Provides the most reliable information
    • Expensive and demanding time
  - Remotely
    • Cost-efficient, but not many methods exist yet
    • E.g. questionnaires, diary studies and remote usability tests
Conclusions

• Cross-cultural design is ensuring usability and user experience across cultural boundaries

• Cross-cultural design requires understanding of cultural differences and application of user-centered design methods in target cultures
More information

Understanding Cultural Differences in HCI: The Diamond Model of Culture

Gilbert Cockton
School of Design, Northumbria University
Hyvää Päivää
An Everyday Sight in Tampere?

http://www.flickr.com/photos/tjbax/21800984/
An Emblem of Pakistani Culture

- Reading cultural manifestations
  - People (behaviours, values)
  - Places (configurations, uses, expectations, meanings)
  - Things (use value, status value, ...)
- Different things in different places
- Different behaviours, different places
- Different values in different places
What is Culture?

- Is it actually (just) culture that we are interested in for new markets?
- Or is it what is different in those countries that influences the success of new products and services?
  - Culture and society?
    - Globalisation and glocalisation
  - Political factors?
  - Economic factors?
    - especially developing countries
    - IT4D should not be separate from Culture and UX, major overlap between these
Three PhDs

- Much of this presentation is based on research by three of my PhD students at the University of Sunderland.
- I wish they could all have been here to present their work.
  - Fuad Qirem (Jordan)
  - Leonard Mengo (Kenya)
  - Mohamed El Zayat (Egypt)
Fuad Qirem

- Cultural Factors in Users’ Evaluations of User Interfaces And Interactions: Exploration and Representation of Usage in Jordanian Contexts
  - Supervisors: Gilbert Cockton, Mohamed Loutfi, Ghaleb El-Rafae (Examination Oct 2009)

- Diamond Model of Culture
  - Alternative to Onions, Icebergs and Pyramids
  - By-product, not main aim

- An exclusive focus on Cultural Markers will overlook values about usage that may have more influence
  - Main contribution of Fuad’s research
Leonard Mengo

- The Impact of Culturally Sensitive Design on the Acceptability and Persuasiveness of Multimedia Learning Materials for Senior Managers in a Developing Country and its Immediate Neighbours
  - Supervisors: Gilbert Cockton, Susan Jones, Alan Fell (submitting 2009)

- Positive impact of cultural markers
  - Western version **not** disadvantaged

- Wide range of potential confounds
  - Training on Situational Leadership
  - Care taken with images containing violence, gender roles, political party colours, and more
  - Bases for extending Diamond Model
Mohamed El Zayat

- A Strategy to Improve e-Learning Adoption, Implementation and Development in Higher Education in Egypt, PhD, 2009
  - Supervisors: Alan Fell, Judith Kuit, Gilbert Cockton

- Western sourced e-learning materials regarded as of superior quality by Egyptian students

- Self-reporting of technology ownership and use unreliable (status markers)

- E-learning resources incompatible with some instructor practices (economics)

- ICT infrastructure main priority

- Bases for extending Diamond Model
What Do You Think?

☐ Write down (or SMS) at least 10 examples of cultural impact of which you are aware that relate to one or more of:
  - The look and feel of user interfaces
  - Functions and capabilities
  - How users evaluate their interaction with digital products and services
  - How users evaluate the outcomes of their interactions

☐ Spend around 5 minutes on this, in small groups if you can on this little ‘experiment’
How Can We Model Culture?
Pyramid

- Hofstede
  - Individual
  - Culture
  - Nature
- Scopes
  Culture (just!)

www.flickr.com/photos/brooklyn_museum/2488800747/
Onion

- Trompenaars
  - Artefacts
  - Norms and Values
  - Adaptation to Environment

www.flickr.com/photos/ameliaps/147916268/
Iceberg

- Victor
  - Surface culture
  - Unspoken rules
  - Unconscious rules

- General pattern
  - Observable artefacts and behaviour
  - Inferrable values and norms
  - Increasingly harder to get at

www.flickr.com/photos/beothic/141414663/
England
Jordan
Both
Diamond Model

- Fuad Qirem
  - Objective (crown)
  - Subjective (pavillion)

Light Paths

- Light reflects off multiple facets, passing through different ‘segments’, emitted light reflects its path.
Five Segments (so far)

- Material Culture (mostly objective)
- Language (objective) and semiotics
- Political Processes
- Economic Processes
- Social Structure and Interaction

Above order reflects default expectations in HCI about which factors are most influential
Alternatively ...
Who Had What?

