
Bridging the gap: Preparing instructional designers for the realities of the workplace

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Abstract

This study explores the gap between the educational preparation of instructional design (ID) students and the competency demands of the contemporary business and industry sector workplace. The overarching purpose of this study was to provide instructional design faculty with an inventory of contextually grounded ID competencies from experienced instructional designers. The introduction of such competencies are to ensure greater alignment between the learning objectives targeted within the curriculum of instructional design programs and the knowledge, skills, attitudes, and intentions that are expected to be practiced in the workplace.

Ten instructional designers, with an average of 11 years working in the business and industry sectors, were invited to participate in this study to: (1) identify what knowledge, skills, and attitudes are critical for success as an instructional designer in the contemporary business workplace, and (2) what strategies instructional design practitioners would use to prepare students for the realities of the ID workplace. Asking participants to take the perspective of an Instructional Design instructor proved to be particularly useful in obtaining participant ideas about how to better prepare instructional designers for the realities of the business and industry workplace.

In respect to the competencies identified as most critical for success as a business and industry instructional designer, participants discussed in greatest frequency and detail the need for instructional designers to adroitly navigate the tricky terrain of SME Relations and Client Relations. These interrelated competencies were also the areas where participants were most emphatic about the gap between the realities of their practice and the academic environment. In response to this gap, participants talked about the importance of involving alumni and other graduates in co-teaching classes, serving as mentors, and supervising internship programs. Participants also recommended using a variety of simulations and role-plays in the educational preparation of instructional designers to prepare them for the unpredictable realities of the job.

Introduction

Higher education graduates are entering the workforce without sufficient skills needed for career success (Atkins, 1999; Peddle, 2000; Wendlandt & Rochlen, 2008). Work supervisors often claim there is a disparity between the types of skills taught at university and those that are demanded by industry (Andrews & Wooten, 2005; Askov & Gordon, 1999; Atkins, 1999; Evers, Rush, & Berdrow, 1998; Morley, 2001; Robinson, 2000; Shivpuri & Kim, 2004). Carnevale, Gainer, and Villet (1990) assert that, "employers depend on educators to provide job-ready and training-ready entry-level employees" (p. 236). Atkins (1999) concludes, "there is currently a skills gap between what employers need and what universities are produc-

ing” (p. 271).

The field of instructional design (ID) is certainly no exception to this issue of a gap existing between educational preparation and the competency demands of the workplace. Venables and Tan (2009) assert that ID programs do not adequately prepare students for proficiency in a workforce where they are required to possess strong communication skills and business aptitude. Larson (2005) and Larson and Lockee (2009) conducted studies to survey the alignment of instructional design preparation and practice and found that ID education programs that contextualize or tailor the preparation of their students for career tracks are perceived to be more successful than those programs that do not. There is certainly compelling evidence to support the notion that instructional design educators and practitioners should work together closely to ensure that the preparation of future instructional designers is consistent with the realities of current practices in the field.

The recognition of a gap, as well as recommended solutions to bridging the gap between higher education preparation and workplace needs, is certainly not new. In the 1980s, researchers such as Fuhrmann and Grasha (1983) concluded that colleges could better meet the needs of their graduates by adjusting how and what they teach in order to help students succeed in their jobs. According to Hofstrand (1996), one reason that higher education institutions do an inadequate job of addressing the employability skills of their students is due to the fact that they do not understand what skills are lacking and have not placed a high priority on trying to understand what they are. However, if higher education institutions do not fully understand the employability skills needed by their students, I, like Taylor (1998), believe that those in the workplace do.

Research Purpose

The purpose of my research is to provide instructional design faculty contextually-detailed descriptions of critical ID skills and competencies from expert practitioners to be used in informing and shaping instruction and assessment practices to better prepare ID students for the realities of the workplace. I have found a common weakness of so-called *competency-based* curricula development in that the competencies used as a base of development are described in a bullet-point level of general detail that is insufficient to guide curriculum design.

