

Instructional Designer Disciplinary-Based Formation of Self

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An instructional designer's story...

It was the first time I was assigned [as an instructional designer] to work with a faculty member in engineering. I had enough experience working with faculty, preparing their courses for online delivery, to know that trying to crawl into their heads and understand where they are coming is key to getting the course right – and gaining a respectful working relationship. As usual, I began working with this faculty member in his comfort zone: the course content and his research expertise. He had been working for almost 30 years on the ‘zero defect product’. As he explained his research to me I could see he was consumed (maybe even obsessed) with solving this problem—I find this is very typical of faculty members I work with. His days revolve around collecting and analyzing data on this topic, applying for grants, writing papers –I’d guess he even dreams about it. And then he mentioned that his obsession with producing the zero defect product slips into how he thinks about his teaching—again this is very typical of faculty I work with. He explained that when he walks into his classroom he sees another opportunity to create a zero defect product: his students. And so while the ‘way’ he was thinking (moving his research into the classroom – lots of literature on the teaching-research nexus), it was at this point, I thought: ok, yet again, I have to try to figure out the way these faculty [engineers] think. You know, it would have been really terrific if I could have had some kind of information on the differences in the disciplines in my training for this job [instructional designer], and how we should be working across the disciplines.

The purpose of this study is to gain a better understanding of teaching (teacher perspectives) and learning (student perspectives) across the disciplines in ways that can better prepare instructional designers to work with research-teachers in institutions of higher education. The proposed research will build on existing research by Campbell, et al. (2002-2006), Donald (2002), and Shulman (c.f. 1987), as well as the seminal work conducted by Amundsen (Amundsen, Gryspeerdt, & Moxness, 1993; Saroyan & Amundsen, 1995). The overarching goals are to gain further understanding about (1) instructional designers’ disciplinary-based development and (2) how instructional designers’ disciplinary development is linked to instructional design practices. The outcomes of this study contribute to the understanding of instructional designers’ disciplinary-based development.

Why study instructional designer disciplinary-based formation of self?

While the use of instructional designers with expertise in pedagogical strategies and technology is becoming widespread within the postsecondary sector, careers in instructional design (ID) are not new. Programs of preparation for instructional designers have been offered for approximately 40 years in North America—often at the master or doctoral levels. Prior to the 1980s, the primary role of the instructional designer was to design curricula for instructional books and manuals for corporate training, and/or paper-based distance education materials. However, as computer technologies advanced so too did ID services. At present, the role of the instructional designer ranges from consultation on educational television, and instructional video to development of computer-based instruction, printed media, curricular development and, more recently, eLearning. There is evidence that instructional designers have been pivotal to the growth and success of eLearning offerings in higher education (Bates, 2005). But, designers, programmers, and media developers emerging from this “scientific” field have often learned models that value objective, rational, instrumental, and empirical approaches (Garrison, 1993; Vrasidas, 2001). Critical theorists have described their products and environments as often prescriptive, restrictive, and reductionist, due in no small way to the culture they have acquired within their areas of study that include systems and cognitivist views of learning (e.g., de Castell, Bryson & Jenson, 2002).

Nevertheless, instructional designers continue to play an important role in shaping the learning experiences of students, as well as the teaching experiences of instructors in post secondary settings (Bates, 2000). Working with instructional designers for 10+ years, we have observed that effective instructional designers develop a tacit

understanding of what they need to know to design effective instruction across the disciplines (see also Botturi, 2006), and that effective instructional designers develop a sense of how knowledge is constructed in the disciplines within which they are working. How instructional designers develop disciplinary-based ways of working not well understood. Gaining an understanding of how instructional designers develop within and across disciplines would be an important contribution in the preparation process of instructional designers with respect to (1) an ability to ease their transition into the disciplines by gaining an understanding of the culture and diverse ways of knowing and (2) improving acceptance by the faculty members with whom they work. The latter point is of particular importance because it has been our experience as instructional designers in research-intensive university settings that many faculty members resist ‘outsiders’ and prefer to work with ‘one of their own’—or those who understand the culture of their discipline. The drawback to hiring ‘one of their own’ is that these are often individuals who are expert teacher-practitioners within the faculty or department, but have little, if any, knowledge of formal learning theory or effective instructional design practices.

