

Guiding the Use of Critical Utopian Action Research for Service-Learning Practitioners: An Example From an Information Technology Service-Learning Project

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Abstract

This paper introduces Critical Utopian Action Research (CUAR) as an innovative methodology for enhancing collaboration and joint decision-making in service-learning contexts. Focusing on an Information Technology Service-Learning project in South Africa, the research demonstrates the effective implementation of CUAR through a Future-Creating Workshop. The study employed a six-phase workshop design, including Preparation, Introduction, Critical Appraisal, Utopian, Realization, and Follow-Up phases. Data were collected through audio recordings, participant artifacts, and researcher observations, with thematic analysis used for interpretation. A novel Future-Creating Workshop Workbook was developed to facilitate idea generation and data collection. Findings highlight CUAR's potential to democratize expertise, empower marginalized voices, and bridge the gap between academic institutions and community partners. The methodology fostered stakeholder engagement, generated innovative solutions, and developed shared visions for project improvement. Challenges such as time constraints and the need for skilled facilitation were identified. This research contributes to the theoretical understanding of CUAR in service-learning contexts and provides practical guidance for practitioners seeking to implement collaborative and participatory methodologies. The paper concludes that CUAR has the potential to significantly enhance the impact and sustainability of service-learning initiatives and offers a robust framework for addressing methodological challenges in community-engaged research and practice.

Service-learning practitioners often face a significant challenge in selecting appropriate research methodologies that foster genuine collaboration and joint decision-making among community partners and stakeholders (A. K. Nielsen & Svensson, 2006). While various participatory research methods exist, there is a notable lack of approaches that effectively combine critical analysis, utopian thinking, and actionable strategies in the context of service-learning projects. This paper addresses this gap by introducing Critical Utopian Action Research (CUAR) as an innovative and effective approach, focusing on its application in an Information Technology Service-Learning (ITSL) project in South Africa.

The purpose of this paper is threefold.

1. We introduce CUAR as a robust framework for service-learning research that combines critical analysis, utopian thinking, and actionable strategies.
2. We provide comprehensive and pragmatic instructions for implementing CUAR, particularly through the Future-Creating Workshop method.
3. We demonstrate the effectiveness of CUAR

through a case study of an ITSL project in South Africa.

This paper begins with an overview of CUAR and outlines its theoretical foundations and key principles. We then provide context for the ITSL initiative in South Africa and detail its objectives. The central section focuses on the six phases of the Future-Creating Workshop—Preparation, Introduction, Critical Appraisal, Utopian, Realization, and Follow-Up (Cohen et al., 2017)—and describes the theoretical basis, practical implementation, and tools used in each phase. We discuss the data collection methods, including audio recordings and participants' notes, and then explain the thematic analysis used for data interpretation. The paper concludes by evaluating the CUAR process and reflecting on its strengths, challenges, and recommendations for future use in service-learning. This exploration aims to equip practitioners with a tool for enhancing collaboration and fostering innovation in their service-learning projects.

Background

This background section provides the contextual framework for understanding CUAR

and its application in service-learning contexts. We examine the importance of community-driven education and collaborative approaches in service-learning, which form the foundation for CUAR's principles. We then introduce CUAR as an innovative methodological approach and explore its key components and objectives. The section concludes with a detailed discussion of the Future-Creating Workshop, a central tool in the CUAR methodology.

The Importance of Community-Driven Education

Community education is most effective when it emerges from within the community rather than being imposed from outside. Communities possess extensive local knowledge and insights into their own challenges, and they are well positioned to suggest which solutions will likely be effective or ineffective. Additionally, they are attuned to local values, cultures, practices, and political dynamics (Guajardo et al., 2015). To ensure the active involvement of individuals in their own learning, it is essential to establish democratic learning environments, employ teaching methods that encourage action-oriented learning, and remain receptive to various perspectives (Wood & Zuber-Skerrit, 2013). Therefore, educational programs should be community-driven and tied to local concerns rather than follow a one-size-fits-all curriculum.

Collaborative Approaches in Service-Learning

Numerous studies emphasize the importance of collaboration between universities and community partners in addressing local challenges (Lee & Bozeman, 2005). In these collaborative relationships, all partners contribute to a shared search for sustainable solutions to challenges and service needs (Fourie, 2006). In the context of service-learning projects, these initiatives must strive to serve the community's needs and adapt to keep up with the ever-changing realities of everyday life. It is imperative that the community informs the evolution of service-learning projects so the projects remain relevant and practical.