In the instructional design world, the International Board of Standards for Training, Performance and Instruction (IBSTPI) has developed a set of competency standards that are widely used throughout the industry. IBSTPI has produced a total of 23 instructional design competencies, all of which are described in short sentences. Here are some examples of the description level of these competencies: Under the professional foundations category, there appears the ubiquitous “communicate effectively in visual, oral, and written form” (IBSTPI, 2001). “Conduct a needs analysis” (IBSTPI, 2001) is found in the planning and analysis category, and finally, under the implementation and management category is listed the overly broad “apply business skills to managing instructional design” (IBSTPI, 2001). It seems unlikely that faculty members can use this very general level of description to shape sufficiently detailed instructional design curricula. Faculty members know very well that their students will need to “conduct a needs analysis” when they enter the ID workforce. What faculty members need to know is what the needs analysis process looks like in the work setting. This picture of what a needs analysis looks like includes things like specific examples, time and budget parameters, details on collaborations, and the criteria used to judge success and failure.

Methodology

A qualitative research approach was used to capture a holistic picture (Creswell & Brown, 1992) of instructional design workplace competencies. Specifically, an interview method called the Critical Incident Technique (Flanagan, 1954) was used, as it had the potential to enable instructional designers to provide rich descriptions of the critical instructional design competencies they feel contribute to their success and/or failures as instructional designers. The Critical Incident Technique (CIT) asks research participants to recall and describe positive or negative incidents that embody the performance of their work. Tapping into strongly associated memories enables participants to give particularly detailed descriptions of not only specific work tasks but also the context of the work.

The research questions guiding this study are:

1. What knowledge, skills, and attitudes are critical for success as an instructional designer in the contemporary business and industry workplace according to the research participants?
2. What strategies and approaches would the research participants use to prepare instructional design students for the realities of the business and industry workplace?

Data Collection and Instrumentation

Ten instructional designers with an average of 11 years working in the business and industry sector were invited to participate in this study. I focused on individuals who possess a minimum of five years' experience working as instructional designers in the business and industry career environment. My rationale for this choice is primarily driven by the fact that for the past twenty years, a large portion of "instructional design practice has occurred within the private sector, primarily in business and industrial settings" (Richey & Morrison, 2002, p. 198). Although data varies about the actual percentage of ID professionals working in business and industry, Florida State University estimates that 80 to 90% of their Masters graduates go on to work in business and industry (Larson & Lockee, 2009).

I asked participants to be prepared for a one-hour long interview. The actual average interview time was 51 minutes, with the longest being 67 minutes, and the shortest being 39 minutes. I did not exercise the option to conduct follow up interviews, as I was satisfied with the first round of interviews and due to time constraints and schedule conflicts could not arrange subsequent interviews. Although I had hoped to conduct all interviews at the participant's place of work, the majority of the participants in this study requested that the interview be held in a location outside of their workplace and only two participants were interviewed at work. While it is certainly tempting to conjecture that the quality of the interviews suffered as a result of interviewing participants away from their workplace, I did not find any compelling evidence to suggest that the two interviews conducted at the participant's workplace differed from the interviews done off site.

Despite my best efforts to prepare participants to recall and discuss *critical* incidents from their instructional design practice, most seemed to struggle to identify and communicate incidents deemed *critical*. A few participants actually appeared to become nervous during the interview due to their inability to describe a critical incident from their years of work experiences. I sensed they felt they had somehow failed by not being able to describe a moment of epiphany. As a result, I modified the interview protocol by first deemphasizing the need to describe critical incidents or epiphanies and used less loaded language like "important" or "memorable." Attempts to ratchet down the expectations of providing *critical* incidents was not entirely successful, and I found it increasingly necessary to swing away from the critical incident line of question-

ing in order to avoid participants feeling disappointed in their inability to describe critical moments of practice. After several interviews, I found that participants seemed to respond well to answering questions about how *they* would prepare instructional design students. As a result, I increased the emphasis on participants putting on the IDD faculty “hat” as a way of looking at their practice and how they would leverage their years of experience to most effectively prepare ID students.

