WORKSHOP

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Qualifying Qualitative Research Quality (The Q^3 Project): A conversation for engineering education researchers

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OVERVIEW OF THE WORKSHOP

This workshop is set against the context of a growing methodological diversity in the field of engineering education research. Qualitative research methods from a range of intellectual traditions are being increasingly adopted and widely valued for their contribution to addressing some of the most pressing questions in the field. At the same time, the adoption and recognition of these methodologies could be significantly strengthened by a more coherent discourse around what it means to do high quality interpretive research in the specific context of engineering education.

The workshop is aimed at fostering such a coherent discourse by developing a shared research quality framework based on the engineering metaphor of Quality Management. In constructing the framework, we will draw on participants' own conceptions and experiences and introduce prior theoretical work based on an in-depth literature review on research quality and a recently published qualitative study in the Journal of Engineering Education.

Using the Quality Management model as a means for bridging the diverse perspectives of the group, the workshop will then focus on exploring participants' current or future research to examine, systemize and develop practical strategies to foster and articulate research quality in the context of specific projects.

ACTIVITIES

With the focus on building on participants' conceptions and experiences, the workshop will involve a number of interactive and creative activities in small group formats. To develop a shared understanding of assumptions underlying qualitative research we will use small group activities to draw on participants' everyday understandings of making sense of social situations, thereby demystifying some of the terminology used in this context. When exploring the quality framework, we will use critical incident techniques and gallery methods to locate participants' research plans and/or experiences in this space. A number of reflective formats will be used throughout the workshop to distil and articulate significant lessons learned.

TARGET AUDIENCE

This interactive workshop is aimed at the full range of participants within the engineering education research community, from novice to expert qualitative researcher. The workshop design is thus explicitly aimed at addressing the needs of all participants and, at the same time, establishing a meaningful dialogue across different levels of experience.

OUTCOMES

Participants will develop or refine a working understanding of research quality in the context of qualitative engineering education research. More specifically, participants will:

- Be able to articulate and apply fundamental understandings of research quality that are appropriate to the context of qualitative work.
- Be able to conceive research quality from a procedural perspective and locate specific strategies to foster quality throughout the various stages of the qualitative inquiry.
- Develop ways to articulate quality strategies and their specific contribution to overall trustworthiness with a view to reporting or publication of research.

KEYWORDS

Qualitative research methods, research quality, trustworthiness

PRESENTERS BACKGROUNDS

Dr. Joachim Walther is an assistant professor of engineering education research at the University of Georgia (UGA). He is one of the leaders of the Collaborative Lounge for Understanding Society and Technology through Educational Research (CLUSTER), an interdisciplinary research group with members from engineering, art, educational psychology, and social work.

He has conducted qualitative educational research in a number of contexts ranging from formation of students' professional identity, the role of reflection in engineering learning, and engineering students' creativity development.

He was the first international recipient of the ASEE Educational Research Methods Division's "Apprentice Faculty Award" and was selected as a 2010 Frontiers in Education "New Faculty Fellow". In 2011, he received a National Science Foundation CAREER award (#1150668) to investigate and systemize practices and conceptions around research quality in interpretive approaches to engineering education research.

His teaching focuses on innovative approaches to introducing systems thinking and creativity into the environmental engineering program at the University of Georgia.

Dr. Nicola Sochacka received her doctorate in Engineering Epistemologies from the University of Queensland (Brisbane, Australia). She currently holds a research and teaching position at the University of Georgia where she transfers her expertise in qualitative research methodologies to a variety of research contexts at the intersection of social and technological issues. This includes engineering education projects concerned with transdisciplinary education, student reflection, and interpretive research quality.

Dr. Sochacka is also an active member of the Southern Region's Water Policy and Economics (WPE) team where she lends a qualitative research perspective to ongoing projects concerning public attitudes, opinions and behaviors regarding various water issues across the South East.

In the instructional context, Dr. Sochacka's two main interests focus on integrating the arts into undergraduate and graduate engineering education and the economics of sustainable development.

Dr. Nadia Kellam is an Associate Professor in the College of Engineering at the University of Georgia where she is co-director of the interdisciplinary CLUSTER research group. Dr. Kellam is interested in understanding how engineering students develop their professional identity; her research focuses specifically on creativity, interdisciplinarity, and the role of emotion in cognition.

In her research she employs innovative approaches of using multiple methods to develop a holistic and multi-facetted understanding of the phenomena she is studying (for example, using narrative inquiry and grounded theory to analyze focus group data). This focus on research methodology has led to an interest in how engineering education research colleagues conduct interpretive research and ways to ensure quality when conducting these interpretive research studies.

She created the synthesis and design studios in the environmental engineering program and is currently developing the professional and design spines for the upcoming mechanical engineering program. She is also interested in faculty development and recently co-organized the NSF-sponsored PEER workshop for tenure-track engineering education research faculty.