Purpose

The purpose of this study is to investigate the development of instructional designers’ understanding of disciplinary ways of knowing across the disciplines. One’s disciplinary community largely defines one aspect of the context and disciplinary culture of academia—although subject matter is only one of several influences on an instructional designer’s development. As most instructional designers in postsecondary education typically have relevant graduate credentials, they usually possess at least one undergraduate degree, from a social sciences, humanities, science and technology, or health-science program. Discipline-specific programs to support pedagogical growth initiated in both Canada and the US recognize that disciplines differ in regard to their concepts, logical structure, truth claims, and inquiry approaches (Donald, 2002; Shulman, 1987). These shape teaching and learning in significant ways. Thus, one might expect discipline to play an important role in an instructional designer’s discipline-based understandings. In particular, not only do instructional designers need to become critically aware of their own assumptions (experience, educational background and knowledge about instructional design) in order to be effective and reflective practitioners, but this is also necessary in terms of their interaction with faculty members and their environments, who may not accept and trust them unless they find common ground and believe that designers understand their disciplinary problems and ways of knowing. Another important aspect of the context of postsecondary education is that disciplines are typically organized into departments and/or Faculties. In exploring instructional designers’ disciplinary development, it is the ID orientation versus teaching orientation within the discipline’s department (and/or Faculty) that are of interest.

Building on prior research by Campbell, et al. (2003-2006), which investigated experienced instructional designers’ perception of agency, this study extended the research to instructional designers and disciplinary-based development.

Theoretical Framework and Relevant Scholarly Literature

This study relies on two theoretical constructs.

Disciplinary-based pedagogical content knowledge (PCK)

Disciplinary knowledge structures are constellations of beliefs that incorporate values, techniques, assumptions and biases that are shared by the members of a given community (Kuhn, 1970). These shared knowledge structures within disciplines also include notions of research traditions, a common ontology and research methodologies with knowledge and values interwoven in the traditions of our educational lives and intellectual development (Gudmundsdottir, 1991). In this study, we frame these knowledge structures and traditions as negotiated realities within an historical disciplinary context that is shared in socially-mediated forms such as arguments, texts, learning activities and forms of assessment, as well as conversations and interactions among faculty, learners, instructional designers, and others engaged in the development and delivery of learning experiences.

Prior research has revealed important insights on the intersection of disciplinary pedagogical and content knowledge (c.f., Lee, 2004). For example, trained teachers (e.g., content experts with a bachelor of education or certified teachers) approach problems within their disciplines differently than trained researchers (e.g., content experts with research training, such as a PhD) due to their understanding of the pedagogical implications of learning within their disciplines (c.f., Borko & Putnam, 1996; van Driel, et al, 1998). Studies have also examined the practical connections of PCK to the disciplines (Hashweh, 1987). These studies examined the value of attempting to teach this principle (the need to connect pedagogy to content) to prospective instructors. An overview of this literature reveals changes in educators as a result of developing PCK. Noteworthy in the empirical research reviewed

by van Driel et al (1998) is that there is also value to having disciplinary experts study subject matter from a teaching and learning perspective. Likewise, research has also shown the importance of PCK in teaching (e.g., Gess-Newsome et al., 1993; Smith & Neale, 1989). Frost and Jean (2003) concluded that understanding interdisciplinary approaches will result in fuller understandings resulting in a stronger bond within the university and academia. Healy (2000) concludes further that academics tend to maintain stronger disciplinary, rather than institutional, ties because they have different values, goals, approaches towards teaching and research, and ways of communicating. Emerging research on designing effective eLearning is beginning to reveal that subject differences could be an important confounding variable (Arbaugh, 2005; Jones, Zenios, & Griffiths, 2004), though a review of the literature by Tallent-Runnels et al (2006) shows there is a void in the research on how eLearning differs across the disciplines.

In regard to disciplinary differences, early research by Becker (1989; see also Becher & Trowler, 2001; Biglan, 1973a; 1973b) identified four disciplinary dimensions, including hard/soft, pure/applied within the cognitive realm; convergent/divergent and rural/urban within the social realm of communities and networks. However, within the field of higher education in Canada, the most significant literature on this topic is the extensive research conducted by Donald (2002), which aimed to reach a deeper understanding of the thinking approaches taken in different disciplines and the application of these approaches to student intellectual development. Results of Donald's research reveal important differences in thinking, validation processes and learning activities between disciplines. Although her research is not focused on the theory and practice of instructional design, the results have implications for the field of ID. The proposed study will build on the disciplinary differences identified by Donald.