☐ Put your hand up if your list of examples of cultural impact contains an example of:

- Material Culture (places and things)
- Language and semiotics
- Political factors (esp. national policies)
- Economic factors (esp. development)
- Social Behaviour/Interaction (people)
Fuad Qirem’s Research

- Literature Survey followed by three studies
  - (Groups of) Variables for the Diamond Model
  - IT Expert Interviews
  - Repeat of Lazar and Colleagues USA Diary Study on Frustration
    - only 2 out of over 300 users angry!
    - Triangulation interviews explored why
  - User Interviews
- Each provided Jordanian instances and further variables for the Diamond Model
- *Dramatic Sketches* as an alternative representation for Jordanian instances
Fuad’s Focus

- Fuad investigated the balance of influence of his five segments and their (groups of) variables
- Diamond Model is a live resource
  - Knowledge intensive and challenging
  - Should be restructured, extended and adapted to need
  - Unfinished
  - Unfinishable
Material Culture

1.1 The Arts
1.2 Buildings, houses and monuments
1.3 Crafts and Decorative Art
   1.3.1 Colour preferences, polychromic
1.4 Foods
1.5 Literature arts and media

No instances of variable found in study
New variable (group) added after study
Language and Semiotics

2.1 Nonverbal communication
2.2 Familiarity with English spelling across cultures
2.3 Text direction
2.4 Context
2.5 Information flow
2.6 Colour
2.7 Time of day, dates and numbers
2.8 Direct translation
Political Processes

3.1 Political contexts.

3.2 English fluency and the role of colonialism.

3.3 Government Support for IT Training
   3.3.1 IT Education in Schools
   3.3.2 IT Training Centres in Communities

3.4 Trade Sanctions

3.5 Government Language Policy

3.6 Authority and policy of companies
Economic Processes

4.1 Cost of equipment

4.2 Availability of International Products and Services

4.3 Affordability of IT Access
   4.3.1 Affordability of Computers
   4.3.2 Affordability of Internet Access
   4.3.3 Affordability of Training
Social Structure and Interaction (1)

5.3 Long-term versus short-term orientation
5.4 Attitude to the environment
5.5 Individualism versus collectivism
  5.5.1 Individual responsibilities toward computers
5.6 Femininity versus masculinity
  5.6.1 Gender roles
5.7 Uncertainty avoidance
5.8 Concepts of times and space
  5.8.1 Attitude to Time
5.9 Business etiquette
5.10 Neutral or emotional
5.11 Structure and achievement versus Ascription
5.12 Power distance and Authority conception
Social Structure and Interaction (2)

5.13 Age differences
5.14 Usage experiences/IT knowledge
5.15 Attitude to Work
5.16 Religion
5.17 Access to, and Experience with, Technology
5.19 Family obligation and relationships
  5.19.1 Nepotism in the Workplace
5.20 Software and Identity
5.21 Attitudes towards Western Technology
Glocalisation

- Globalisation is not a global trend (!)
- Impact of globalisation has local variations
  - Different mixes of the global and local
  - Globalisation + Localisation
- Examples in all three Sunderland PhD studies
  - Bin Laden videos full of Western artefacts
A Dramatic Sketch

**Dramatic Sketch 3: Anas and his teacher**
Anas is a student at Jordan University, who studies computer science. Anas uses his computer at home for studying, playing, graphic design and for internet use. Anas and his friends are in the same school, studying most subjects in English and using English software. One day, one of Anas’ teachers asks students whether they prefer English software or software translated from English to Arabic.

