What's the Gap?

Exploring Professionals' Beliefs on KSAAs needed On-the-Job & Coverage in ID Programs

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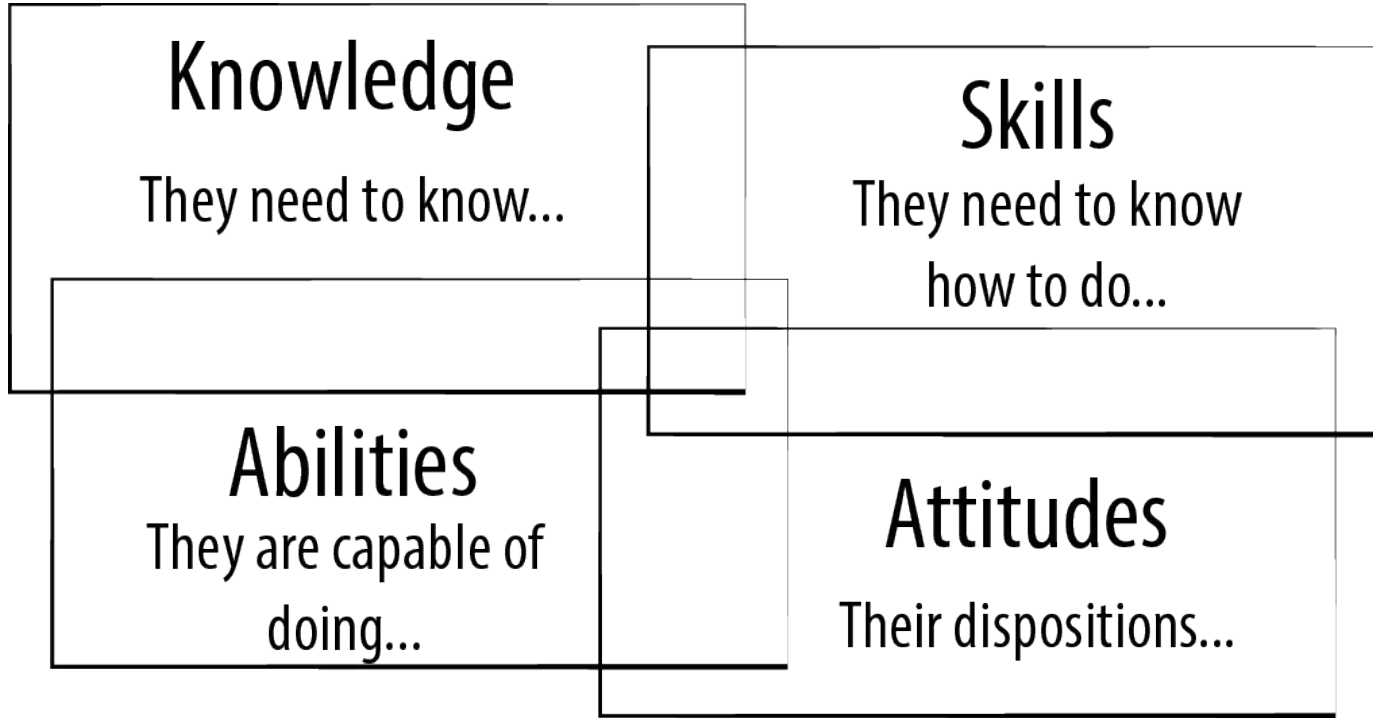
Presentation Overview

- Review of related literature
- Methodology
- Results:
  - Competencies required on the job
  - Professionals' perceptions of their own educational experience and recommendations for improving ID education
- Discussion
  - Trends
  - Implications
  - Areas for future research

Literature Overview

Roles and Expectations for ID Professionals

- **Alignment of responsibilities with ADDIE, IBSTPI**
- **Additional functions** traditionally required:
  - Pedagogical consultant, Evaluator, Project Manager, Researcher, Marketing/Sales, Media Design, Training, Team-building, Collaboration, Proofing/Editing (Corbeil & Corbeil, 2013; Kenny et al., 2005; Ritzhaupt & Martin, 2014; Ritzhaupt, Martin, & Daniels, 2010)
- **Employer Requirements Today:**
  - Soft skills (communication/collaboration), technical skills (i.e., multimedia production, e-Learning applications/web authoring), LMS admin, web/print design, & programming (Kang & Ritzhaupt, 2015; Sugar, 2014; Sugar, Hoard, Brown & Daniels, 2012; Ritzhaupt et al., 2010)
  - Corporate cross-disciplinary skills: analytic, business competencies including systems thinking and change management, cost/benefit analysis, and knowledge of global business trends (Larson & Lockee, 2009)

Competencies include...