Emerging notions of instructional design practice

A substantial body of literature in ID concentrates on how instructional designers should systematically practice their craft through the application of models (e.g., Dick, Carey & Carey, 2005; Morrison, Ross, & Kemp, 2004; Shambaugh & Magliaro, 2005). In part, models of instructional design (e.g. Instructional Systems Design) have helped ground instructional designers' professional identities as practitioners. For example, when Bichelmeyer, Smith and Hennig (2004) asked instructional design practitioners what ID and technology meant to them, many answered by describing the ADDIE model, or systematic design of instruction. Perhaps less experienced designers talk about tasks and technologies rather than larger implications of their work, signaling developmental levels (Schwier, Campbell & Kenny, 2004). However, the worth of these models and processes has been called into question many times and for several reasons over the years (Gordon & Zemke, 2000; Molenda, 2003; Rowland, 1992).

Recent research examining the actual practice of instructional designers suggests that designers do refer to conventional processes when describing their work, but practice varies significantly according to context (Cox, 2003; Cox & Osguthorpe, 2003; Kenny, Zhang, Schwier & Campbell, 2005; Rowland, 1992; Visscher-Voerman & Gustafson, 2004). Other critics argue key aspects of ID have been overlooked in conventional literature. For example, Gibbons (2003) argues that we need to re-examine the assumptions and foundations of instructional design and align it more closely to other design sciences, while Wilson (2005) further suggests that craft and aesthetic issues, while important, haven't been included in our training or incorporated meaningfully into our practice. The continuing focus in our field on "models" of ID may have a detrimental impact on both what we research and what we teach and fail to contribute to the novice designer's formation of Self as a moral, ethical actor. Based on a three-year study of twenty instructional designers in Canadian universities, Campbell, Kenny and Schwier (c.f. Campbell, Schwier & Kenny, 2005; Schwier, Campbell & Kenny, 2007) have recently proposed that clients (usually faculty members) working with instructional designers in development projects engage as learners in an agentic process of professional and personal transformation that has the potential to transform the institution. That is, they argue that the ID process, in which faculty, designers, and others develop new ideas and understandings through conversation, is a powerful form of cultural or collaborative learning (Schwier, Campbell & Kenny, 2004). There seem to be multiple reciprocating or overlapping communities of practices in the process of ID—the community of designers, the community of the client's academic discipline, and the teaching-learning community within which projects are embedded.

This study focuses on one problem of practice for designers working within the disciplinary communities of specific academic departments, which is how instructional designers form, from their generic training, an understanding of these disciplinary 'shared values and beliefs' within a discipline or across disciplines in order to work more collaboratively with faculty for more effective and productive learning outcomes.

Data Collection and participants

This study is the pilot study of a three phase study, intended to develop and refine the research protocols, i.e. primary data collection and analysis methods. The data were collected using open-ended questions aimed to

encourage the participants to describe their disciplinary development, express their opinions and feelings, and share meanings they have constructed based on their education and experiences from a personal and uninhibited perspective.

Participants

Participants were purposively selected instructional designers who were working in a research-intensive university. We selected six instructional designers spanning Becker's (1989) disciplinary dimensions: sociology, second language, mathematics, history, English, and physical geography. Data were collected at the participants' institution.

Data Analysis

These informal conversations were recorded and analyzed beginning with memo writing as the data were collected. Biglan's (1973a; 1973b) seminal taxonomy of disciplinary differences were used to guide the analysis process. This initial coding helped us gain a better understanding of our participants' workplace environment realities and begin to develop a categorized version of their worlds.

Using Biglan's (1973a; 1973b) taxonomy of disciplinary differences to guide the analysis process, we generated action codes on the unstructured interview data, using Biglan's taxonomy as a framework for the data analysis. We generated action codes on the unstructured interview data, still using Biglan's taxonomy as a framework for the data analysis. This process involved comparing data among participants, as well as comparing data among categories. This process was followed by focused coding, which involved looking for conceptual analysis when selecting codes which fit with the patterns identified. Once an overall thematic analysis was developed and no new codes or comparisons were made, we considered our coding to be saturated. Peer debriefing followed the interviews, as well as the member check interviews. The peer debriefing process involved re-telling segments of the participants' stories to colleagues who work in similar research areas. This process provided an opportunity to evaluate the plausibility of our results, to solicit other informed interpretations, identify shared opinions and perspectives occurring with the participants. As such, the peer debriefing also provided an opportunity for us to reflect on emergent themes and topics. The member check interviews were initiated by emailing the data transcripts to participants to check for accuracy, as well as confirmation of our summarized data on emergent themes and topics.

