



CHI2018 – MONTREAL, CA

# Research Methods for Child Computer Interaction

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<http://www.idc-sig.org/researchcourse>

# OBJECTIVES<sup>2</sup>

- At the end of this course you will be able to:
  1. Plan an effective and safe research study with children
  2. Understand how research methods have to be adapted when used with children and know how to apply several commonly used methods in CCI
  3. Consider several key variables / attitudes that are known to matter in research in CCI
  4. Appreciate how the writing up of research needs to be treated with special care when researching with children

# KEY CONTENT<sup>3</sup>

Why do research with children in HCI?

How does research differ when done with children:

- a) Ethics and consent and information;
- b) Doing user studies;
- c) Ethnographic studies

What do we measure?

Writing up research in CCI



# THIS COURSE

- We will run the course in three stages:
  - Stage 1 – Introduction
    - In this stage we will open up the space with brief examples from our own and others work –to motivate learning😊, we will present basic assumptions in CCI (age-groups, motivations, and contexts).
  - Stage 2 – Research in CCI
    - We will discuss the differences between HCI and CCI research methods
    - The uniqueness of ethics and consent information
    - User studies with children
    - Ethnographic studies with families (and children)
    - Critical factors and variables in CCI
  - Stage 3 – Summary and Discussion
    - We will summarise the principles discussed, and encourage the audience to ask questions/examples regarding their own work in this area, and the reasons they came to this course



# STAGE 1 – INTRODUCTION



# INTRODUCTION

- Janet's Research Mistakes
  - Too many variables
    - Studying children handwriting
  - Not the right participants
    - Children doing password research
  - No real research question
    - Children doing design studies

# INTRODUCTION





- **YOUR Research Mistakes**
  - **ACTIVITY** - In a small group discover one research mistake that each has made. Don't worry if you haven't done any research with children – think about a mistake made with adults...
  - **ACTIVITY** – Write these mistakes on the post it notes and place them in ROOM 101.

# INTRODUCTION

- **DISCUSSION**
  - Why did we make these mistakes?
  - What was the cost of these mistakes?
    - To us
    - To the children
    - To the community
  - Which are the worst mistakes?



# STAGE 2 – KEY THINGS

	Best		Worst
Liked the most			
Most fun			

# KEY THINGS

- Planning Research – see APPENDIX A
  - Plan early
    - What are you wanting to discover?
    - What research methods could you use?
    - What will you use?
  - Involve teachers / parents / colleagues
    - Talk over your plans
    - Show your materials
  - Plan for error
    - Have a back up plan

# KEY THINGS

- **YOUR Research Planning (1)**
  - ACTIVITY – In pairs /threes, refer to the user study research activity (APP B) that you have been given – complete the Research Planning Sheet (see Appendix A) for your activity
  - ACTIVITY – Highlight ONE aspect that is especially challenging given that these are children not adults – put this on a post it and give to the SV.

# KEY THINGS

- User Studies
  - A user study refers to an 'experiment where there is a variable being considered and where there are measurements made.
  - In user studies the key thing is to CONTROL as much as possible – so things need to be done in the same way, order needs to be accounted for, differences need to be minimised and / or measured and accounted for

# KEY THINGS

- **MARGE'S Paper**
  - ACTIVITY – In pairs /threes, skim the CHI EA describing Marge's study (APP C). Find the mistakes / flaws
  - ACTIVITY – Make a list of corrections and for each correction write WHAT Marge should have done and WHY

# KEY THINGS

- **DISCUSSION**
  - Why did Marge make these mistakes?
  - What was the cost of these mistakes?
    - To us
    - To the children
    - To the community
  - Which have we learned about planning and user studies?