Knowledge

They need to know...

Skills

They need to know how to do...

Abilities

They are capable of doing...

Attitudes

Their dispositions...

Roles and Expectations Gap

- KSAA's included in curriculum vs required in the workplace (Tracey & Boling, 2014; Leigh & Tracey, 2010; Schwier & Wilson, 2010)
- More research needed into what ID professionals *do:* roles, tasks, activities needed (Sugar, 2014; Tracey & Boling, 2014)

Research Questions

1. What knowledge, skills, abilities, and attitudes do professional instructional designers consider important to their current jobs?
2. What topics are perceived to be underemphasized by instructional designers' formal educational experiences?
3. What recommendations do participants have for improving instructional design education?

Methodology

Participants

- Recruitment through purposeful snowball sampling
- Nine professionals in corporate (n=4), nonprofit (n=1), governmental (n=1), and higher ed (n=3) environments
- Experience varied from 1 to 15 years, with median - under 3 years
- Six participants have Master's and three - PhD
- All included consider themselves instructional designers (those who described themselves as educational technologists or other related areas were excluded for this phase)

Data Sources & Analysis

- 60-90 minute semi-structured interviews
- Used competency model (Knowledge, Skills, Abilities, and Attitudes) as high level framework
- Thematic analysis within NVivo based on Constant Comparative for Naturalistic Inquiry (Lincoln & Guba, 1984)
  - Two coders coding structure and higher level themes for 3 divergent interviews
  - One served as primary coder for remaining interviews
  - Next round: verification with 2nd coder of select interviews & calculation of interrater reliability (revisiting code structure and coding if necessary)

Limitations

- Snowball began with personal contacts of team members ⇒ overrepresentation of Purdue graduates and Purdue staff
- Relatively small number of participants - but approaching saturation*

Additional interviews to be analyzed - currently awaiting transcription.

Results

KSAAs Required On-the-Job

Knowledge (What)

- Foundational ID Knowledge:
  - ID theories and models
  - Assessment/evaluation
- Foundational principles of educational psychology/how people learn (e.g. cognitition, motivation)

“
*It's really helpful, **understanding of how people learn, specifically online.***

Knowledge (What)

- Adult learning principles

  > *"You have to have a **high level of understanding of the principles of adult learning**... **even if you're teaching the traditional students,** the principles of adult learning still apply.*

- Additionally, the following were mentioned, but depended on roles played:
  - HPT/non-learning principles
  - CBE
  - Online learning

Skills (How) & Abilities (Capable)

ID Design Skills

Assessment

Design

Development

Implementation

Evaluation

+ Instrument
  - development
  - adaptation
+ Visual design for learning

" *Being able to **architect the class**, so you can see the way to **design it and sense that that's going to be a good experience for the learner***

Skills (How) & Abilities (Capable)

Interpersonal

Active listening

Communication

Negotiations & Compromise

Working with Others

" *You really to have that skill of* **careful listening and then asking questions** *to clarify what's being said and* **make sure you really understand what the client is needing.**

Skills (How) & Abilities (Capable)

Technology

LMS

Authoring tools

Multimedia Dev

Office technology

+ Web design & markup languages
+ PM software

"*When you take an instructional designer and you sprinkle it with technology, you have to have a passion [for adapting technology]... that relates to [my job]...by me being able to **look at a [new] tool or technology** and be[ing] able to **look at what a good design looks like**, or what is a well-structured classroom or teaching style or whatever.*

Attitudes (Disposition) Towards…

Self

Metacognition

Seeking feedback

Self-improvement

Lifelong learning

"*There are certain **habits of mind** that makes you effective as a person: critical thinking skills, being creative. **Self-monitoring and self-guidance** [of] **those kinds of skills** make a big difference.*