Anas answers the question: Truly, I use some Arabic programs translated from English to Arabic and I face lots of problem, therefore I decide to use the English versions.

Teacher: Why Anas? And what are the problems that you face?
Anas: Some Arabic programs translates the word directly without anyone thinking about what it really means. Therefore it causes some changes in the meaning and sometimes causes confusion for us.
Teacher: what else Anas?

Anas: Also, when I use English software I develop my English language by reading and learning some new words. Typing and reading will be in English, therefore I will learn more and get more experience with the English language.

The teacher: That’s true but sometimes we need to use Arabic programs, especially in the government and education sectors, because most of them use Arabic software.

Anas: Yes, but on the other hand there are private companies who prefer their employees to speak and write English fluently, and also have skills in using English software.
Leonard Mengo’s Research

- Direct test of cultural markers
  - Drawing on material culture (including media)
  - Impact on appeal and persuasiveness

- East African and Western versions of management training multimedia
  - Differed only in cultural markers
  - Colour, images, wise words, music, voice over accent
  - DM: 1.1-1.3, 1.5, 2.6, 3.5, 5.4, 5.6.1
East African and Western Versions

- Profiled participants (3.3)
- High production values (4.3.2)
Some of Leonard’s Results

- Pre-test post-test comparisons
  - East African version more persuasive despite negative bias in group
  - Too many profiling variables to balance
- Western version still very much appreciated and persuasive
- Better recall by cultural markers for East African version users
  - One political issue about colour (DM3.1)
- Issues about voice-over accent
  - DM: 2.1 & 3.2
Mohamed El-Zayat

- E-learning strategy for Egypt grounded in field studies
  - Cultural factors and questionnaire design
- Not designed to directly investigate culture and user experience
  - National institutional policy proposal
- Interesting similarities with Fuad Qirem’s research, but these were independent PhD projects
  - I joined as Mohamed’s co-supervisor in 2007-08
    - E-learning research
  - Fuad began his PhD in 2004
E-learning Development Factors
Diamond Model Extensions?

- Technological diffusion/maturity
  - Sixth segment or economic/political
- Influence of Western production values
  - 5.27 Attitudes to western media artefacts?
- Physical environment/geography as 6th/7th segment?
  - Distances for distance learning in Egypt and Kenya?
  - Concentration in Amman in Jordan
Summary of the Three PhDs

- Narrow model of culture can exclude other key factors
  - Especially in developing countries
  - Political and economic situations are crucial

- Culture shapes how users evaluate their usage experiences, not just how they evaluate interactive media

- Cultural markers are influential
  - Mood effects? Identity?
Cultural Differences and UX

- Culture ≠ Nation but national factors should not be underestimated
- Starting point is the ‘territory’
  - Then consider how sociocultural, socioeconomic and political factors interact with technology ownership and usage
- Good to start with strong background
  - Literature Studies (Qirem, El-Zayat)
- Essential to follow through with field studies
  - New factors emerge
  - Very complex, unpredictable interactions
- Communicating findings
  - Distracting models or lively sketches?
Practical Implications

- Desk research is vital preparation
  - Remote evaluation may have to compensate where this is impossible
  - Not just evaluation, also investigation
- Need to be able to interpret and discuss remote evaluation data
  - Understanding how user experiences are interpreted
  - Explaining these interpretations
- Need to understand how culture and user experience interact
  - User Experience Frames can highlight this diagrammatically
User Experience Frames (UEFs)

- HCI 2009, Microsoft Case Study
- More in my Kansei 2009 keynote (Warsaw)
- UEFs simplified Worth Mapping
Van Hire Example

- Web site UX based on commercial usability work by Alan Woolrych
- How do van hire web sites succeed and fail?
### An Example UEF (Part 1)