Results

Reflecting on their diverse experiences as instructional designers with specific disciplinary backgrounds who have worked within and across diverse disciplines, our participants noticed something happening. While the participants' opinions related to their work across the disciplines were varied, each of the participants' experiences converged around a critical incident. In particular, at some point in the interviews the participants recalled a critical incident related to their own learning, and within their own discipline, that was critical to their identity formation as an instructional designer. Our participants experienced, either in their k-12 learning or undergraduate, a learning episode that they felt was in some way unsettling and had significance on their career objectives and their choice of discipline specialization.

Following are stories of the instructional designers we interviewed, as they recalled their significant learning episodes, their area of discipline expertise and how this relates to their work as an instructional designer.

Brenda

Brenda's disciplinary background is sociology. She began as an instructional designer in 1998. When she was younger, she would read anything, but not math. Brenda started out with instructional design by a contract experience and as a designer in a family business. She wanted a credential and to learn more about what she was already doing. She decided that she needed credentials in order to be the expert, so applied to the MEd program. She is an instructional designer now [7+ years] and has no regrets. Upon reflecting on her work within the disciplines as it relates to her background, she had the following to say:

I have a coaching background – well, it's not a discipline, but it was what I first taught, so it influences me the most now. I became a swim coach at age 16. I knew when I was 16 this was what I wanted to do: to teach when I grew up and be the writer of the 'manual'. As a coach I was doing instructional design, but I didn't know it at the time. In retrospect coaching was instructional design.

I work with medicine, international trade, music, drama and TOESEL. I would love to do something in music or sociology. I find the subject matter that I work with dry and boring. Interestingly, I've found as an instructional designer, I am more structured and disciplined than I thought I was.

I struggle with medicine. Mostly, the docs don't listen to me. One doctor I work with has 450 ppt slides but won't take my advice to chunk it. In other disciplines I have great relationships with the SMEs [subject matter experts]; they respect my expertise. I can make suggestions and the SMEs appreciate it.

Susan

Susan's disciplinary background is language learning (French as a second language). She's been an instructional designer for five years. She first got involved in learning to speak French when she was 18 – after she fell in love with a man who was Quebecois. She specialized in FSL in her BEd program. One of her professors criticized everything she wrote. She took this very seriously, taking extra French courses to improve her French writing skills. On this, Susan had this to say:

I needed to prove that I could do it, and get a high mark and no critical comments about my writing. When it finally happened, I was very happy. But I didn't get feedback, only a number. I was devastated. Made me realize how important feedback is. I have kept close the lesson I learned about the importance of feedback to learning—always important, to this day.

But my experience both learning and teaching French had a different focus on my skill development. My typical lesson plans include pictures, content, a lot of modeling, body language, gestures, contextual movement, acting out, demonstrating. I also use a lot of labeling materials and objects – building the environment. I believe in the construction of the environment: So, I ask clients – can you show me that?

I work well with Agriculture, Engineering and Geography. I try to put faculty where they are most comfortable. I don't like working with historians. History is not very creative, is very text-based; ready and focused on answering questions. Whereas Engineering is always looking for 'another way to do it', uses visuals, will create models, are looking for new ways to present materials. I find Engineering more model/case-based vs. history is more text.

Ingrid

Ingrid's disciplinary background is mathematical economics and computer science. Ingrid is from Singapore and was a math teacher for many years before coming to Canada. She wanted to try something new so came to Canada to get a master's degree. At first she found the theoretical aspect of education in Canada difficult; in Singapore it was very technical. This had a significant impact on her later work. Her original work was haphazard and she learned how to be an instructional designer by 'just doing it':

I learned [instructional design] from two colleagues. I was shocked at the differences in disciplines. For example, the amount of text in courseware in the social sciences compared to the natural sciences. I prefer to work in my own discipline, as well as Engineering, but I have to work with humanities. I have no choice. Though, I do like the range of projects. Humanities are very different from pure sciences. The diversity ... I learn more about designing and content and the way people work. I find this is interesting but still, I feel most comfortable working in my own discipline.

David

David's disciplinary background is history. David's high school teachers were very influential. One of his teachers shared personal stories, and brought the curriculum to life. This particular teacher ignited his passion for history through, for example, real stories of the holocaust. He has tried through media and instructional design practice to bring some of those experiences to learners through instructional design. David can't imagine not taking advantage of these things in the classroom. He thinks a lot about how to prepare people to learn and feels he designs from what he knows is going on in the world – similar to an historian.