Introduction to Critical Utopian Action Research (CUAR)

CUAR is an innovative methodological approach within the field of action research. It intersects critical theory, utopian thinking, and participatory research methods (Egmose et al., 2020). CUAR's primary purpose is to establish open environments where individuals can

collaboratively address, develop, and act upon critical experiences and innovative ideas rooted in their daily interactions as members of local communities and organizations (B. S. Nielsen & Nielsen, 2016). CUAR has a number of overarching goals:

- counteract the decline of democracy through grassroots initiatives;
- expand the realms of participation in shaping societal futures;
- foster societal democratization across subjective, organizational, and structural dimensions;
- empower citizens to actively engage in knowledge creation and decision-making processes; and
- promote social learning and utopian thinking to inspire sustainable societal transformation (Fouché, 2022; B. S. Nielsen & Nielsen, 2016; Nutti, 2018; Tofteng & Bladt, 2020).

CUAR challenges elite-driven future shaping and advocates for inclusive, participatory approaches to societal challenges. It fosters collaborative problem-solving in local communities to counter democratic decline (Egmose et al., 2020; Nutti, 2018). CUAR addresses power imbalances, broadens perspectives, and views futures as open and evolving (Gayá & Brydon-Miller, 2017; Glerup et al., 2020). It emphasizes democratic engagement in daily life, workplaces, and political deliberations (Nutti, 2018). CUAR connects scientific knowledge with everyday experiences, treating citizens as collaborators rather than subjects (Egmose et al., 2020). Researchers must adopt a critical stance toward societal structures and scientific principles. The framework values social learning and democratic responsibility, and it creates communication platforms for diverse viewpoints ranging from expert knowledge to local wisdom (Gayá & Brydon-Miller, 2017; Tofteng & Bladt, 2020). As a reformist action research tradition, CUAR aims to change the existing reality, focusing on free spaces, the researcher's role, and the Future-Creating Workshop.

Key Components of CUAR

Arenas for Social Learning. CUAR projects create "free spaces" for imagination and aspirations to thrive beyond everyday constraints (Glerup et al., 2020). Influenced by Kurt Lewin and Oskar Negt, CUAR draws on social-democratic and critical theory to foster open critique of power structures (Bladt & Nielsen, 2013; Tofteng & Bladt, 2020). Free spaces act as labs for social learning

and imaginative exploration. Although obstacles may exist, CUAR uses various workshop formats to empower individuals to envision and enact change (Tofteng & Bladt, 2020). It frames lives shaped by historical contexts while seeking new paths for human betterment, balancing critique of past and present with visions of utopian futures to enable collaborative action (Egmose et al., 2020).

Role of the Researcher. CUAR highlights the researcher's role drawing on Hans Skjervheim's philosophy, which asserts that human existence requires active engagement with the world and a sense of commitment (Gleerup et al., 2020). Meaningful dialogue occurs when researchers and participants share common interests and are part of the same process (B. S. Nielsen & Nielsen, 2016). Researchers must reflect on their involvement, not remain passive. In CUAR, they actively propose new democratic structures based on research findings and facilitate free spaces and social learning mechanisms to exchange lived experiences and collaboratively address societal issues (Tofteng & Bladt, 2020).

The Future-Creating Workshop. The Future-Creating Workshop, the central method in the CUAR tradition, was developed by Robert Jungk (Jungk & Müllert, 1987) to challenge "expert culture" and promote everyday knowledge and a less authoritarian worldview (Tofteng & Husted, 2014). It encourages citizen-led initiatives for societal transformation (Egmose et al., 2020). CUAR emphasizes that utopian thinking should emerge from critical analysis rooted in participants' experiences (Tofteng & Husted, 2014). The Future-Creating Workshop facilitates social learning and helps participants understand societal conditions and contemporary challenges (Egmose et al., 2020). It generates action and social activism while exploring changes based on critiques of current living and aspirations for a utopian future (Tofteng & Bladt, 2020). This method inspires change processes (Gleerup et al., 2020) and fosters a societal environment freed from everyday constraints (Bladt & Nielsen, 2013).

In conclusion, CUAR provides a robust participatory research framework combining critical analysis, utopian thinking, and actionable strategies. It offers a unique approach to tackling societal challenges with components like social learning arenas, the researcher's role, and the Future-Creating Workshop. This methodology is well suited for service-learning contexts that aim to foster collaboration between academia and communities. By promoting democratic

engagement, empowering citizens, and supporting social learning, CUAR can drive meaningful, sustainable change. We will now explore how these principles were applied in an ITSL project in South Africa, demonstrating CUAR's practical implementation.