<table>
<thead>
<tr>
<th>User Feelings</th>
<th>User Beliefs</th>
<th>User Actions</th>
<th>System Reactions</th>
<th>Actions in the World</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worth a try</td>
<td>Enter URL, Go</td>
<td>Display home page</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feelings</td>
<td>Beliefs</td>
<td>Actions</td>
<td>Reactions</td>
<td>World</td>
</tr>
<tr>
<td>----------</td>
<td>--------------------------</td>
<td>------------------------------------</td>
<td>-----------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Can find prices</td>
<td>Not good place to start</td>
<td>Sally persuades Harry</td>
<td>Display depots map</td>
<td></td>
</tr>
<tr>
<td>Nearest depot is on ring road</td>
<td>Enter post code</td>
<td>See the nearest depot</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
UX Frames

- Add heart/soul, bodies and buddies to use cases, task descriptions etc.
- Interplay of feelings, thoughts, usage actions, system reactions, social interactions and acts in the world
- Supports reflection on when and why culture matters during interaction
  - Culture drives feelings
  - Culture may shape thoughts
    - e.g., pre-test doubts about efficacy of cultural markers in multi-ethnic Kenya
Implications for Remote E-valu-ation

- Track the interplay of cognition and affect
  - How separate are they?
- Understand how different cultures may interpret interaction differently
  - Not just about appearance and language
  - But cultural markers remain important
- Understand glocalisation
  - Positive responses to Western cultural markers are likely
  - Need for high design quality
- Understand your own culture
  - Track role of values, feelings and beliefs in UEFs
  - Expose (g)local assumptions underpinning good UX (Choi et al. CHI 2005)
Conclusions

- Culture is complex
  - Countries can be even more complex
  - Develop models of your own culture
    - Extend Diamond Model/Add instances
    - Practice with UEFs

- Glocalisation valorises both local and western cultural markers
  - Hard to predict the mix in advance

- Need to be well prepared for effective remote evaluations
  - Background readings, Diamond Model
  - Representation and understanding of UXs (UEFs)
Questions?
Kiitos!
Challenges in Cross-Cultural Design
Understanding Users and the Context in Tanzania
Introductions
post-graduate student in the Department of Computer Science and Statistics, University of Joensuu

lecturer (human-computer interaction and user-centred design)

usability engineer (in Finland)

interest in cross-cultural design since 2002
six months in Iringa, Tanzania (2008)

two roles

1) visiting teacher at the University of Tumaini, Iringa University College
2) researcher doing fieldwork about mobile phones and Tanzanian students for the dissertation

supported by Emil Aaltonen Foundation
Tanzania

- a developing country in East Africa
- 41 million people
- Kiswahili, English, Arabic, local languages
- Christian, Muslim, local religions
- most people live in rural areas
Iringa

- a town in Southern Tanzania
  - 500 km from Dar es Salaam
- about 100000 people
- several colleges
  - Tumaini University, Iringa
  - University College
Tumaini University, IUCo

- a private Christian university
- students come from all parts of Tanzania, many religions and different backgrounds
- about 3000 students, 100 teachers
- BSc in IT - programme started in 2007
Background of Research
Mobile Phones in Tanzania

Source: Tanzania Communication Regulatory Authority
Mobile phones are often seen as a possibility for poor people to increase their income.

villagers in Iringa Region: mobile phones as a financial burden (Mpogole et al., 2008)

Still, more and more Tanzanians want to have one and keep using it – why?
A recent vision document suggests that user-centred design should start with a new stage, that of **understanding** (Harper et al., 2008).

Focus is on understanding the values of the stakeholders and choosing the ones for which we want to design.
Understanding in Cross-Cultural Design

- Values are in the centre of the culture, but may be hard to see and understand.
- Designer is unfamiliar with the local context.
- Designer needs to consider what kind of techniques would work best with the local users.
Research Questions

- How do Tanzanian students see the positive and negative effects of mobile phones on their life?
- How does the local context affect the patterns of use?
- What kind of things should be considered when choosing the techniques to be used in Tanzania?
Method

- an ethnographic study combining several techniques
  - observation
  - diary study
  - storyboards
  - questionnaire
  - interviews
Things to Live With
- bad traffic conditions
- bad traffic conditions
- electricity and water on/off
- bad traffic conditions
- electricity and water on/off
- faulty equipment
- bad traffic conditions
- electricity and water on/off
- faulty equipment
- problems with mobile phone networks
Infrastructure

