Special Session: Improving Interview Skills Using the Interview Quality Reflection Tool (IQRT)

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Abstract—Engineering education research often uses interview-based studies to develop critical theoretical findings for transforming engineering education and practice. However, researchers are often left with few practical tools to hone the craft of interviewing, especially for unscripted interactions or moments that go beyond predefined protocols. Here, we introduce a process-oriented tool designed to refine researchers' interviewing capabilities. By focusing on adaptability and reflexivity, this tool aims to elevate the quality of evaluative discussions between novice researchers and their mentors.

Keywords—qualitative research, interview, experiential

I. Goals

You are moments away from your first research interview, and you start to feel butterflies in your stomach. Have I prepared the protocol well? Am I going to ask the right questions? Am I ready to conduct research interviews? Such questions are asked by qualitative researchers of all skill levels, and rightfully so. These powerful, relational moments form the basis for data that will generate robust contextual knowledge claims. However, qualitative researchers are often left with little in the way of thinking about how to gauge the quality of their interviewing. Common practices include holistically reflecting on the interview in a researcher journal or conducting a pilot interview and trying to think through the general of the interview. Neither approaches hone the specific skillset of adapting to the interview to ask questions with purpose and intention. We use this special session for those researchers who are asking:

> *How can I use high-quality practices for building relationships and eliciting data as an interviewer?*

In this special session, we train attendees to evaluate the quality of their semi-structured or unstructured interviews using a novel process-based mechanism, the interview quality reflection tool (IQRT). By the end of this special session, we aim for participants to:

1) *develop novel understandings of interview quality by examining how interviewers adapt to the interview situation;*

2) *apply the IQRT to effectively reflect on how they elicit data in qualitative interviews;*

3) *understand how they can use the IQRT to facilitate mentoring relationships in qualitative research*

With these goals, we will initiate participants in hands-on experience developing their skills as interviewers in qualitative studies.

II. Description and Selected Relevant Literature

Prior literature on conducting research interviews tends to amplify the need to ask high-quality questions noted in an interview protocol [1-3]. Protocols certainly are vital to conducting high-quality research interviews, but they are far from sufficient to advance quality in research interviews. In this special session, we offer a practical method to leverage reflection to hone the holistic skillset of interviewing, which includes developing an intentional and approachable relationship with the interview participant. While such reflection is often championed in qualitative research for skill development [4-7], prior literature offers little in the way of practical guidance to reflect on quality in interview sessions [8, 9]. In this special session, we examine all interactions within the scope of an interview session, all with a particular focus on the skill development of the research interviewer.

Thus, we introduce the IQRT as a focused process to create an ecosystem of reflexivity, where the novice interviewer and mentor can collectively hone the positioning of the interviewer as a way to advance the practice of eliciting high-quality interview content [8-10]. By *ecosystem of reflexivity*, we mean that the tool alone mediates targeted conversations around skill development between a novice and mentor, thereby encouraging

a reflexive posture in those conversations. The tool also encourages the interviewer to uphold a reflexive posture, interrogating their own practice as they use the IQRT.

Further, we demonstrate how the facilitators have used the IQRT to advance research quality in their studies. We have documented our use of the tool elsewhere [8, 9] and do not duplicate it here. We will share our experiences in a briefer and spoken manner during the special session.

III. RATIONALE AND NOVELTY

Qualitative research, particularly interviewing, involves honing tacit skills that involve both immersive experience and guidance [4-7]. Therefore, we use this special session as a way to *immerse* researchers into the experience of evaluating interviews and reflect on the experience. While we have documented our development and use of the tool in prior literature [8-10], a special session affords the opportunity for participants to use the tool actively and with guidance rather than reading about the tool.

Many attendees of FIE likely do not have such support for developing their skills as qualitative researchers in their institutions, and this special session allows for all participants to develop themselves as interviewers in a session where they can receive immediate training and feedback in short cycles. We aim for someone embarking on qualitative research for the first time to feel like they have tools to advance their endeavors, even if they do not have mentored support at their own institutions. Additionally, we aim for researchers who mentor qualitative research to have a new tool that enables hone specific skills of interviewing in their mentees.

IV. AGENDA

In the session, we intend for participants to form small groups of 4-6 persons, while incorporating a blend of activities for individual persons, small groups, and the entire assembly. As facilitators, we will rotate among multiple groups to provide guidance, as needed, during the structured tasks of the session. Facilitators will build the activities based on their own interview experiences and also share how they have used the IQRT in their respective studies. Specifically, the agenda will be as follows:

A. Welcome and Group Introductions

(00:00 – 00:10): We begin this session by facilitating relationships among facilitators and participants. Facilitators will introduce themselves and offer an overview of the special session's objectives. Subsequently, participants will introduce themselves within their respective table groups.

