Student perceptions of stakeholders during capstone design

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How can design projects be formulated to guide students along this human-centered design path?

Objective: Inform design pedagogy to promote use of human-centered design tools

Challenges:
- Time requirements
- Qualitative analysis experience
- Students struggle to implement techniques

Research Questions
1) How do student perceptions of stakeholders differ before and after their capstone design experience?
2) How do factors related to students’ design projects and their interaction with stakeholders during the design experience influence changes in their perceptions?

Stakeholder Interaction Methods:
- Interviews
- Focus groups
- Observations
- Surveys
- Quantitative data (e.g., sales data)
- Codes / standards
- Focus group brainstorming
- Consensus-building workshops
- Design ethnography

Interaction with stakeholders throughout the design process in order to inform decision making

Data Analysis

Survey Responses

Development of interaction levels

Three levels of interaction were defined

Iteration until changes stop being made

Level of interaction

Limited

Moderate

Extensive

Type 1: Students’ interactions with stakeholders did not meet their pre-course expectations.
- Their perception of the appropriate level of stakeholder interaction during design remained unchanged.

Type 2: Students’ interactions with stakeholders met or exceeded their expectations.
- Their perception of the appropriate level of stakeholder interaction during design tended to increase (3 of 4).

Acknowledgements

References

Pre-course survey:
- “I think stakeholders should play a very large role when it comes to product design. They are the ones who have the idea in mind of what the product should look like so it is important that they play a large role.”
- During course:
  - “A lot of it was easy because [our sponsor] had a very clear idea of what exactly he wanted. She was pretty solid on her input of requirements.”
  - “There was some stuff that the lab kind of thought of late…they didn’t really tell us about it until way into the designing process.”
- Post-course survey:
  - “It is important that all parties are on the same page when prototyping begins so that there are no unnecessary design changes that could waste time and money.”

Pre-course survey:
- “Stakeholders should provide the requirements and some specifications of what they want in their design. They should be able to have input on design selection but should not have a say in between iterations of potential designs.”
- During course:
  - During the course, the team interacted frequently with their end-user and sponsor in order to guide their project. Their end-users included several graduate student researchers with conflicting needs. The team used interaction to overcome these challenges.
- Post-course survey:
  - “They should be able to have input on design selection but should not have a say in between iterations of potential designs and should instead be able to refine their expectations throughout the design process.”