- bad traffic conditions
- electricity and water on/off
- faulty equipment
- problems with mobile phone networks
- slow Internet connections
Infrastructure

- bad traffic conditions
- electricity and water on/off
- faulty equipment
- problems with mobile phone networks
- slow Internet connections
- unreliable post office
- no address system
Health

- illness and death
- lack of healthcare facilities
- both designer and anyone around!
Public Services

- bureaucracy
  - time-consuming
  - contacts or outsourcing recommended

- corruption
  - Tanzanian police, court system and immigration office are amongst the six most corrupted public institutions in East Africa (Source: East African Bribery Index 2009)

- theft
  - streets, houses, workplaces
examples
- If you don’t say it, it does not exist.
- Lengthy introductions required.
- Very formal / informal communication in unexpected situations.
- Let’s check the spelling...
- Who says it matters more than what is said.
Gender and Power

- roles of males and females
  - how the local people react to the researcher
  - problems of getting participants involved
  - what kind of issues can be discussed

- power relations
  - it is difficult for a Tanzanian to disagree with someone who is older or in a higher position
Kiswahili is the common language of Tanzanians though not necessarily the first language they learn.

English is the language of teaching in secondary schools and universities but in reality the language skills vary a lot.

Outside the schools and offices English does not exist an interpreter is required.

Interest in Kiswahili is appreciated.
Techniques
Observation

- direct observation
  - difficult to hide!
  - lack of Kiswahili skills

- local media
  - television, newspapers, websites
  - helps to understand the local issues
Tanzanians students in general are not familiar with the concept of a diary. The basic idea and purpose of a diary were often not understood. No quantitative data, but interesting stories.

13/10/08
“Unfortunately the whole day my phone couldn’t have a charge and there was not electricity in that day because our house use voucher.”

15/10/08
“I get one call from my brother, it was 5 minutes conversation, being informed that there is some problems in home. This information makes me not feeling well for at least whole night.”
Diary Study

- Provided insights into the mobile phone use in Tanzania and help for planning the rest of the study.
- One of the techniques that did not take much time and could be done at the beginning of research process.
- Some types of use were not reported.
Storyboards

- IT students worked in small groups
- task: come up with an idea for a new mobile phone service that would be useful in Tanzania
- Idea was presented as a storyboard to the rest of the students
- Presentations raised a lot of comments and discussion.
Storyboards

1. People exchange some ideas at cafeterias.

2. Phone alert users that there's email/voice.

3. System displays email/voice, and users read/pay attention.

4. Users change their minds/behaviour.
- a long process
- review with a local person
- missing answers
  - a survey would be better
- Provided interesting results about the frequencies of some phenomena, although on its’ own results would be hard to interpret
examples of results

- About 50% of the students beep at least once a day and over 70% report that they get beeped at least once a day.
- Many students own several SIM-cards; the average number of SIM-cards was 1.72 per student.
- 92% of the students use at least once a day an operator service that allows them to check their balance for free.
Interviews

- how to find the participants
  - financial benefit vs. pressure from superiors
- a lot of time required for arrangements
- individual / group interviews
- language skills
- suspicions
  - recording
  - permission
“I know I like giving example of myself, my friend, my girlfriend knows only I have Tigo line, and I have never told her that I have two chips. So one day she beeped me through Voda, then I decided to change, no, she sent a message, she sent a message “please, call me”, okay then I change, I call, we talk a lot, then later she say whose number I used, no way, put everything clear, have to hide, hey God, please forgive the sin of having to hide, to maintain our relations, “oh sorry, this is not my number, this is my friend’s number, I just borrowed so that I can talk to you to minimize the costs because if I call you using Tigo line and you beep me through Voda, it is costiful to me.”
Things Learned
Summary

- Reserve enough time for the research – prepare for surprises.
- Learn about the local communication style.
- Ensure that you understand the wider context.
- Think how the relationship between the designer and the users will affect the use of techniques.
- Check whether it is really possible to communicate well with users without an interpreter.
- Use more than one technique.
- Plan carefully what are the best ways of contacting users and encouraging participation.
Thank you!