*Also the notion of **being willing to acquire and integrate new knowledge.** I find that as an instructional designer, I'm always learning…. and then I have to integrate that in a way that makes it possible for me to develop training or learning for others.*

Attitudes (Disposition) Towards…

Traits

Positive

Patient

Resilient

Self-starting

" *I think one thing is that I always try to* **have a very positive attitude**…. *We do a lot of work, we have a lot of projects.* **Sometimes it can be very overwhelming… It's nonstop.** *As soon as you finish a project, there's another one, so there's a constant workload… you can't allow yourself to get overwhelmed with work.*

Attitudes (Disposition) Towards…

Others / Environment

Empathy & Respect

Flexibility

+ Openness to Multiple solutions/ opinions/cultures

"*When you come into a new organization, some people want to express how much they already know. **I always come in now thinking I don't know anything and I need to learn… always listening and trying to learn the culture,** trying to understand… what we're trying to teach, the audience, **where they're coming from and what level we're trying to get them to achieve.***

Attitudes (Disposition) Towards...

Technology

Acceptance/Openness

Not the only solution

"...Somebody who is **excited about technology and how that relates to teaching and learning**, and who **understands the big picture as to why.**

Why use technology? Maybe sometimes a pencil is the best...choice, so they need to **understand purposeful use of technology and not just because it's technology and it's cool.**

Improving Formal Education for ID

Missing: Aspects of Technology

- Software used in industry

" I would have appreciated if I was prompted or told at the beginning of the program that these are **the e-learning tools or instruments or software that is most likely to be used in the profession** and **the sooner you start learning it the better.**

- Web-design/Markup language

"I know some of that. HTML5, umm CSS I know, too. **But, again more formalized instruction in that would... have been good to have.**

Missing: Graphic Design

- Basic graphic design (esp. for e-learning)

"

*I do think we probably need a **basic graphic design course**. I know we're not an art school, but I do think we need that.*

Missing: Mentorship

- Mentorship

*"To have some sort of **mentorship program** for people that have been in the program for a few months.*

Missing: Other

- How to work with clients and SME

" *[**Dealing with SMEs**] **probably should be included somehow in a class**. I don't know how you can work in... **how to deal with different problems that can come up** with SMEs, [but] I think that's important.*

- Internship/Apprenticeship

" *Maybe an **internship that exposes people to either the type of industry [higher ed and corporate - auth]** that I think could apply these skills. [When] you get out... I have to tell you, it [is] definitely not a perfect world.*

To Sum Up

Trends

- The field of instructional design is broad and growing:
  - Diverse expectations. E.g., some companies prefer training their ID to specifics of work, while others expect new employees be able to do their job right away
  - Such expectations impact the KSAAs and expectations from formal education

Trends

- Yet, we can see the trends
  - Participants are well familiar with traditional ID tasks and knowledge/skills required and continually work on improving them
  - Technology (from design to implementation/hosting), multimedia development, graphic/visual design for learning were often brought up both as a daily work and as a gap in their formal education
  - Project management was often discussed, but only one person brought it up as a need in formal education. Others tended to pick it up at work or on their own.
  - Lifelong learning/self-improvement via informal and non-formal avenues was mentioned more than once by all the participants.

What Does It Mean for Formal Education?

- Include ill-structured authentic problems/projects to prepare students for diverse working environments

- Include projects that require students to walk through stages before and after the design (e.g., working with clients, diverse teams, etc.)

- Embed technology and topics related to visual design into courses - possibly as part of project-based learning and/or electives

- Support the development of lifelong learning skills and attitudes

Areas for Future Research

- Survey-based study to determine whether trends we have identified hold true across a larger, more representative sample.
- Expansion the study to include Educational Technologists in k12 and HE. What similarities and differences are there? How may that inform programs that prepare students for both areas, with highly overlapping programs of study?
- Exploration of formal titles and roles played by individuals who identify as ID or Ed Tech professionals. Do these roles match with definitions provided in literature?
- Comparison with findings from related studies on beliefs and experiences of professionals in other design disciplines.

Questions, Comments, Potential Collaboration?

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