Case Study: Applying CUAR to a South African Information Technology Service-Learning (ITSL) Project

This case study explores the application of the CUAR methodology and the Future-Creating Workshop in an ITSL project at the University of the Free State (UFS) in South Africa. The example demonstrates how service-learning practitioners can use CUAR methods to foster collaboration and shared decision-making in their projects. By examining this case, we aim to guide other practitioners looking to implement similar approaches in various service-learning contexts. The case study covers stakeholder engagement, the structure of the Future-Creating Workshop, and the outcomes achieved through this methodology, offering a model that can be adapted to other service-learning initiatives.

Institutional Context

The UFS is a comprehensive public university serving approximately 37,000 students across multiple campuses in central South Africa. The UFS Department of Computer Science and Informatics is committed to community engagement through its undergraduate service-learning module (CSIS2642). The ITSL project operates within a broader institutional framework that prioritizes addressing social inequalities and the digital divide affecting historically disadvantaged communities. The project specifically targets urban and rural communities in the Mangaung Metropolitan Municipality, where unemployment rates exceed 40% and many residents have limited access to digital technologies (Koteli, 2023). These communities were historically marginalized during apartheid and continue to face significant socioeconomic challenges, including limited educational opportunities and restricted access to technological resources.

ITSL Project and Organizational Setting

The ITSL project at the UFS, initiated in 2014, aims to mitigate the digital divide affecting marginalized communities in central South Africa. Operating through the Department of Computer Science and Informatics as part of

CSIS2642, the project provides computer literacy training that focuses on Microsoft Word and Microsoft Excel skills. The project's primary goal is to equip community members with essential digital skills that enhance their access to resources and opportunities. Over time, it became evident that the project needed refinement to better meet the community's specific needs. This realization highlighted the importance of involving all stakeholders in a review process to collaboratively identify improvements to the program that would benefit both the community and the academic participants.

CUAR was selected as the methodology to support this review process because of its capacity to promote social imagination, draw on everyday experiences, and maintain a critical perspective while encouraging utopian thinking. The key element of this research activity was the Future-Creating Workshop, in which participants could collectively assess the ITSL project, generate new ideas, and create an improvement plan.

The challenges encountered in the ITSL project—ensuring the service met community needs, maintaining effective communication between academic institutions and community partners, and adapting to changing circumstances—are common to service-learning initiatives across fields. Balancing academic goals with community impact, engaging diverse stakeholders in decision-making, and bridging the gap between theory and practice are other recurring issues in service-learning (Andress et al., 2020; Hawes et al., 2021). This case study illustrates valuable CUAR-derived insights and strategies that practitioners can use to address these challenges in various service-learning contexts, including health care, education, environmental conservation, and social justice.

Community Partners

The ITSL project involved collaboration with three established community organizations:

- Mangaung Concerned Residents Organization is a grassroots community organization focused on local development.
- The South African Red Cross Society is an established humanitarian organization with deep community connections.
- The loveLife organization is a youth-focused NGO working on community development.

These organizations played crucial roles in community engagement, participant recruitment, and project implementation, providing vital links between the university and local communities.

Power Dynamics and Inclusivity

Several elements of the project design aimed to address potential power imbalances between academic and community participants:

- equal representation from each stakeholder group in team compositions
- use of multiple participation methods (verbal and written) to accommodate different comfort levels
- implementation of brainwriting techniques to ensure all voices could be heard
- creation of safe spaces for sharing through structured activities
- use of participants' preferred languages during team discussions

This context ensured that all stakeholders could contribute meaningfully to the project's improvement regardless of their background or position, which in turn formed the foundation for implementation of the CUAR methodology.

Methodological Framework: Conducting the Future-Creating Workshop Overview and Objectives

CUAR involves carefully designed steps to promote democratic participation, critical reflection, and practical action. This section outlines the methodological framework employed in our study, focusing on the Future-Creating Workshop as the primary tool for data collection and collaborative problem-solving. It provides a comprehensive overview of our research design and details the workshop phases, participant selection, data collection methods, and analysis approach. Understanding this methodological framework is crucial because it forms the foundation of our study. This section also directly addresses our research questions on the effective implementation of CUAR in service-learning contexts and its benefits in fostering collaboration. By presenting a transparent and detailed account of our methods, we aim to demonstrate the rigor of our approach and provide a replicable model for other researchers and practitioners in the service-learning and participatory action research field.