Data Analysis

The data generated in this study was analyzed in the following steps outlined by Creswell (2009): (1) Organize and prepare the data for analysis; (2) Get a general sense of the data through an initial reading; (3) Begin detailed analysis with a coding process; (4) Use the coding process to generate a description of the setting or people as well as categories or themes for analysis; (5) Advance how the description and themes will be represented in the qualitative narrative, and (6) Make an interpretation or meaning of the data.

Limitations

It was the usual suspects that topped the list of limitations of this study – money and time. I would have very much liked to have conducted a large-scale study and dispatched an army of researchers out into the field to observe and interview a random distribution of instructional designers across the globe. Although the hallmark of a high-quality qualitative study is not a large number of participants, I do wish I could have had more time and resources available to me to at least do a more thorough screening process among a larger pool of potential participants.

One major limitation of this study is the difficulty interview participants seemed to face in effectively communicating their expertise as instructional designers. Being good at a job and being able to communicate what makes someone good at a job are two distinctly different skills. Indeed, experts in some fields such as surgery have so much tacit knowledge inherent in their expertise that they are unable to articulate exactly what and why they do certain things in practice. Symon and Cassell (1998) point out that employees being interviewed are immersed in their work situations and are trying to make sense of their reality. Their accounts at best are partial; but partial or not, biased or not, such accounts constitute their reality.

Results and Discussion

The focus of this research was twofold: to identify (1) what knowledge, skills, and attitudes are critical for success as an instructional designer in the contemporary business workplace, and (2) what strategies instructional design practitioners would use to prepare students for the realities of the ID workplace. Through multiple stages of the data analysis process, four categories were created to correspond to Research Question #1 and three categories corresponding to Research Question #2. Based on the frequency and level of description in the interviews, the following categories were used to represent participants’ perception of the knowledge, skills and attitudes required for success for business & industry sector instructional designers: (1) Subject Matter Expert Relations; (2) Client Relations; (3) Project Management, and (4) Needs Analysis.

Participants emphasized the importance of instructional designers developing a rapport with Subject Matter Experts (SMEs) and exercising understanding and empathy, as SMEs engagement in the process is often an added responsibility on top of their regular work duties. Instructional designers need to be proactive in learning as much they can on the instructional topic to both supplement and balance the content and expertise provided by SMEs. IDs can ensure the validity and accuracy of content through supplemental

learning, as well as predict problems that learners may face when exposed to the topic of learning solution. SMEs are often too close to their subjects and take for granted vocabulary and other knowledge required to successfully approach a new subject. While participants were generally supportive of the idea of the instructional designer becoming the de facto SME, some warned of disconnects that could result from an ID not fully understanding the content they were attempting to become instant experts in. Participants also urged instructional designers to understand that SMEs, like learners, have a variety of learning styles and it's important to determine the best ways of engaging SMEs. Lastly, participants warned that SMEs can become defensive, as they perceive that their value lies in what they know, and that IDs are trying to take away their knowledge, and in the process, make the SME less valuable to their organization.

The category Client Relations, probably more than any other category, highlighted the reality that instructional design is a business and that the client ultimately sets the terms of projects. Participants recommend that IDs involve clients in the instructional design process early and that stakeholder' responsibilities be established and managed as much as possible throughout the engagement. In the client communication process, effective designers can help clients come to realize what they really *need*, versus what they think they *want*. Participants shared that it is quite common for clients to think they want XYZ, when what they really need is ABC. Key to this communication process is listening carefully to clients and gently nudging them toward solutions that more appropriately fit their needs. Instructional designers also need to be thoughtful about how they manage client's expectations of quality and how the final product is going to look upon completion. Clients care about what things look like and often make quick decisions based on appearance and cannot be counted on to imagine what the final product will look like.

