Pictorial Personas: A Way to Look at Longitudinal Qualitative Data

Center for the Advancement of Engineering Education

Authors

Holly Matusovich
Virginia Tech
Ruth Streveler
Purdue University
Overview

• Research Context
• Challenges with Methods
• Pictorial Personas
  – Development and Use
• Limitations
Research Context

• Engineering Education
  – Persistence (women) important issue
  – How do students’ beliefs about being engineers shape their choices to pursue engineering degrees?

• Eccles’ Expectancy-Value Framework

• Existing multi-method, multi-institutional database
Framework-Simplified View

Identity

Competence Beliefs  Value Choices

Goals/Actions
Research Questions

**Identity**
What are students’ self-perceptions of being engineers in the future? How do they change with time?

**Competence Beliefs**
What are they? How do they change with time?

**Value Choices**
What are they? How do they change with time?

**Goals/Actions**
Pursue an Engineering Degree
The APS Research Study

Data Collected
(Each School, Each Year)

- 40 Surveys
- 40 Design Tasks
- 16 Semi-Structured Interviews
- 24 Structured Interviews

Year 1
Year 2
Year 3
Year 4
This Research Study

Data Collected
(Each School, Each Year)

- **Year 1**
  - 40 Surveys
  - 40 Design Tasks
  - 16 Semi-Structured Interviews
  - 24 Structured Interviews

- **Year 2**
- **Year 3**
- **Year 4**

Ethnographic and Qualitative Research  Annual Conference June 5-6, 2009
Participants and Data

• TPUB
• 5 men and 5 women
• Engineering undergraduates
• 40 semi-structured interviews
• 22 informal conversations
• Triangulated with surveys and transcripts
Challenge #1- Existing Data

• Researchers did not interact with participants
• No member-checking
Challenge #2 - Longitudinal Data

Values

Identity

Competence Beliefs

Relationships Change with Time

Participant

10 Participants
Pictorial Personas

• Creation

• Use
  - Mitigate bias
  - Hypothesis testing
Participant 18

I Want to Be / Do:

In this section, bulleted and color-coded by year, are the participant's descriptions of what he or she wants to be and/or do in the future. This includes career and lifestyle (e.g., 'have a dog & kids') depictions of the future.

Motto: Summarizing catch phrase for participant
Jobs: List by year
Gender, Minor(s), Sports, Clubs, Ethnicity

Future Plans per last interview
# Value Patterns

## Values by Year

<table>
<thead>
<tr>
<th>Attainment (consistent with sense of self)</th>
<th>Cost (time and effort)</th>
<th>Interest (enjoyment)</th>
<th>Utility (perceived future usefulness)</th>
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High (H) = many instances/high quality, Moderate (M) = multiple instances/moderate quality, Low (L) = few or no instances/low quality
Limitations

• Research Study
  – Single context
  – Use only available data

• Pictorial Persona Method
  – Context not represented
  – Limited by space and access
Acknowledgement

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