Email: kamppuri@cs.joensuu.fi
References


Facilitating Cultural Sensitivity in User Research Methods

Jung-Joo Lee
University of Art and Design Helsinki
Cross-cultural UX Design Seminar | TUT | 18.09.09
Design Research in School of Design, TAIK

- Strategic role of design in companies
- Values of designed products
- Culturally sensitive design
- UX & Interaction design
- Housing & design for all
- Design methodology & design knowing

Activities

Design Connections Summer School and Winter School take place yearly to share students’ ongoing research and to produce knowledge on different themes. In addition to this biannual school, seminars and workshops with various topics are held. In 2007 a literature seminar took place every month and a workshop titled ‘Design Connections: Knowledge, Value and Research and Industrial Design’ was organized.
Bio, briefly

Cross-cultural project: UX Modeling of Multi-Media Use in Korea, China, India and the Netherlands with Samsung Electronics Co. 2006

User Interface Analysis on Mobile Phones for Chinese Market with LG Electronics Co. 2005

Cross-Cultural User Study on Dish-washer Use in Korea & Italy With politecnico di milano 2008

Series of Studies on Relationship Between Cultural Characteristics & User Research Methods

User-Centered Design Seminar, June 2008

Intersections of Culture and Design, Oct 2008

Lectures: User-Inspired Design, Design Research for MA students at TAIK

Reviewer for cultural papers at DPPI, Interact, IASDR

Industrial Design closer strand to HCI

Usability / UX design

User Research planning

Cross-cultural design

Design Research in UX Design

UCD methods (co-design)

Cultural Interaction Design
Today’s Talk

Cross-cultural design
- Historical overview of CCD & criticism in UCD methods

Why?
- Theoretical reviews

How different?
- Cross-cultural experiments

How to consider...
- facilitating cultural sensitivity in the design process
What kind of works have been done?

**Language & Symbols**  
(de Souza 2008; Marcus & Gould 2000)  
Translating language, Avoiding Taboo, Re-designing Icons...

**Aesthetic Preference**  
(Abulkhair & North 2005)  
Adjusting Colors & Forms...

**Cultural Needs on Functionality**  
(Konkka 2003)  
Mecca indicator phone, Pen-based UI...

**Cognitive process**  
(dong & Lee 2008; Kim et al. 2007)  
Menu categorization, menu navigation structure...

Mecca-Indicator Phone, LG, 2004

Samsung W559, 2007
Criticism in Methods as New Markets Emerge

“Different Culture, Different Method?”

Developed in North America and Europe
For East Asians, construct validity of the scale is better with a choice of 7 responses or without a neutral response.
Some Evidences

Usability Test

Mean number of problems indicated

<table>
<thead>
<tr>
<th></th>
<th>Westerners</th>
<th>Easterners</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Think-aloud test</td>
<td>7.2</td>
<td>9.5</td>
<td>n.s</td>
</tr>
<tr>
<td>Plus-minus test</td>
<td>4.8</td>
<td>1.8</td>
<td>P &lt; .01</td>
</tr>
</tbody>
</table>

The think-aloud test is less affected by cultural differences than the plus-minus method.

M. Hall et al., Cultural Differences and Usability Evaluation: Individualistic and Collectivistic Participants Compared, Technical Communication, 2004
Some Evidences

Video Observation

Home Observation in Japan?

(Cross-cultural project on eating behaviors 2004)

Pictures in public spaces?

(new designers’ workshop in Nagoya 2006)

Self-Documenting

“Since Indian people are less committed to given tasks and time, face-to-face interview is more effective than user diary.”

