

## **Understanding instructors' conceptualization of course design to enhance faculty development**

Audriana Stark

Gary Smith

Julie Sanchez

STEM Gateway, University of New Mexico

Accepted for presentation at the Annual Conference, Professional and Organizational Development Network in Higher Education, Montreal, Quebec, Canada, October 26, 2017

A phenomenographic (qualitative) study at a research university identified five categories of description for how STEM instructors conceptualize the design/redesign of courses. These range from individual perceptions of (1) what to teach; (2) how to teach; and (3) reflection on teaching; to engagement with communities either (4) in a department to align course design; or (5) across the institution and beyond to align goals and leverage resources. The results suggest that faculty developers not only have the potential to develop individual teachers but to stimulate networks that are of value to instructors.

Intentional design of content, pedagogy, and assessment pertinent to a set of learning objectives is essential to the work of college teachers and faculty development programs. Many course-design models exist (e.g., Fink, 2013; Handelsman et al., 2007; Jones et al. 2014), but there is a dearth of research revealing how faculty conceptualize course design/redesign. We report the results of a phenomenographic study to address the question: How do college teachers who participated in a course-redesign program characterize the design/redesign of a course?

Research illustrates how college teachers define teaching and their developmental improvement as teachers (e.g., Trigwell, Prosser, & Taylor, 1994; Pratt, 1998; Kember, 1997; Kane et al., 2002; Åkerlind, 2007). Our research builds on this tradition of qualitative, and particularly phenomenographic (Bowden and Green, 2007) research, by examination of teachers' conceptualizations of their course design work through interviews with nine STEM faculty and graduate teaching assistants who participated in a course-redesign initiative at a research university.

Five qualitatively distinct approaches to designing/redesigning a course emerged from multi-researcher analysis of interview transcripts. These categories of description form a hierarchical outcomes space with increasing complexity of awareness of the phenomenon. The basic conceptualization of course design/redesign (category one) is individual focus on the content to teach; instructors ask, "What do I teach?" Another focus turns to how to teach the content (category 2); instructors ask, "How do I best teach this material?" When course design moves to critical reflection that informs adjusting what is taught and how it is taught (category 3), instructors ask, "What is working, what is not working, and how can I make it better?" In category 4, course design moves from an individual to team activity within a department; instructors collaboratively ask, "How can we align teaching across sections and courses to create better learning experiences?" In category 5, instructors' course-design lens looks beyond a department to a community of stakeholders in higher education who define an improvement culture by collaborating across disciplines and universities; instructors ask, "How can we connect across the university and other institutions to propel a culture of continuously improving teaching and learning?"

For faculty developers, this study shows that professional development, supported directly by CTLs and indirectly through various networks and communities of peers and organizations, matters when

instructors undertake course design. Beyond enhancing teacher efficacy, faculty development initiatives provide opportunities for instructors to view course design as something that happens among close peers, in a larger campus community, and amongst networks of faculty elsewhere. In turn, faculty development impact moves from work with individual instructors toward work in collaborative communities that can span across instructors, departments, disciplines, and universities. The study also shows the value of phenomenography to explore instructor conceptions for comparison to approaches advocated by faculty development programs.

Åkerlind, (2007). Constraints on academics' potential for developing as a teacher. *Studies Higher Ed.*, 32(1):21–37.

Bowden & Green, (2007) *Doing Developmental Phenomenography*. RMIT University Press.

Fink (2013) *Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses*. Wiley.

Handelsman, Miller & Pfund. (2007) *Scientific Teaching*. New York, Macmillan

Jones, Noyd,& Sagendorf, (2014) *Building a Pathway for Student Learning: A How-to Guide to Course Design*. Stylus

Kane, Sandretto, & Heath (2002). Telling half the story: A critical review of research on the teaching beliefs and practices of university academics. *Rev. Educ. Res.*, 72(2):177–228.

Kember, (1997) A reconceptualisation of the research into university academics' conceptions of teaching. *Learn. Instr.*, 7(3):255-75

Pratt (1998) *Five Perspectives on Teaching in Adult and Higher Education*. Krieger

Trigwell, Prosser, & Taylor, (1994). Qualitative differences in approaches to teaching first year university science. *Higher Ed.*, 27:75–84.