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Instructional Design

"If you can learn to tolerate change, ambiguity, and uncertainty, you will be successful in this field." That was the answer my supervisor gave me when I asked him how I could be a really good instructional designer. It was 1989, and I had been working at it for a whole year. I really wanted to know! I must have looked crestfallen, because he added, "Don't worry. You'll get it later." Great. Thanks, Boss.

Almost 28 years later, I learned to appreciate the depth and wisdom of those words. Change, ambiguity, and uncertainty have been the hallmarks of nearly every instructional design project on which I have worked. Along that road, I learned much, but one thing stands out: Instructional design is not as much about theories and models as it is about how we become experts. My thought has its roots in what I refer to as "messy instructional design."

So what does it mean to be an expert instructional designer, if not to simply adhere to the theories and models that represent the field? The answer to that question, indeed an explanation of why it is a significant question in the first place, resides in a brief consideration of "horizontal expertise" (or "boundary crossing").

… (A) horizontal dimension is rapidly becoming increasingly relevant for the understanding and acquisition of expertise. In their work, experts operate in and move between multiple parallel activity contexts. These multiple contexts demand and afford different, complementary but also conflicting cognitive tools, rules, and patterns of social interaction (Engeström, Engeström, & Kärkkäinen, 1995).

I believe that boundary crossing begins to address what it means to be an expert instructional designer. Experienced, expert instructional designers must cross boundaries to get work done. "Experts face the challenge of negotiating and combining ingredients from different contexts to achieve hybrid solutions" (Engeström et al., 1995). In short, there is a significant difference between knowing theories and models and actually practicing instructional design and becoming an expert of that practice.

Not that the theories and models don't matter, but as Gray et al. (2015) stated, "… [instructional design], in common with other forms of design, is characterized by fundamental ambiguity that contrasts with existing models and processes of ID—particularly those taught to students." Moreover, "Experienced instructional designers know that instructional design in practice differs dramatically from the tidy procedural discipline that they learned in their academic coursework" (Fortney & Yamagata-Lynch, 2013). Expert instructional designers, if they have been practicing for long enough, intuitively know this. Yet even cognizant, serious-minded graduate students recognize it as well. Permit me to illustrate this point with an anecdote.

As a graduate student in a master's degree program in the late '90s, I was tasked with presenting my understanding of instructional design to my peers. I already had 12 years of experience as a full-time instructional designer and had been a graduate student for just over a year. I seized the opportunity to talk about theory and practice. My premise was this: If one subscribed to a particular epistemology, then one should also subscribe to the theories and models congruent with that epistemology. Logically, one could not deviate from that "pure" system of knowledge and resultant practices. To do so would destroy the system's integrity and lead to inconsistent, poor instructional designs.

Halfway through my presentation, some fellow students unceremoniously began booing and jeering my remarks. Being a thoughtful presenter, I asked for "formative feedback." The answers variously included shouts of "We can't do that!" to "That's unrealistic!" to "That's not real-world." Point taken—and point made. I informed my audience that I did not agree with the premise I had just presented. I designed the presentation to elicit an anticipated response. The ensuing conversations for the rest of the week were quite revealing. The generally expressed thought was that, arising necessarily from our various contexts, instructional designers must take a much more eclectic approach to the craft than would seem to be indicated by the theories and models we were studying. Thus, becoming an expert instructional designer is less a matter of strictly obeying the rules of the proper theories and models and more a matter of crossing boundaries, building relationships, and making decisions to arrive at "hybrid solutions."

A quotation familiar to many computer programmers, ostensibly made in 1970 by renowned computer scientist Dr. Edsger Dyjkstra, states that "computer science is no more about computers than astronomy is about telescopes." The original (and to my mind) more instructive statement was attributed to Dr. Hal Alberson in 1986:

[Computer science] is not really about computers—and it's not about computers in the same sense that physics is not really about particle accelerators, and biology is not about microscopes and Petri dishes... When some field is just getting started and you don't really understand it very well, it's very easy to confuse the essence of what you're doing with the tools that you use ("Computer science," n.d.).

Given that instructional design, as a field of research and practice, is relatively young (dating from its inception in the latter stages of World War II (Reiser & Dempsey, 2012), we should not confuse the essence of what we do with the tools we use. Theories and models are the tools we use, but crossing boundaries is what we actually do.

Crossing boundaries as an expert instructional designer may be exemplified by four "rules" that I have practiced to varying degrees during my career. Yet I acknowledge that these rules are not original to me; rather, they are the result of internalizing expertise from various sources; thus, I offer no specific attributions. Instead, I gratefully acknowledge the many mentors, teachers, and colleagues that guided me along my journey:

1. **Rule #1: Learn the rules.** Learn everything you can about "X," whether "X" is a theory, model, work context, client needs, learner needs, etc. Knowing the rules will set the stage for new opportunities, ideas, and breakthroughs.
2. **Rule #2: Creatively break the rules.** Once you know the basic rules, then you can start crossing boundaries and making connections that might seem at odds with the rules. Embrace the change, ambiguity, and uncertainty to achieve hybrid solutions.
3. **Rule #3**: **Make new rules.** The time will come, based on the experience and expertise that you have gained, when you will find it desirable and necessary to make new rules (theories and models).
4. **Rule #4**: **See Rule #1.** Once you make new rules, learn them well and keep moving forward—until it's time to break them.

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