LAK 25 Workshop: LLMs for Qual Research (LLM-QUAL)

4th March 2025, 09:00–17:00 GMT, Dublin, as part of LAK25 Conference

This workshop was part of the pre-conference program for the 14th International Conference on Learning Analytics and Knowledge (LAK'25). *From Data to Discovery: LLMs for Qualitative Analysis in Education* was held as a full-day, in-person event on 4th March 2025. It brought together a diverse and interdisciplinary group of researchers, designers, and educators exploring how large language models (LLMs) are being used to support, scale, and transform qualitative research practices in education.

The goal of this workshop was to explore the breadth of work applying LLMs to qualitative analysis, and to collaboratively address the methodological, practical, and ethical implications of this emerging area. Participants engaged with new research on the use of LLMs for tasks such as thematic coding, codebook development, and data processing in qualitative workflows. The workshop also created space for participants to critically examine the affordances and constraints of these techniques, and to discuss strategies for maintaining interpretability, reliability, and ethical rigor in AI-supported qualitative research.

Through short talks and interactive discussions, the workshop catalyzed cross-disciplinary dialogue and sparked plans for continued work. Attendees explored issues such as cross-language analysis, human-AI collaboration in coding, data privacy, and practicalities of using LLMs in real-world research. A key outcome was a roadmap for a systematic review focused on best practices and future directions for research and tool development.

Twenty submissions were accepted and presented at the workshop, highlighting a wide range of applications including inductive and deductive LLM coding pipelines, hybrid analyst-AI collaboration models, cross-model codebook comparisons, and design-oriented approaches to building trustworthy AI systems for qualitative inquiry. These contributions reflect the growing interest in using generative AI not only to accelerate analysis, but to enrich the interpretive process in qualitative education research.

The workshop opened with a welcome and framing session to introduce the goals of the event and connect participants with one another. The core of the day included a series of research showcases followed by group discussions focused on methodological innovation, ethical considerations, and community needs. The final session focused on identifying shared challenges and outlining collaborative efforts, including a proposal for a systematic literature review on LLM-supported qualitative analysis.

Of the 20 presentations at the workshop, five papers (4 long papers, 1 short paper) included in this volume were submitted for CEUR publication following review by the organizing committee. These contributions explored a diverse array of themes at the intersection of qualitative research and artificial intelligence, including multi-agent LLM systems for automated thematic analysis, collaborative coding workflows, AI-supported peer debriefing,

and the application of LLMs in tutoring dialogues and cross-lingual contexts. Collectively, the papers reflected methodological innovations, practical tool development, and critical reflection on the roles of human expertise and machine learning in qualitative inquiry.

- *From Transcripts to Themes: A Trustworthy Workflow for Qualitative Analysis Using Large Language Models* by Aneesha Bakharia, Antonette Shibani, Lisa-Angelique Lim, Trish McCluskey, and Simon Buckingham Shum

- *Toward Automated Qualitative Analysis: Leveraging Large Language Models for Tutoring Dialogue Evaluation* by Megan Gu, Chloe Qianhui Zhao, Claire Liu, Nikhil Patel, Jahnvi Shah, Jionghao Lin, and Kenneth R. Koedinger

- *Bridging Human and Machine Perspectives: Integrating Large Language Models into Collaborative Coding and Peer Debriefing for Qualitative Inquiry* by Haoning Jiang, Seth Corrigan, Kylie Peppler, and Tisa Islam Erana

- *Collaborative AI for Qualitative Analysis: Bridging AI and Human Expertise for Scalable Analysis* by Grace C. Lin, Emma Anderson, Carúmey Stevens, Brandon Hanks, Disha Chauhan, Amelia Farid, Mic Fenech, and Eric Klopfer

- *Automating Thematic Analysis with Multi-Agent LLM Systems* by Sreecharan Sankaranarayanan, Conrad Borchers, Sebastian Simon, Elham Tajik, Amine Hatun Atas, Berkan Celik, Francesco Balzan, and Bahar Shahrokhian

We are deeply grateful to all authors, presenters, and participants who contributed to this lively and generative event. Special thanks to our program committee members, whose expertise helped shape the review process and contributed to the success of the workshop. We hope this event marks the beginning of an ongoing research community devoted to understanding and advancing the use of LLMs for qualitative inquiry in education.