# KEY THINGS

- Ethnographic Research
  - Whilst user studies work well in some research, often we need to study children in real situations, like their homes, their schools or their play areas.
  - Studying children in this way often requires an 'ethnographic approach' where we have to 'fit in' as observers with children

# KEY THINGS

- **YOUR Research Planning (2)**
  - ACTIVITY – In pairs /threes, refer to the ethnographic research activity (APP D) that you have been given – complete the Research Planning Sheet (see Appendix A) for your activity
  - ACTIVITY – Highlight ONE aspect that is especially challenging given that these are children not adults – give to SV



# KEY THINGS

- DESIGN RESEARCH
  - User studies and ethnographic studies are mainly concerned with discovering as is – many in CCI do design research with children to explore ideas
  - Design research needs careful planning around WHAT is SAID, and WHAT is TAKEN

END OF SESSION 1

# SESSION 2

The image shows a piece of paper with five rows of handwritten notes. Each row starts with a yellow emoji and is followed by text and a small drawing. The notes are as follows:

- 1. Happy face emoji, "sing" above "If you happy, clap your hands." with a drawing of hands clapping.
- 2. Angry face emoji, "and absolutely-busy" above "Lordi" with a drawing of a person.
- 3. Happy face emoji, "easy" above "Write the push song" with a drawing of a person pushing.
- 4. Thinking face emoji, "african music" with a drawing of a person.
- 5. Sad face emoji, "sad" above "Chorus roccobus" with a drawing of a person.

# TOOLS

- **RECAP**
  - What did we all learn from session 1
    - About planning
    - About user studies
    - About ethnographic study and note taking
    - About setting up design research

# TOOLS

- Interpreting what Children say / write in surveying
  - When children respond to questions they can be very literal and they can often give answers that the researcher 'wants' to hear.
  - When children express opinions they can be very favourable

# TOOLS

- **YOUR Analysis**
  - ACTIVITY – In pairs /threes, look at the children's data (APP E) you have been given and draw up some results
  - ACTIVITY – Swap your results with another group and compare – feedback verbally



# TOOLS

- **DISCUSSION**
  - What did that exercise teach us about
    - Question design
    - Answer design
    - Data

# TOOLS

- Asking Children - The Fun Toolkit

	Best		Worst
Liked the most			
Most fun			

	Yes	Maybe	No
		✓	
	✓		
			✓



Awful



Not very good



Good



Really good



Brilliant



# TOOLS

- PETT
  - Base lining Children
    - Technology use –PETT – See Notes
    - Knowledge
    - Character
    - IQ?
    - Temperament

# TOOLS

- **YOUR Data**
  - ACTIVITY – Consider the PETT suite – consider what you would ask if you were doing the point and click study we referred to earlier
  - ACTIVITY – Consider how you would ask about photo sharing.....

# TOOLS

- Obstructed Theatre / Bluebells
  - Determine what you want to find out
  - Break into look and feel, functionality, etc.
  - Create prompts / video / tools
  - Make it appropriate for the children

# TOOLS

- **YOUR Turn**
  - **ACTIVITY** – Consider how you would set up children to design for a communication device that could be used by children in hospital to express their emotions
  -

# METHODS

- Writing up research
  - When working with children, given their variability, it is imperative to be clear in the write up
    - Who participated
    - What did they do
    - What were they told
    - What did they know

# METHODS

- **YOUR Write up**
  - **ACTIVITY** – In pairs /threes, refer again to Marge's paper and mark up what EXTRA things should now be included.

# METHODS

- After Research – Feeding back
  - Children should be given the results of research that has been done. They should be given this in a format that is suitable for them.
  - As the paper is written up, so should a 'paper' be written up for the children

# METHODS

- **YOUR Paper for the Children**
  - **ACTIVITY** – In pairs /threes, refer again to Marge's paper and decide how you will describe this research to children.



# METHODS

- Ethics – Before Research
  - Children should be clear about what they are doing
  - Ethics is not just about doing the IRB / Ethics board it's about being ethical
  - CHECK toolkits

# METHODS

- **Ethics**
  - Consider how the ethics toolkit should be used in your own work
  - What can be added...

# STAGE 3 – WRAP UP

# WRAP UP

- Your Commitment
  - To do the best research possible that is safe and sound.
  - To gather the right data
  - To fully inform children about research findings
- Our Commitment
  - To provide a supportive space for 90 days

- Questions
- [www.idc-sig.org/researchcourse](http://www.idc-sig.org/researchcourse)