Position Paper:

Putting the "R" back in Design

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Putting the "R" back in Design

Conception of the field

Author's Note: In light of recent readings, I would first ask, what "field" are we referring to? Instructional Systems Design, Instructional Science, Learning Science, Instructional Design, Instructional Development, Educational Technology, Instructional Technology, Instructional Psychology and any number of variant combinations of the preceding. For the sake of a coherent discussion, I shall refer (likely errantly) to all the above as Instructional Systems Design (ISD) or simply Instructional Design (ID).

For some time, I had held in the back of my mind the notion that the field of Instructional Design (ID) is "where the rubber meets the road." I had not given the notion much thought due to the complexity of the issues involved in human learning. Besides, I was simply too busy ~~practicing~~ …No!…<u>implementing</u> instructionally designed templates (if there is such a term) to care much about philosophizing about it. The notion was my mental way of distinguishing the implementation if ID (rubber meeting the road) from the theory-generating and testing processes of ID research (something else, mildly related).

In reality, I practiced very little ID, and I knew it. Like many ID professionals, I implemented some basic principles of establishing learning goals and objectives with the subject matter experts (faculty) with whom I worked, and then set about trying to ensure proper alignment of objectives, content and assessment. Budgets, deadlines--the real world--all made it difficult to ever practice design "by the book", which left me feeling moderately stimulated and only somewhat fulfilled at best. More often than not, however, I felt very detached from where the learning would happen…detached from the instruction's intended audience, and unsure on how to improvise given the constraints. Still, the idea of applying some theoretically-based, deliberate thought, technique and strategies to the design of instruction felt right. I found, however, that I needed to know more about why things worked (or didn't) rather than simply which ID procedures or models to implement.

My own attempts at "research" in-the-trenches didn't count. Though still enlightening at times, it lacked rigor, controls, appropriate methodology, and a foundation based on what had already been done in the field that is associated with design-based research methods.   I contend that we as a field need to be clearer about the distinctions between the application or "practice" of ID and what it means to conduct the "research" in ID. In a recent survey (Cox & Osguthorpe, 2003) study, 12% of ID practitioners claimed that they regularly conducted research as part of their job.   One

need only attend any professional conference in our field to see hosts of presentations on "research" findings or best practices being proffered here and there, beckoning attendees to try this or that approach. When insignificant improvements are consequently realized, is it any wonder that even our own inexperienced designers can become disillusioned with our field's mission and charter? As I see it, the charter of the field of ID is two-fold: 1) Provide learners with an array of generative and self-regulated learning strategies, and 2) Design appealing, engaging, supportive instructional materials and learning activities and environments.

I have felt, and still feel, quite satisfied in my mind that teaching--and learning-- is really an art, perhaps much like the culinary arts (which skills may be both intuitive and acquirable). The field of Instructional design research attempts to reverse engineer this art form or "secret sauce" with increased efficiencies--ultimately driving much of what we do. The results of these efforts are recipes (principles and models) which serve as "crutches" for those of us who, as yet, are inexpert in the "culinary" arts of ID and still lack skills and sensitivity to the art of teaching and learning. The negative tone of this description reflects more the high esteem that I hold for truly effective teaching and learning than any negativity I harbor toward our field; We have all likely seen examples of learners who learn well despite the circumstances or instruction they encounter, and there are teachers that teach well regardless of the (technological?) resources available to them.

ISD Research attempts to uncover patterns exhibited in great chefs and dining establishments. It conducts needs analyses in order to understand the needs and motivations of its clientele or "diners." In the culinary world, a recipe can be closely followed to deliver a consistent dish, but it does not explain the whole dining experience. The same dish served in different restaurants, in different settings, under different lighting conditions, with plastic utensils to different diners will not yield an equivalent dining experience. The "recipes" forwarded by our field are too often ill-applied to inappropriate settings and contexts, or require such discerning and critical tastes so as to be not widely palatable. As it is with most weight loss programs on late-night television, so goes it with our field's recipes when implemented with little foundational understanding of good instruction and learning principles; "individual results will vary." We recognize that not everyone shares the same tastes or motivations for eating…or learning. Some enjoy fine dining, others simply want to be filled.

According to the food channel, an important job of any world-class chef is to understand his/her ingredients. Chefs must keep an ever-vigilant eye out for new ingredients, new trends. They sample and seek out new ingredients the world over, constantly trying and testing new combinations and preparation techniques.   Our field, too, must keep abreast of new trends, strategies and technologies in a variety of fields. Furthermore, we must systematically test their relevance to learning. Unlike the master chef, however, it is the responsibility of the ID researcher to share and publish their discoveries and findings on what works, what doesn't, and under what circumstances. It should be our goal to make our findings accessible to even the untrained in and out of our field, to make better chefs of everyone and not to obfuscate our findings or "secret sauces." As with any analogy, this one too is filled with further parallels and pitfalls. It suffices to say that the areas of teaching, and human learning are multi-faceted, and that the field of ISD seeks to methodically discover innovative and successful ways to improve performance in both areas.

One recent report states that as many as 95% of Instructional Design professionals are designers "by appointment" rather than by formal training (Merrill, 2003). The knowledge of our field rightfully pervades academia, government, the military and business world. Indeed, it is these fields endeavoring to improve human learning and performance, which stand to benefit from the lessons learned in our field. But having access to the knowledge of our domain should not be the defining mark of an instructional designer. The trained instructional designer should set themselves apart from the practitioner designer "by appointment" by engaging in work more akin to research--undertaking creative design and testing on each project, and by avoiding the temptation to simply apply inappropriate, ready-built templates; to apply the technology du jour; or to mindlessly follow an ID model. The differences between these two kinds of designers should then no longer be so subtle. On one level, the work of the trained instructional designer/researcher is not much more than iteratively implementing the full, well-known ADDIE model. It engages the designer in more frequent formative evaluation steps in each project. The trained instructional designer/researcher might employ similar design-based research methods to understand learning at a more macro level as well.

As previously alluded to, Instructional Systems Design involves numerous and varied branches of knowledge. Domains such as educational psychology, human performance, systems, curriculum and instruction, communications, educational assessment, evaluation, information sciences and instructional technology, all inform our

field.   ISD casts its net far and wide to draw in as many fields of knowledge as concern themselves with learning and education in diverse settings. Technology--everything ranging from prescribed instructional strategies (design models) to interactive learning tools (hardware and software), has long commanded special attention in our field. The technologies of the age of information we now find ourselves in, have significantly transformed the ways and venues in which instruction can be delivered.

In conclusion, we are reminded that the methods prescribed by our field are more probabilistic rather than deterministic. They increase the chances of attaining the learning goals we seek rather than ensuring attainment of the goals (Reigaluth,1999). My goal as an ID researcher and theorist is to contribute knowledge to the field on how to attain the highest possible probability that desired learning outcomes will occur. The field of ID is where the rubber meets the road. What I now understand better than before is that to avoid being confused with those not trained in our field, we must expect better performance of trained instructional designer/researchers. We must become real designers, and don the implied mantel of research that accompanies the role.

References

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