

Qualitative exploration of virtual versus in-person delivery of MicroResearch workshops designed for research capacity-building in East Africa.

Two-Page Proposal

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Introduction: MicroResearch (MR) is a non-profit organization that trains, mentors, and funds local healthcare workers to conduct community-based health research to improve the planning and delivery of care^{1,2}. MR provides 2-week-long workshops (WS) delivered in English at various universities and hospitals in Africa and Asia³. Previously offered in person, these WS transitioned to a virtual format in the context of the COVID-19 pandemic⁴. Most existing literature regarding online teaching focuses on the teacher's perspective⁵ or quantitative outcomes such as university exam performance^{6,7}. However, a knowledge gap exists in evaluating the experiences of practicing healthcare and community workers who are mature learners in online real-time workshops.

Objectives: The primary objective is to describe the advantages and challenges of virtual delivery of MR WS compared to in-person WS as experienced by participants from East Africa⁸. Secondary objectives are to determine potential strategies to improve participant learning and engagement in virtual or in-person MR WS; and to explore participants' experiences of these WS and their impacts on their self-perceived capacity to conduct research in their careers.

Methods: This qualitative study will use post-WS survey responses completed by participants and semi-structured interviews within a framework of grounded theory with an interpretive approach⁹. The population of interest includes East African learners who are fluent in English and participated in either an in-person or virtual WS between 2016 and 2022. We chose this qualitative method to gather data on subjective experiences that would be difficult to capture with questionnaires or quantitative methods.

All available pre- and post-WS surveys from the population of interest will be used; and responses have been anonymized and aggregated. Survey responses, two pilot interviews, and input from a local Ugandan collaborator will be used to refine the interview guide and recruitment strategy.

Recruitment for interviews will be based on a purposive maximum variation sampling strategy. Criteria for variation sampling consist of participant's gender, profession or discipline, format of WS, year and site of WS attended (or country of residence if they attended a virtual WS). The investigators generating the list of potential interviewees will be blinded to the names of participants. The MR coordinator, who coded the names of the participants, will email candidates with information about the research study, the study consent form, and a request to email back if they do not wish to be further contacted by the research team. Prior to sending e-mails, an announcement will be posted on MR's website to notify potential e-mail recipients and confirm the study's intents.

One-on-one semi-structured interviews will be conducted by the PI, using a pre-defined interview guide using both open-ended and close-ended questions to confirm participant demographics; discuss their experiences as a virtual or in-person learner, the quality of interactions between learners and with instructors; and explore their opinions of the WS formats even if they did not personally experience both. Interviewees will also be asked about the perceived impacts of MR WS on their professional life, ability to conduct research, or other impacts.

Interviews will be recorded then professionally transcribed. Participants will be provided the opportunity to review their transcript and clarify or expand on their responses (member checking)⁹. Concurrent with the interview period, descriptive coding and thematic analysis of interview transcripts will be used to

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refine the interview guide to obtain greater depth in understanding participants' opinions and generate further data to be interpreted and establishing saturation⁹. To further maintain qualitative rigor and transparency, any changes to the code definitions or to the interview guide and any findings during analysis will be documented in memos. Two coders (the PI and the African co-investigator) will analyze and code the interview transcripts with a constant comparative analysis approach⁹ using NVivo 12 Pro software. This is an iterative process and variations in coding will be discussed and resolved with both coders and the supervisor. They will regularly review their analyses together with the research supervisor to maintain consistent coding and monitor for emerging themes. We estimate a total of 24 interviews to attain saturation¹⁰.

Ethical Considerations: In exercising reflexivity, we recognize that while most of the participants are Black-African, most of the team members are non-African, non-Black, and/or affiliated with MR. This could potentially result in preconceptions on the impact of virtual WS compared to in-person WS. Potential biases will be mitigated by the fact that the Principal Investigator (PI) has not been involved with MR prior to this study and that a local Ugandan Co-Investigator who has worked with MR will provide culturally competent insight in the study design, interview guide drafting, participant recruitment strategy, and data analysis.

Anticipated Results & Their Implications: Virtual WS participants will likely report advantages of online curricular resources and access to the WS from home. In contrast, in-person WS might create an environment where people feel more engaged and comfortable in interacting with coaches and peers both during and outside of WS sessions. Highlighting the benefits and challenges from the learner's perspective experienced in online versus traditional learning can optimize curriculum design, blended educational delivery models, and learner engagement and meaningful relationship-building. Furthermore, holding virtual WS significantly reduces operating and travel costs, thus allowing the opportunity to offer more frequent WS.

Knowledge Translation: Our primary audience is the MR personnel responsible for curriculum design and workshop delivery. Secondary audiences are other capacity-building organizations and educators who can apply the findings and strategies proposed from this study's analysis. To assess for impact, the MR team will continue to monitor post-WS survey responses for participant satisfaction and specific challenges identified during this study. To disseminate our findings, we plan to share our manuscript and conclusions within MR WS planning meetings as well as publishing it on the official MR website, MR social media, and if approved, in relevant journals. Interviewees will also be offered a copy of the final study article.

Timeline: The project proposal, draft interview guide, and recruitment strategy have been written. We will apply for REB delegated review of this minimal risk study by March 2022. Pilot interviews, recruitment and booking of interviews will take place until May 2022. From June to November 2022, interviews will occur in parallel to coding and data analysis until saturation is reached. Target date for completion of manuscript writing and review will be June 2023.

Budget: Total projected cost is \$2,348.60 CAD, most of which consists of interview transcription fees. Please see the table attached below for a summary for further details.

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Table 1: Project Estimated Budget

| Item | Quantity | Unit Cost (CAD) | Cost (\$ CAD) |
|--|-------------------|---|-------------------|
| Interview transcription | 30 audio hours | \$60/hour | 1,800 |
| Honoraria | 24 | \$13/interviewee (equiv. \$10 USD) | 312 |
| Office supplies | N/A | N/A | N/A |
| NVivo 12 Pro | 2 x free licenses | \$0 for 1 st coder (free via Dalhousie University) \$0 for 2 nd coder (free via registered university license) | 0 |
| Online video interviews/Internet usage to reimburse interviewees | 24 | \$6.50 (equiv. \$5 USD) | 156 |
| Cost of money transfer fee to East Africa | 10 | \$6.50 + 5% of amount sent (equiv. \$5 USD + 5%) | 80.60 |
| Total | | | \$2,348.60 |

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