Although project management was a prominent theme in interviews, participants seemed to struggle in describing its parameters in deep detail. One possible explanation for this is that project management involves a complex set of skills that overlap to such an extent that it is difficult to isolate and describe what it looks like. However, despite their inability to describe it in detail, participants were clear about the increasing importance of project management for instructional designers at all points in their career. Some specific aspects of project management discussed by participants were the budgeting and management of human and physical resources and the importance of good communication between the PM and instructional design team.

Of the five instructional design phases of ADDIE (Analysis, Design, Development, Implementation, and Evaluation), participants talked almost exclusively about the importance of conducting a needs analysis, but they were also quick to point out that the analysis phase is often skipped due to a lack of time or resources. However, despite such constraints, a thorough analysis can be critical in helping instructional designers identify what learning solution is really needed vs. wanted, as well as help eliminate costly mistakes. Inexperienced instructional designers were warned not to become too enamored with tools and pay attention to the critical analysis step, and as much as possible, to "walk in the shoes" of their learners to really understand their needs.

In response to Research Question #2, the following three categories were used to represent how participants would prepare students for the realities for work as business and industry sector instructional designers: (1) Design Reality; (2) Design Specialty, and (3) Instructional Approaches.

The category Design Reality is something of an artificial construct created to capture participants' experiences and advice about the real-world practice of instructional design in the business and industry sector. Top among the realities participants discussed was the need for instructional designers to accept compromise in the types of work they can actually produce for clients, given the resources and time allocated to projects. Students emerging from an academic environment might be accustomed to having ample time to use a wide variety of tools and approaches in their design work. In the real world, however, the bottom line dictates the kinds of resources that can be allocated to a project. Above all though, participants reminded

inexperienced IDs to keep a simple criterion in mind when considering the success of their work: are their learners actually learning? Successful learning solutions are those that engage learners and can demonstrate or measure the growth of their learning.

In discussions of how participants would approach preparing instructional designers in the specialist field of an academic setting, an interesting focus on choosing one's design specialty emerged. Some participants argued that effective instructional designers are generalists and academic programs should endeavor to create generalist designers, while others argued for the need for specialization. Both camps on this issue did advocate the importance of students reflecting on their strengths and weaknesses throughout their time in an academic program. To assist students in their career trajectory, it was recommended that programs institute check-in points for them to think through which design field and specialty would be the best fit for their interests.

The participants in this study seemed to respond well to thinking through how they would prepare instructional design students from the perspective of being an IDD instructor or program head. A common approach that many participants recommended was involving alumni to play a role in teaching courses, serving as mentors, and supervising interns. Participants provided an interesting solution to the gap between school projects and real-world design, by throwing changes into student's project work, much like is done on reality TV programs. Simulations and role-plays of client and SME communication situations were also advocated to give students a feel for the realities of the job. Participants also suggested that students in a performance assessment situation build a learning module based on provided information, demonstrate their ability to follow ADDIE, and to actually deliver curriculum that they design.

Recommendations

Based on the results of this study, I provide the following list of recommendations to ID faculty, fully aware that these will need to be filtered through the realities of the program resources and location at this time:

- Cultivate a culture of active alumni participation in planning instructional and assessment approaches, playing a role in teaching courses, mentoring students, and supervising internship programs.
- Use participants' idea of interjecting reality-show-like changes in project work to better simulate the unpredictable nature of real world instructional design practice.
- Provide regular opportunities for reflection students can use in contemplating the role of design field and specialty in their career trajectory.