(Cross-cultural project on multi-media use 2006)
Why?
Theoretical Review on Cultural Differences

Culture Anthropology
- Edward T. Hall: The Silent Language
- Edward T. Hall: Human Factors

International Business
- Culture's Consequences
- Cultures and Organizations: Software of the Mind

Cognitive Psychology
- Riding the Waves of Culture
- The Geography of Thought

Understanding Intercultural Cooperation and Its Importance for Survival
- Revised and Expanded 2nd Edition
Theoretical Review on Cultural Differences

- Culture Anthropology
- Individualism vs Collectivism
- Low-Context vs High-context
- Femininity vs Masculinity
- Low vs High Power Distance
- Weak vs Strong Uncertainty Avoidance
- Monochrome vs Polychrome Perception of Time
- Universalism vs Particularism
- Field Independent vs Field Dependent
- Analytic vs Synthetic
- Functional vs Thematic
Culture & Interpersonal Communication Styles

Face-Negotiation Theory

<table>
<thead>
<tr>
<th>High Context Culture</th>
<th>Low Context Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self-Face Concern</strong></td>
<td><strong>Other-Face Concern</strong></td>
</tr>
<tr>
<td>Face-Assertion</td>
<td>Face-Saving</td>
</tr>
<tr>
<td>Face-Restoration</td>
<td>Face-Giving</td>
</tr>
</tbody>
</table>

# Culture & Interpersonal Communication Styles

## Face-Negotiation Theory

<table>
<thead>
<tr>
<th></th>
<th>Individualism / Low-Context</th>
<th>Collectivism / High-Context</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Western</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Eastern</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Identity</strong></td>
<td>I</td>
<td>We</td>
</tr>
<tr>
<td><strong>Concern</strong></td>
<td>Self-face</td>
<td>Other-face</td>
</tr>
<tr>
<td><strong>Mode</strong></td>
<td>Direct</td>
<td>Indirect</td>
</tr>
<tr>
<td><strong>Style</strong></td>
<td>Controlling, Confrontational Solution-oriented</td>
<td>Obliging, Avoiding, Affective-oriented</td>
</tr>
<tr>
<td><strong>Speech acts</strong></td>
<td>Direct</td>
<td>Indirect</td>
</tr>
<tr>
<td><strong>Nonverbal acts</strong></td>
<td>Individualistic, Direct Emotional Expressions</td>
<td>Contextualistic (role-oriented), Indirect Emotional Expressions</td>
</tr>
</tbody>
</table>
Relationship with User Research Methods

Relationship with User Research Methods

- What people (experiences)
  - SAY
    - say
    - think
  - DO
    - do
    - use
  - MAKE
    - know
    - feel
    - dream

- Techniques
  - SAY
    - interviews
  - DO
    - observations
  - MAKE
    - generative sessions

- Knowledge
  - explicit
  - observable
  - tacit
  - latent

(Sanders & Dandavate 1999)
Relationship with User Research Methods

Sharing Personal Stories & Feelings?

Interaction with Researchers?

Tendency of Problem Criticism?

“I don’t like this. This is a problem.”

“What if my answer is wrong...What if researchers don’t like my responses...”

“It’s because I am not good at using this Product.”

Product Evaluation, Usability Test
Focus Group Interview

Relationship with User Research Methods

Interaction with other members?

Discussion Attitudes?

Group Dynamics & Power Distance

“But I don’t think so…”

“He is my senior. I wouldn’t disagree with him.

“Argumentation makes a situation better.”

“Better to reach to a conclusion that everybody agrees...”

Focus Group Interview
How Different in User Research Methods?
Cross-Cultural Experiments

6 univ. students in Netherlands (Individualistic/Low context)

6 univ. students in Korea (Collectivistic/High context)

Topic: Portable Media Convergence Device

Usability test

Focus Group interview

Comparative Analysis
Cross-Cultural Experiments

Usability test

U10, Iriver

PSP, SONY

Images of people using electronic devices.
Cross-Cultural Experiments

Usability test + Protocol analysis

Critics
- (m=45.8 sd=8.8)
- (m=77.7 sd=17.5)

Problems
- (m=29.3 sd=6.1)
- (m=21.5 sd=5.0)

Strengths
- (m=19.8 sd=5.4)
- (m=9.0 sd=5.1)

Self-criticism
- (m=1.2 sd=1.3)
- (m=7.3 sd=6.7)

Non-user role
- (m=14.3 sd=6.9)
- (m=5.3 sd=3.6)

Netherlands

Korea

m= mean
sd= standard deviation
Cross-Cultural Experiments

Usability test + Protocol analysis

Critics
Problems
Strengths
Self-criticism
Non-user role

(m=9.0 sd=9.3)
(m=1.2 sd=1.3)
(m=7.3 sd=6.9)
(m=5.3 sd=3.6)

Uh, I think I’m doing this awful....