B. What is Interview Quality?

(00:10 – 00:20): Facilitators will provide a brief overview of how prior literature in qualitative research has defined quality in conducting research interviews. Along with the handouts, a QR code will be provided for electronic access to the materials.

C. Activity #1: Adaptively Responding to Semi-Structured Interviews

(00:20 – 00:30): Participants form smaller groups of 2-3 and conduct a 5-minute semi-structured interview. Each group will receive a scripted question to initiate the interview. They must

then adapt their subsequent questions based on the responses, aiming to fulfill the overall objectives of the interview.

D. Reflection on Activity #1

(00:30 – 00:40): In a think-group-share format, participants will reflect on and consider the challenge of adapting to key moments in research interviews.

E. Activity #2: Using the IQRT to Hone Quality in Research Interviews

(00:40 – 00:55): Using partially completed IQRT sheets, participants will reflect on the quality of interview questions. Participants will reflect on IQRT prompts including the following: How did each interview statement or question serve the goal of the interview? How did each statement or question affect the interview session? How could the interviewer have improved their movements to advance the quality of the interview?

F. Reflection on Activity #2:

(00:55 – 01:10): In a think-group-share format, participants will collaboratively reflect on the activity and generate questions on how they could use the IQRT in their own interview practice.

G. Final Group Discussion

(01:10 – 01:20): Facilitators will each share a final word on their experiences using the IQRT, emphasizing its role in fostering reflexivity in research. They will also offer support for continued discussion beyond the FIE conference, aimed at enhancing the quality of interviews and promoting continuous improvement in research practices.

V. EXPECTED OUTCOMES

The primary expected outcome of this session is for participants to develop a robust foundation to understand how they may reflectively develop expertise in interviewing and pursue quality through conversations with a research mentor. We expect this session will demystify features of interviewing that are seldom made explicit, giving participants the confidence to dive further into interview-based research. The secondary learning outcome of this session is for participants to identify not only strong textual resources to support their interview-based research but also a community by which they can continue to develop as interpretive researchers after the conference concludes. Additionally, given the utility of the IQRT as a communication tool, a third expected outcome is for participants to formulate and articulate effective mentoring strategies that align with the National Science Foundation's new Mentoring Plan requirement, enhancing their proposals and fostering robust mentor-mentee relationships in their future endeavors in qualitative research.

VI. ABOUT THE FACILITATORS

Dr. James L. Huff is an Associate Professor of Engineering Education at the University of Georgia. He conducts transdisciplinary research on identity that lies at the nexus of applied psychology and engineering education. A winner of the NSF CAREER award, Dr. Huff has mentored numerous undergraduate students, doctoral students, and academic professionals from more than 10 academic disciplines in using interpretative phenomenological analysis (IPA) as a qualitative

research method to examine identity in a variety of contexts. Additionally, he has offered multiple workshops in using IPA, conducting research interviews, and well-being.

Dr. Jerrod A. Henderson ("Dr. J") is an Assistant Professor in the William A. Brookshire Department of Chemical and Biomolecular Engineering in the Cullen College of Engineering at the University of Houston (UH). An NSF CAREER Awardee, Dr. Henderson has dedicated his career to increasing the number of students who are on pathways to pursue STEM careers. He is the co-founder of the St. Elmo Brady STEM Academy (SEBA), an educational intervention aimed at exposing underrepresented fourth and fifth-grade students and their families to hands-on STEM experiences. Dr. Henderson primarily uses qualitative research methods in his work to advance equity in engineering education.

Dr. Sindia Rivera-Jiménez is an Assistant Professor at the Department of Engineering Education (EED at the University of Florida, with affiliations in the Department of Chemical Engineering and the Institute of Higher Education in the College of Education. Her research group focuses on propagating and sustaining transformative and effective STEM teaching and learning through institutional practices and involvement in professional society. Her interests include theory-driven educational research design to re-envision learning environments, developing innovative pathways for student transfers and success in four-year institutions, and understanding faculty learning through communities of practice. Through a transformative philosophical framework aimed at broadening the participation of underserved individuals in the engineering workforce, she utilizes multiple theories and mixed methods to understand participant realities and promote policies for change.

Dr. Amy Brooks is a Postdoctoral Scholar in the Built Environment and Sustainable Engineering Lab at the University of Pittsburgh. Her research broadly focuses on global issues related to sustainable waste management and plastic pollution. She further advances research on the experience of emotions in engineering education and practice. Dr. Brooks co-developed the IQRT with Dr. Huff in the context of their work on understanding the difficult emotional experiences of engineering faculty members.

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