

Situated design expertise: An expert-expert think-aloud study with Kenyan and American designers

Eric Reynolds Brubaker
Stanford University, Mechanical Engineering & Education
ewr@stanford.edu

Abstract

Current theories of design expertise were developed by studying the knowing, being, and doing of experienced designers from a narrow band of dominant cultures (i.e, designers of primarily European descent). This limited view of design expertise excludes the knowledge, identities, and practises of expert designers from other cultural backgrounds. It also implies that design experts design expertly regardless of the context they are in. Do we expect a designer from, for example, the United States with 20 years of U.S. Design experience to expertly design products in a Kenyan context (and vice versa)? Drawing from cultural theories of learning and expertise development (e.g, Nasir et al, 2006), this study conceptualises design expertise as situated, that is, culturally bound and contingent upon context. We examine how much expert design professionals enact expert design practises when there is concordance (versus discordance) between their cultural background and the cultural context of the design situation. A think-aloud method is used with a 2x2 factorial design to estimate the effects of designers' cultural background (designers who have design training and careers in Kenya or the U.S.) and the cultural context of design situations (drone delivery design challenges in Kenya or the U.S.) on the frequency of expert design practises observed during participants' design processes. A pilot and preliminary analysis found that designers working on a culturally concordant design challenge (i.e, Kenyan designers designing drone systems for a Kenyan context or American designers designing drone systems for a U.S. Context) were more likely to enact expert design practises, namely, questioning the design prompt, reframing the design situation, and broadly exploring the design space. This suggests that the context in which design expertise is called upon may affect the degree to which expert designers enact their expertise. This has major implications for how design expertise is conceptualised and developed and who should be engaged in designing in a given context. Further, promoting the expert practises of only dominant groups (e.g, well-educated, white designers) may obscure situations in which such designers do not design expertly (e.g, in culturally discordant settings). It may also obscure the alternative expert practises enacted by designers from non-dominant groups in culturally concordant settings (e.g, Kenyan design experts addressing Kenyan design challenges). If we expand our view of design expertise and account for its situated nature, we may recognise these possibilities for obfuscation, build scaffolds for expert designers working in culturally discordant settings, and train the next generation of designers to effectively address design challenges across cultural contexts.