Now I'm hooked on technology BUT, I still need to 'find the story'. With technology, I can find the story on YouTube. This is an evolutionary process. Media and resources, they make a difference. Though, I need to

find simple solutions and technology does not do that well and can make problems more complex: Mayer was not right, it doesn't "work better".

When I first started as an instructional designer, I was recommended to Agriculture. Here, too, as I worked with faculty, I emphasized assigning media resources to bring "experiences to life". I've found that the instructional design process is bounded by delivery requirements (at a point it's "in the can"): sometimes you can't develop a canned course, because the learning is meant to be more organic. Some courses need to be based on experiences that unfold through the term, in the classrooms. The instructional design process often ends up preparing courses in a particular period and "in the can". Some faculty I've worked with over the years don't think that way and can't "can" their course. There isn't a formula. Instructional design is a process.

Also, when I look at other instructional designers' work I know that I would approach the course design differently ... I'd be looking at the temporal/social/political context of the time. Sometimes, instructors are not able to see that instructional design can be used in a way to support some fundamental values. I include that aspect in my work with faculty. I don't think content can be contained; it needs to be spontaneous, open, unstructured, vibrant.

Marcella

Marcella's disciplinary background is English and history. When Marcella got her first job developing courses, she didn't know what instructional design was, and was doing train-the-trainer. The job began as a temporary contract, supporting all of the designers. When she found she could not deal with the content, she could at least make it clear and readable. On this note, Marcella stated her father had a significant influence on her career:

My father was an editor. So if I can't deal with the content, I can at least make it clear and readable on the page or screen. My emphasis is on readability. I tend to stay away from Science and Math because I find my background in these areas weak. I work well with the differences in personalities of SMEs in Engineering. I do like variety; I learn more about design that way. Instructional designers are "intellectually promiscuous".

My experience as an undergraduate was very formative. Small liberal arts context, small seminars, critical discussion. The intimacy led to a shared sense of intellectual pleasure in the teacher/student relationship. Faculty status (as in, working in one) is not meaningful to clients.

I find I'm disappointed in myself when I can't make a difference or influence faculty to make changes. I get too much text from profs... I find I can't get them to write lean text or lean instruction. Fortunately my disciplinary background helps me understand why they love text so much. The profs have no clue about teaching. I'm working with a music prof right now. He sees himself only as a musician. So: is it because he is from arts – or because of his personality? Most faculty approach their teaching/ID from their own schema (such as music schema) – themes run through the course. Where the ID fails is when there are no themes, no story telling. BUT, it is also true that we can have themes with no purpose. Problematic both ways.

I think we should be modest about our claims about how much we actually know about learning. I'm afraid I've suddenly come face to face with my limitations as an educator.

Monika

Monika's disciplinary background is library sciences. Monika has been doing instructional design for many years and is currently involved in a collaborative and interdisciplinary project, but observes that there is not much boundary crossing in the disciplines/courses. It is difficult to weave together Monika's job as an instructional designer: she works with learning objectives, looks for gaps between lower and higher level courses with a team that is culturally diverse and has language diversity. Monika had a number of perspectives on the topic of disciplines:

Scientists are "possessive" – they "do science", what is "in" the final course is not even questioned. But the social scientists were willing to argue about content. The social scientists, by contrast, are fine with arguing with each other. Is content of science imbued with authority that resists discussion/negotiation?

Perhaps less so with social scientists. In sciences, no one touches 'their' course (here's what they need to know) versus humanities there is a lot more discussion. In sciences, content is more or less taken as 'gospel' – the 'what' is not questioned – only how much is debated, not what. In sciences, they don't teach; they research.

I have to even question what are the disciplines – for example, in medicine there are many sub disciplines. Even in geography there is the human stream versus the biological stream.

I came to this profession as a librarian and saw the effect that the librarian had on learning. Then I heard Tony Bates speak and I knew this is what I wanted to be. I came to instructional design by observing learning problems. What I bring to the table: you can find information with certain strategies. Turning information into knowledge is the hook.

As a librarian, I see everything as a source of information – seeing the problems students were having led me to instructional design. So what I do is 'classification' of everything. But I know I need to turn that 'classified' information in to knowledge. I really enjoy this aspect of it.

Jonathan

Jonathan's disciplinary background is physical geography and history. Past experiences have included historical interpreter, media development, sports coaching and television production. For the past few years, Jonathan has been an instructional designer. Similar to his past employment history, his experience in instructional design has been varied and diverse:

As in instructional designer, we don't always know what we're getting into and that's one of the best parts. It's exciting to get to know the content, to be a doctor for a day. The instructional design process is "seeing a path through the forest". I can really get into thinking like an engineer or like a doctor.

