A Case Study of the Design Practices and Judgments of Novice Instructional Designers in Public Health Majors

Meina Zhu, Indiana University
Merve Basdogan, Indiana University
Curtis J. Bonk, Indiana University

CASE STUDY

School of Education, IST

INDIANA UNIVERSITY BLOOMINGTON

Background

Background

- **Increasing need for the professional instructional designer** (Richey, Fields, & Foxon, 2001) urges educators to prepare competent ID professionals in instructional methods through solving real-world problem (Dijkstra, 2005; Jonassen & Hernandez-Serrano, 2002).

- Novice instructional designers (ID) are more likely **missing integrating and connecting the different issues** as compared to experts who can catch the underlying principles and connections (Ertmer & Stepich, 2005).

INDIANA UNIVERSITY BLOOMINGTON

Background

- Rowland (1992) indicated that experts spend more time on problem analysis. **Novices, attempt to solve the problem quickly based on the surface difference.** Therefore, they commit to a solution quickly and give up the solution as facing challenges.

- In addition, educators often provide **prescriptive guidance** to novice instructional designers through instructional design theories (Reigeluth & Carr-Chellman, 1999; Reigeluth, Beatty, & Myers, 2016), principles (Merrill, 2002; Silber, 2007), and models (Branch, 2010).

INDIANA UNIVERSITY BLOOMINGTON

Background

- However, most instructional design theories emphasize that there is **no absolute correct design theory or model for designers**, and they **must make judgments by themselves** in design (Nelson & Stolterman, 2012; Smith & Boling, 2009).

- These judgments are used in their entire design process (Gray et al., 2015; Nelson & Stolterman, 2012).

INDIANA UNIVERSITY BLOOMINGTON

Background

- Considering the ill-structured characteristics of design task, designers have to make initial designs based on incomplete and uncertain information and review and modify their decisions when new information is available (Greeno, Korpi, Jackson, & Michalchik, 1990). In other words, designers are expected to solve design problems that are **complex, non-linear and lack of standard solutions** (Verstegen et al., 2008).

- However, **scant attention is paid to design judgment in practice** (Boling & Gray, 2014), especially, how novice instructional designers use judgment.

INDIANA UNIVERSITY BLOOMINGTON

Background

As understanding of design judgment can improve designers' design ability **(Nelson & Stolterman, 2012),** it is important to understand the way that the novice IDs frame and solve design problems, the knowledge that they use, the design strategies that they adopt, the way they manage resources and constraints, and how they monitor and evaluate the design process as a whole.

INDIANA UNIVERSITY BLOOMINGTON

Background

Nelson and Stolterman (2012) identified 12 instructional design judgments:

1. framing judgment
2. core judgment
3. default judgment
4. deliberated off hand judgment
5. appreciative judgment
6. quality judgment
7. appearance judgment
8. connective judgment
9. compositional judgment
10. instrumental judgment
11. navigational judgment
12. mediative judgment

INDIANA UNIVERSITY BLOOMINGTON

Research Purpose and Questions

Research Purpose

• **To address the gap, the current study examines novice IDs' design practice, judgment, and challenges when they design training in Public Health field for an authentic community.**

• **The purpose is to understand the design judgment used by novice instructional designers in order to provide a better educational support to the new instructional designers.**

INDIANA UNIVERSITY BLOOMINGTON

Research Questions

1. How do novice instructional designers frame their design problem?
2. How do novice instructional designers design learning activities and assessment methods?
3. What are the challenges that novice instructional designers encounter when they design and develop the training?
4. How was novice instructional designers judgment manifested in the design process?

INDIANA UNIVERSITY BLOOMINGTON

Research Design

RESEARCH DESIGN

Research Context

- **A 3-credit multimedia design course**
- **Undergraduate students**
- **Public Health School in a Midwestern university in the United States**
- **37 students in the Spring, 2018**
- **The two sections were taught by two separate associate instructors**

INDIANA UNIVERSITY BLOOMINGTON

Research Context

- **Students must design a one-hour training program on issues in the Public Health field**
- **11 groups**
- **Students regularly record the process into a shared Google document**
- **Course instructors provide weekly consultation**
- **Students implement their training with an authentic audience.**

INDIANA UNIVERSITY BLOOMINGTON

Research Method

A **qualitative case study design** was followed in order to empirically analyze persons, events, decisions, and projects within a real-live context (Thomas, 2011; Yin, 1994).

INDIANA UNIVERSITY BLOOMINGTON

Data Collection

Semi-structured interviews (6)

Document analyses (11 training plans)

INDIANA UNIVERSITY BLOOMINGTON

Data Analysis

- **Transcribe interviews verbatim**
- **Two researchers co-analyzed the interviews and training plans using content analysis to make valid and replicable inferences from verbal, visual, or written data (Downe-Wambolt, 1992).**

INDIANA UNIVERSITY BLOOMINGTON

Results

RQ1: Frame Design Problem

- **Personal experiences**
- **The common issues**
- **Academic readings**
- **Desire to raise awareness**

RQ1: Frame Design Problem

The common issues, concerns with the impact of the problem on the public at large. For example:

"We selected time management as our group topic because it is relevant to everyone. As Community Health majors, we strongly believe that attaining well balanced time management skills is one of the most important keys to a healthy lifestyle."

