

REALDESIGN

PERSPECTIVES FROM THE FIELD OF INSTRUCTIONAL DESIGN

REALDESIGN is a regular feature that brings leaders in our field to you discussing their challenges in actual design contexts. For the next issues, we have invited the authors of the soon-to-be-released next edition of *Designing Effective Instruction* (Morrison, Ross, Morrison, & Kalman, in press) to share some of their practical design experiences.

Know your audience, or in our world, know your learners.

Jennifer Morrison, Johns Hopkins University

A while back, one of us was tasked with designing a workshop for teachers on evaluating educational technology products. The plan was to present principles of instructional design and then examples of existing ed-tech products that exhibited these principles. This presentation would be followed by an activity where teachers evaluated programs according to whether or not they exhibited the principles. Identifying the principles wasn't a problem but finding good examples of ed-tech products proved to be quite the challenge. There were plenty of non-examples out there (showing what not to do), but not a whole lot of good examples. One of the programs we stumbled across was a clear shining star. This science program exemplified many of the principles we were presenting in the workshop and we were really impressed. It was evident that the program developers had done their due diligence and the program design was clearly influenced by research. We held the workshop, teachers (hopefully) increased their ability to evaluate ed-tech products, and we returned to our day job of conducting independent program evaluations.

Flash forward a couple of years. An email comes over from a program developer who is interested in an independent evaluation. We look at the name of the program and low and behold, it's the shining star we reviewed for the workshop! We're really excited because we like the program and think it has a lot of potential. We're eager to see first-hand the program implemented in schools. We have our call with the program developer and he explains that the program has seen great success in his country and he's interested in entering the U.S. market. Given that his needs are more formative in nature, we plan for a case study type evaluation where the program will be used in a small number of willing schools. We'll visit schools to conduct interviews with teachers, observe the classrooms using the program, and administer surveys to teachers and students.

Once our team returns from the site visits, they bring some terribly awful news. This shining star program appears to be failing miserably. According to teachers, the reading level is substantially too high for the kids! Student survey results indicate the same: the kids are struggling to understand the content. This program that we had high hopes for is showing very lackluster evaluation results. If the kids can't read the content, they're not able to learn from the program. Since the kids aren't learning from the program and the teachers are frustrated, the results of our evaluation are not very positive.

What went wrong with our shining star program that had such great potential? The program developer didn't consider the learners. Granted, the program had great success in his country, but the reading level in U.S. schools has been documented to consistently fall below standards (U.S. Department of Education, 2015, 2017). The reading level in the schools the developer selected for participation in the study was no different; kids were performing below grade level on reading assessments.

Considering the learners who will experience your program is a key component in our instructional design model (Morrison, Ross, Morrison, Kalman, in press). We note that learners of all ages are composed of a variety of types of people and it's critical that designers consider learner characteristics when designing any sort of training or instruction. We propose that a learner analysis considers two characteristics described by Heinich, Molenda, Russell, and Smaldino (1999) including general characteristics (e.g., age, gender, work experience, education) and specific entry characteristics (prerequisite skills). We also add academic information, personal and social characteristics, culturally diverse learners, learners with disabilities, and adult learners.

Perhaps you, as an instructional designer, are short on time and need to get your program or training developed as quickly as possible. The example above should illustrate the importance of knowing your audience through conducting a learner analysis. Even if you're short on time, our "Lean Instructional Design" (Morrison, Ross, Morrison, Kalman, in press) approach suggests at the very least speaking with a sample of instructors or teachers to obtain a reliable description of the learner audience. You may also find that the subject-matter expert and key stakeholders have insight into the characteristics of your learners.

Fortunately, not all of our evaluations uncover that developers neglect to conduct learner analyses. A positive example of learner analysis is evidenced in a recent evaluation performed by our center of a STEM enrichment program ("The STEM Academy) developed for urban high school students in Baltimore. Teenagers have many after-school activities in which they typically would prefer to engage over sitting in optional math and science courses. The program designers, however, used learner analysis from pilot offerings to orient the program to tapping into students' career and personal interests, making participation activities varied and engaging, and promoting interactions with STEM professionals and peers. The result was high attendance and persistence by students as well as positive reactions to both the program and interest in future STEM experiences and careers.

Jennifer R. Morrison is an assistant professor of research at the Center for Research and Reform in Education (CRRE) at Johns Hopkins University. CRRE specializes in conducting independent evaluations and research on educational products and services.

References

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