Should I press this button now? Is it on now? Am I in the right position now?

Can I add something to your questions?
When I was 6, I had a Gameboy.
Uh, I think I’m doing this awful....
Cross-Cultural Experiments

Focus group interview
Cross-Cultural Experiments

Timeline Representation

Focus group interview + Protocol analysis

[Graph showing timeline representation with different symbols for actions such as providing a topic, calling on a person, asking for volunteers, detail questioning, and participants' speaking.]

- [Legend for timeline representation:]
  - Black: providing a topic
  - Blue: calling on a person
  - Green: asking for volunteers
  - Gray: detail questioning
  - Yellow: participants' speaking
  - Dashed arrow: asking a question
  - Solid circle: approval
  - Solid arrow: disapproval

- [Break points indicated on the timeline for F, D1, D2, D3, D4, D5, K1, K2, K3, K4, K5.]
Cross-Cultural Experiments

Representation by each member

Focus group interview + Protocol analysis

Diagram showing interactions among group members, categorized by nationality (Dutch and Korean) and interaction type (disapproval, approval, question).
How to Facilitate Cultural Sensitivity...
What did we learn?

Focus group interview

“Narratives” from Dutch Participants vs “Short answers” from Korean participants

Poor member-to-member verbal interactions & Big Facilitator’s Role in Instigating in a Korean group

More active participation after the break in a Korean group

Cultural Sensitivity to Tools & the Process
Designing Tools

1 Sensitizing & Relationship Building

Sensitizing them with the process & topic before the session,
Help them to be prepared
Designing Tools

2. Facilitating a shared ground & indirectness

- Tangible & playful tool enabling to express emotions & presence in focus groups
- Shared ground by having the same representations
- Emotional attachment to the situation
- Indirect & humorous way for appealing opinions

“Mini-me dolls”
Designing Tools

3 Staging an imaginary situation to be free from *facework*

- Exaggerated scenario, Different roles as show hosts & customers weaken structural facework.
- Playful atmosphere
Applying Tools

In the product development process, this focus group can be applied
1) Debriefing & Interpreting Field Data
2) Idea Generation for Future Concept Design
3) Evaluation of Existing Products / Prototypes
Some Tips for Focus Groups in East Asia

1. Designing tools enables researchers & designers to have sensitivity to users before an actual session.

2. Tangible artifacts & visual images can invite users to talk with & facilitate a playful atmosphere.

3. Role-playing may facilitate group dynamics by weakening structural facework & supporting indirectness.

4. Ice breaking & sensitizing is especially important for East Asians.

5. Place tasks of evaluation and critique in the latter part of the session.
If we broaden a perspective... not only with users, but also with different stakeholders.
Cultural Sensitivity in Current UCD Methods


- A good collaborative framework for working with data from ethnography.
- Empowering users
- Closer interaction between designers & users
Cultural Sensitivity in Current UCD Methods

For example, Design Probes

Not a method kit from the shelf,
Designing methods already requires sensitivity to
& understanding of people that we design for.
Such an iterative process,
But ideation already happens when we design methods.

Domestic Probes
for illiterate people in Brazil
(Judice & Judice 2007)
Cultural Sensitivity in Current UCD Methods

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Cultural Sensitivity in Current UCD Methods

For example, Make Tools

- Velcro blocks of make tools
  (Active@work project, picture from *Design Probes*, Mattelmaki 2007)

- make tools for aging worker

- make tools for kids (2008)
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