RQ2: Design Learning Activities and Assessment Methods

The **learning activities** in the MOOC include presentation with Prezi, PowerPoint, video, demo, hands on activities, group discussion, peer feedback, game, teach back, and ice breaker.

For example, one interviewee mentioned they used PowerPoint to present: "so we had a PowerPoint to show them. In the power point we just gave them more information on what meditation is like."

RQ2: Design Learning Activities and Assessment Methods

Interviewee also mentioned they used hands on activity to let students practice.

"At the end of our PowerPoint we had a video, like a five minute meditation video, and something like meditating. We cut the lights off. And we meditated. So we got to have a meditation instead of just telling them, like this is what you do. We actually gave them example. We practiced it together."

RQ3: Design Challenges

The challenges that novice instructional designers encountered in three phases:

(1)design phase

(2)evaluation phase

(3)implementation phase

RQ3: Design Challenges

The challenges in design phase includes learner analysis, finding high quality resources. For example one interviewee said:

"The learner analysis, this was something… I feel like it was something that kind of a little bit challenging for us, cause I've never done anything like that. For my idea, our target audience was college students here in Bloomington. The question asked the prior knowledge and attitude… It was a little bit challenging, because we have to do a little bit of research. Because it depends on like what country you are. Some countries have different religious backgrounds or ideas towards sexual health. It had to like be very specific in talking about where our audience would be."

RQ3: Design Challenges

The challenge in evaluation phase mainly focuses on distinguishing getting feedback from different stakeholders such as subject experts and target audience. One student mentioned:

"We had the evaluation of the target audience to evaluate the outcomes. So we understood that. Before that we had an evaluation process from subject matter expert. Those two together kind of like threw us off. We weren't sure like what we were supposed to write, even though there were questions there."

INDIANA UNIVERSITY BLOOMINGTON

RQ3: Design Challenges

The challenges in implementing phase including technical issues during presentation and time management. One of the interviewee mentioned:

"We have some technical difficulties. Like during the poll it wasn't unlocked. So they were not able to respond. But then she had to unlock it. And then we also had difficulties with the PowerPoint. Like the Internet crashed. And we tried to get it back."

INDIANA UNIVERSITY BLOOMINGTON

RQ4: Design Judgement

A variety of novice ID's design judgment was manifested in the design process such as **framing judgment, instrumental judgment, appearance judgment, navigational judgment, and core judgment.**

INDIANA UNIVERSITY BLOOMINGTON

RQ4: Design Judgement

Framing judgment:

"The topic we decided to choose is 'How to cope with stress and anxiety by using meditation.' We decided to select this topic because it is a healthy way to consider in stress management. When people hear the word meditation, they generally think it is something connected to spirituality, but it is actually a way to collect your thoughts."

INDIANA UNIVERSITY BLOOMINGTON

RQ4: Design Judgement

Instrumental Judgement

"There are no students on the McNutt residence hall floor that would require any accommodations. The room however, is inclusive and provides easy access for anyone who may needed if needed."

INDIANA UNIVERSITY BLOOMINGTON

RQ4: Design Judgement

Appearance Judgement

"We used alignment within our PowerPoint to ensure it is clean, organized and easy to read. We used space within the brochure of our program to help the important designs of it stand out better."

INDIANA UNIVERSITY BLOOMINGTON

RQ4: Design Judgement

Navigational Judgement

"Tables and chairs can also be moved around in order to have enough space to practice meditation."

RQ4: Design Judgement

Core Judgement:

"By using a Prezi rather than a regular presentation we will be allowed to use audio tools and video tools within the information being presented to create a more creative overall presentation that is still organized to help capture the learners attention more and keep them interested in the topic." (Instruction should be interesting and engaging)

Discussion, Significance, and Conclusion

Discussion

- Novice instructional designers more likely **capture the surface features of the design problem**, which is aligned with the study of Ertmer and Stepich (2005).
- Students provide **generic rationales** for their design.
- Challenges in design, evaluation, and implementation
- Novice instructional designers **utilized design judgment** in their design process.

Limitations and Future Directions

Limitations

- **Limited number of interviewees**
- **Interviewees are only from Community Health major**

Future Directions

- **Compare differences of design practice and judgment used between novice instructional designers and expert designers**

- **Participants from different subject backgrounds**

- **Design based research on instructions for transforming Novice ID to expert ID**

INDIANA UNIVERSITY BLOOMINGTON

Any Questions?

Meina Zhu, IU, meinzhu@iu.edu
Merve Basdogan, IU, basdogan@iu.edu
Curtis J. Bonk, IU, cjbonk@indiana.edu

INDIANA UNIVERSITY BLOOMINGTON
FULFILLING *the* PROMISE