Other Issues

My research has highlighted several other important issues that must be faced by all departments offering graduate programs related to instructional design and development. First and foremost among these is the recent bifurcation of the field known as Instructional or Educational Technology into those who continue to emphasize the importance of instructional systems design (ISD) as the fundamental foundation of the field and those who view the emerging "learning sciences" as the new foundation of the field. The unique characteristics of these closely related fields can be difficult to identify clearly, and the boundaries can become fuzzy and create a great deal of tension and debate. In an attempt to simplify the debate, I would characterize ISD as primarily concerned with the design of materials for learning and as Hoadley (2004) has stated, "with the best ways to create systems that yield learning" (p. 8). The learning sciences are more akin to the cognitive sciences and concerned with the scientific understanding of learning as seen through the lens of technology (Kirby, Hoadley, & Carr-Chellman, 2005). ISD faculty should try to come to terms

with how they situate their programs in the tense area between ISD and learning sciences and be careful to protect students from getting awkwardly stuck between conflicting ideologies. Continuing debate about these perspectives is inevitable and even desirable. Faculty members should help students understand the issues that are raised in this debate, but they should not force students to take a position one way or the other.

Another issue is the continuing debate between those who advocate direct instruction guided by cognitive learning theory and those who promote alternative learning models such as inquiry-based learning, discovery learning, problem-based learning and so forth guided by constructivist learning theory. This debate was highlighted in a book titled *Constructivist Instruction: Success or Failure* edited by Tobias and Duffy (2009). Instructional designers are often prepared for their careers in courses that emphasize constructivist approaches such as the Studio Model used at The University of Georgia (Clinton & Rieber, 2010), but those going to work in business and industry may find that direct instruction is the preferred method for training. Participants in this study were united in reporting that due to the nature of the content and resources available for their instructional products, online tutorials are the norm in presenting content to busy professionals who are required to “complete” training modules to comply with some form of company policy mandate. One participant described her job as converting poorly constructed PowerPoint presentations from SMEs to online tutorial modules and recommended that students have ample practice completing this task in their educational preparation. Although this is sound practical advice, it is also important for students to practice ways of introducing alternative instructional designs that may ultimately lead to better outcomes.

Finally, there is the issue of delivery modes for programs preparing students for careers in instructional design. More and more programs are being offered totally online today and most of the others appear to use a hybrid model with some courses still provided in a face-to-face mode, but other courses are delivered through online or blended courses. Faculty must decide what the optimal modes are for student learning as well as for program viability. As a key feature of many instructional design courses is working in groups on design projects, students should be provided instruction on strategies for effectively working in groups at a distance. Faculty members need to take extra care to avoid simply “migrating” courses online without giving serious thought about what support and scaffolding students might require in a virtual class environment. Many alumni have experience in working in virtual teams and could be particularly helpful in working with IDD instructors to think through how to offer courses online and providing support for students working in virtual teams.

Conclusion

The purpose of this study was to provide instructional design educators with contextualized descriptions of competencies that could be used in shaping an ID curriculum. The two research questions framed in these interviews captured descriptions from participants that could be used in informing ID instructional and assessment planning. Although the Critical Incident Technique did not prove to be as useful as anticipated, their strong desire to contribute something back to their IDD program provided a strong impetus to share their perspectives on what they think an instructional designer needs to be successful and how they would go about preparing students. Indeed, participants seemed to respond best from the imaginary perspective of IDD instructor considering how to prepare ID students.

I am left with the conclusion that the kind of thick and rich contextualized descriptions of competencies I was hoping to unearth in this study requires an incredibly talented researcher who possesses a rare blend of deep insights into the human psyche, a palette of interview techniques to draw upon, and that indefinable *x-factor* with people. The few glimpses I had of participants striking a rich vein of experience in their mind provides me with the motivation to continue pushing myself to sharpen my skills as an interviewer so I can provide participants with the triggers to enable them to unpack their expertise.

