Education, Design and Practice – Understanding skills in a Complex World

• Paper / Proposal Title:
Catena: Collaboration, Cohesion, and Continuity in Design Thinking and Making

• Author(s) Name:
Lohren Deeg, Taylor Metz, Richard Tursky

• University or Company Affiliation:
Ball State University

• Abstract (300 words):
Foundation level education in environmental design—including fundamentals of design thinking, project-based learning, and a studio-based learning environment—have deep roots in the Bauhaus curriculum and in apprenticeships found in the construction trades. In recent years, design educators have examined a variety of ways to teach design to a generation described as “post-millennial” (Parker & Fry, 2018). This diversity has created a disparate menu of projects and activities that can result in unclear learning objectives, portfolios that lack cohesion, and students who may not appreciate the subtleties of design methods and process.

A theme of “catena,” defined by Merriam-Webster as “a connected series of related things,” (Catena, n.d.) was layered over a number of studio-based projects by the authors with a cohort of 38 undergraduate students. The authors questioned, what if a semester of a beginning design studio could explore a theme or line of thinking that allowed each project to lead into the next?

The authors began with exploration of Richard Serra’s “action verbs” (Serra, 1967-1968) as applied to concepts of circulation and movement with the construction of a sequence for a table tennis ball. Building upon the generative ability of verbs to define space, a second project examined 2D and 3D compositions originating from Francis
D.K. Ching’s taxonomy of ordering principles and organizing systems (Ching, 2015). The third project continued this examination by further investigating operative design techniques and typologies through the fabrication of an original chess set at the object scale. The semester closed with applications of cumulative design ideas from the previous projects for a hypothetical installation along a public river walk near campus.

Literature review and students’ reflective comments were compiled in this study. Artifacts in the form of photographs, models, and drawings informed findings and discussions of pedagogy for future semester offerings.

- **Author(s) Biography (200 words each):**

Lohren Deeg is an Associate Professor of Urban Planning at Ball State University where he has taught in beginning design and visual communication courses for urban planning, landscape architecture, and architecture for 19 years. With degrees in Architecture, he is an award-winning architectural illustrator specializing in beginning design pedagogy, graphic communication methods, urban design, master planning, and downtown revitalization. His interests also include historically appropriate infill, urban housing, greenways, public participation methods, environmental graphics and wayfinding systems. Deeg is a member of the American Society of Architectural Illustrators (ASAI) and resides in Muncie, Indiana, where he is an avid cyclist and advocate for healthy communities.

Taylor Metz is an Assistant Teaching Professor of Landscape Architecture at Ball State University. In addition to degrees in Communication Studies and Art Studio, he holds a Master of Landscape Architecture. His goals are to use sustainable design as a way of tapping into what insight our landscapes of experience have to offer and to better understand the physical, cultural, social, emotional, and ecological landscapes in which we live. Specifically, his interests include representation of landscape architecture in media, cultural landscapes, schoolyard and open space design, and residential estate planning. Metz is a member of the American Society of Landscape Architects (ASLA) and has been recognized for his research on schoolyard redesign, standards-based education, and nature play. He resides in historic Pendleton, Indiana, with his wife and three children. He is chairperson of Pendleton’s Urban Forestry Committee and is an active practitioner at a residential landscape architecture design/build firm.

Richard Tursky is an Assistant Teaching Professor of Architecture at Ball State University. In addition to degrees in Industrial Design and Automation Technology, he holds a Master of Architecture and a Master of Science in Architecture-Digital Technologies from the University of Michigan. His design and pedagogical research focuses on the blending of digital and analog fabrication methods into the design curriculum as mediums for combining both computational and spatial thinking using the iterative instantiation of a design as the method for its development; more simply stated as
computational-design-through-making. His current design fabrication research is focused on using robotic technologies to map built surface substrates and to develop workflows that facilitate robotic assembly of building components. The long-term trajectory of this work is the design and instantiation of robotic (i.e. responsive and reconfigurable) architecture. He teaches studios and seminars which focus on developing these and other technologies as potential design thinking and process tools. Tursky was previously faculty and Assistant Director of the Design Fabrication Lab at Carnegie Mellon University's School of Architecture and has also held positions at Harvard University's Graduate School of Design and the Southern California Institute of Architecture.