I'm currently working with the Dean of Medicine, who sees political capital being involved in program development. Dean of Medicine made this project high profile – involved a lot of department heads and such. They have different motives for involvement – personal vs. professional reasons. Chairs of the departments get involved because the Dean brings cachet. People are less inclined to question those of perceived higher status.

Whereas I find people in Humanities are more "renaissance" in the human realm. People who work with people know about people. I find science faculty less people-immersed, especially in high status sciences. Scientists have an effect on humans, but it is easier to be a people person in other disciplines. In medicine you can do no wrong, and this creates this sense of authority ... there is a culture of "doing no wrong" carried through from undergraduate days in Medicine.

I've always been a learner. My experience as an historical interpreter influenced my career; in that job I helped design programs and deliver them with the provincial government. I'm drawn to details, oral histories and real histories. In design, content is the story and design is creating or helping learners create a whole story. A lot of times it's the same problem, taking an informed recipe approach. Historians look at things carefully and are interested in history and people histories. I'm reflective and this comes out of my background—and I am conscience of this. History is a story that evolves, and it isn't absolute. Design is creating a story for the learner. History is just one big case story—life is just one big story; what version do we want now?

So as for instructional Design? I focus on the content and that's the 'story'. Content is king, and needs to be told in a certain way. But in reality, faculty need it now, so tension between reflective and the 'budget brigade' always emerges. Often it results in a cookie cutter approach because problems are the same.

Instructional designers are 'process' people and can get into 'thinking like an engineer' or 'like a doctor'. So who is drawn to instructional design? Humanities.

Reflections

While early research on instructional designers' practice suggested that ID should be based on a systems design model and applied across the disciplines, more recent literature (e.g., Donald, 2002; Schulman, 1987) has identified that there are unique ways of knowing and constructing knowledge within the disciplines. At present, disciplinary ways of knowing is not included in programs of ID, primarily because we do not have a good understanding of this issue. This study probed deeper into the influences on instructional designers' construction of disciplinary-based development and how instructional designers' development is linked to ID practices across the disciplines. Building on the recent findings by Campbell, et al. (2002-2006) on experienced instructional designers' identity and agency this study explored links between instructional designers' disciplinary-based development and ID practice.

Without exception, these instructional designers continue to be affected by these specific learning episodes and were aware of how it influences the way they work with faculty to design their courses. Further, this critical incident can have a greater impact on their instructional design practices and beliefs than their disciplinary history and/or current disciplinary self-identity.

And yet, while these critical incidents have a significant impact, it also needs to be noted that it was acknowledged by our participants that their preference is to work within their own discipline. This preference, in turn, influences how they work with faculty members to design their teaching, and how they work with faculty members outside of their disciplines. For example, two of our participants had worked with faculty members in history; one of the instructional designers was a history major. The instructional designer whose background was not in history viewed the course content "all text and boring" while the instructional designer whose background was in history viewed the content "an exciting case story/story telling/narrative". While these views should be no surprise, inevitably, discussions slid into a debate about whether disciplinary differences in higher education are actually about the disciplines or whether it is an individual's personality that draws individuals into specific disciplines. Specifically: Do we go into certain disciplines because of our personalities? Or does the culture of the discipline form and/or shape our identities? These are important questions to ask, as the answers will influence the direction of future research about how best to gain an understanding of training and placing instructional designers. Acknowledging there are several influences on an instructional designer's formation of Self, the consensus on this question by our participants leaned toward a belief that we are drawn to specific disciplines because of our personality, rather than the disciplines shaping our formation of Self. This, in turn, has implications for programs of instructional design.

Conclusions

While early research on instructional designers' practice suggested that instructional design should be based on a systems design model and applied across the disciplines, more recent literature (e.g., Donald, 2002; Schulman, 1987) has identified that there are unique ways of knowing and constructing knowledge within and across the disciplines. At present, disciplinary ways of knowing is not included in programs of instructional design, primarily because we do not have a good understanding of this issue. This study probed deeper into the influences on instructional designers' construction of disciplinary-based Self and provides a starting point for further exploration to gaining a better understanding on how instructional designers' self-development is linked to instructional design practices across the disciplines. The results of this study contributes to the complex dynamics between conceptions of teaching and perceptions of Self, and disciplinary contexts.

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