WORKS CITED

- Andrews, K., & Wooten, B. (2005). Closing the gap: Helping students identify the skills employers want. *Journal of Career Planning & Employment*, 65(4), 41–44.
- Askov, E., & Gordon, E. (1999). The brave new world of workforce education. *New Directions for Adult and Continuing Education*, 83, 59–68.
- Atkins, M. J. (1999). Oven-ready and self-basting: Taking stock of employability skills. *Teaching in Higher Education*, 4(2), 267–280.
- Carnevale, A. P., Gainer, L. J., & Villet, J. (1990). *Training in America: The organization and strategic role of training*. San Francisco, CA: Jossey-Bass.
- Clinton, G., & Rieber, L. (2010). The Studio experience at the University of Georgia: An example of constructionist learning for adults. *Educational Technology Research and Development*, 58(6), 755–780.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage.
- , & Brown, M. L. (1992). How chairpersons enhance faculty research: A grounded theory study. *Review of Higher Education*, 16(1), 41–62.
- Evers, F. T., Rush, J. C., & Berdrow, I. (1998). *The bases of competence: Skills for lifelong learning and employability*. San Francisco, CA: Jossey-Bass.
- Flanagan, J. C. (1954). The critical incident technique. *Psychological Bulletin*, 51(4), 327–58.
- Fuhrmann, B. S., & Grasha, A. F. (1983). *A practical handbook for college teachers*. Boston, MA: Little, Brown.
- Hoadley, C. (2004). Learning and design: Why the learning sciences and instructional systems need each other. *Educational Technology*, 44(3), 6–12.
- Hofstrand, R. K. (1996). *Know-how: Knowing how to learn on the job*. Champaign, IL: Bench Mark Publications.
- International Board of Standards for Training, Performance, and Instruction, & ERIC Clearinghouse on Information & Technology. (2001). *Instructional design competencies: The standards*. Syracuse, NY: Eric Clearinghouse on Information & Technology: International Board of Standards for Training, Performance, and Instruction.
- Kirby, J., Hoadley, C., & Carr-Chellman, A. A. (2005). Instructional systems design and the learning sciences: A citation analysis. *Educational Technology Research and Development*, 53(1), 37–48.
- Larson, M. B. (2005). Instructional design career environments: Survey of the alignment of preparation and practice. *TechTrends*, 49(6), 22–32.
- Larson, M. B., & Lockee, B. B. (2009). Preparing instructional designers for different career environments: A case study. *Educational Technology Research and Development*, 57(1), 1–24.
- Morley, L. (2001). Producing new workers: Quality, equality and employability in higher education. *Quality in Higher Education*, 7, 131–138.
- Peddle, M. T. (2000). Frustration at the factory: Employer perceptions of workforce deficiencies and training needs. *Journal of Regional Analysis and Policy*, 30, 23–42.
- Richey, R. & Morrison, G. R. (2002). Instructional design in business and industry. In R. Reiser and J. Dempsey (Ed.) *Trends and Issues in Instructional Design and Technology* (197–210). Upper Saddle River, NJ: Merrill/Prentice Hall.
- Robinson, J. P. (2000). What are employability skills? *The Workplace*, 51(3), 1–3.
- Shivpuri, S., & Kim, B. (2004). Do employers and colleges see eye-to-eye? *National Association of*

Colleges and Employer. 37–44.

- Symon, G., & Cassell, C. (1998). *Qualitative methods and analysis in organizational research: A practical guide*. London: Sage.
- Taylor, A. (1998). Employability skills: From corporate 'wish list' to government policy. *Journal of Curriculum Studies*, 30(2), 143–164.
- Tobias, S., & Duffy, T. M. (Eds.). (2009). *Constructivist instruction: success or failure?* New York: Routledge.
- Venables, A., & Tan, G. (2009). Realizing learning in the workplace in an undergraduate IT program. *Journal of Information Technology Education*, 8, 17–26.
- Wendlandt, N., & Rochlen, A. (2008). Addressing the college-to-work transition: Implications for university career counselors. *Journal of Career Development*, 35(2), 151–165.