Workshop Design

We conducted the Future-Creating Workshop, the most widely used tool of CUAR, according to the five phases of a classic Future-Creating Workshop (Jungk & Müllert, 1996), with the addition of an introduction phase:

1. Preparation phase
2. Introduction phase

3. Critical Appraisal phase
4. Utopian phase
5. Realization phase
6. Follow-Up phase

The first phase will be discussed separately, as it occurred before the workshop and involved all the necessary preparations to ensure its success.

Preparation Phase

Meticulous planning was necessary to ensure the successful implementation of the Future-Creating Workshop. The Preparation phase involved the pre-workshop design, selection, and organization of several key areas that informed the structure, facilitation, and implementation of the Future-Creating Workshop.

Facilitation Technique. The workshop adhered to the basic principles of a Future-Creating Workshop, ensuring that all participants were equally valued, all contributions were important, and every participant had the opportunity to speak (Lauttamäki, 2014). A specific facilitation technique called the funnel pattern was utilized, consisting of six steps (Troxler & Kuhnt, 2007):

1. introductory plenary session
2. team activities with creative exercises
3. mind mapping for idea structuring
4. team discussions for idea expansion
5. selection of most valuable ideas
6. concluding plenary session with feedback and review

The researcher was mindful of the transitions between different phases, particularly the shift from the Critical Appraisal phase to the Utopian phase, which required a transformation in participants' mindset.

Schedule. Given participants' travel requirements and work commitments, the Future-Creating Workshop was condensed into a 1-day event. A detailed schedule was developed and shared with all participants during the Introduction phase.

Discussion Themes. During the Preparation phase of the Future-Creating Workshop, it is essential to identify discussion themes that will form the basis of the workshop's structure and content. Organizers typically use interviews with key stakeholders or surveys to gather insights on the most pressing issues, opportunities, and areas of interest. This thematic framework ensures the workshop stays focused on participants' needs, leading to more meaningful outcomes.

For the ITSL project, we employed a questionnaire to identify preliminary discussion

themes. Questionnaires were distributed to community members from the Mangaung metropolitan area who had previously participated in the ITSL project (Fouché & Nel, 2024a).

The survey analysis revealed 10 initial themes that formed the foundation for workshop discussions:

1. venue and accessibility
2. equipment and technical resources
3. transportation challenges
4. recruitment and outreach
5. content delivery methods
6. presenter preparation
7. learning materials
8. time allocation
9. graduation ceremony
10. postproject engagement opportunities

These themes were validated and refined during the workshop through participant feedback, ensuring they remained relevant to all stakeholder perspectives. This data-driven approach to theme development helped build a comprehensive framework for enhancing the project and ensuring that all critical aspects were addressed.

Activities. Specific creative activities were selected to ensure all participants' opinions were valued and to support creative problem-solving processes. These activities were carefully chosen to facilitate both divergent thinking (generating ideas) and convergent thinking (selecting promising ideas). The following key activities were employed in the workshop:

- **SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis:** This classic strategic planning tool provides a structured framework for evaluating internal strengths and weaknesses and external opportunities and threats. It is beneficial for initiating the analysis process and getting participants to think critically (Ørngreen & Levensen, 2017).
- **Brainstorming:** This technique is excellent for quickly generating many ideas. By suspending judgment during the Ideation phase, brainstorming encourages creativity and reduces self-censorship among participants (Kerzner et al., 2019).
- **Forcefield analysis:** This method is valuable for challenging existing paradigms and generating more radical ideas. Examining positive and negative experiences provides a balanced approach to improvement (Proctor, 2020).
- **Brainwriting:** This nonverbal alternative to brainstorming is helpful for including

participants who may be less comfortable with verbal sharing. It also allows for ideas to be built upon and developed collaboratively (Langham & Paulsen, 2020).

- Storytelling: This technique helps build empathy and shared understanding among participants. It is particularly effective for capturing nuanced experiences that might not be easily conveyed through more structured methods (Cohen et al., 2017).
- Wishful thinking: This method promotes creative, out-of-the-box thinking by encouraging utopian ideation. It is a great way to generate innovative ideas that might later be adapted into more practical solutions (Kerzner et al., 2019).
- Mind mapping: This visual technique is excellent for organizing and connecting ideas generated through other methods. It helps participants see relationships and patterns that might not be apparent in linear formats (Prieto-Alvarez et al., 2018).

These activities were sequenced strategically throughout the workshop phases to maintain engagement, stimulate creativity, and progressively refine ideas. Combining individual, small group, and plenary activities ensured that all participants had multiple opportunities to contribute in ways that suited their preferences and strengths.

Workshop Tool: The Future-Creating Workshop Workbook. Unlike many other facilitation methods, a Future-Creating Workshop typically does not necessitate an elaborate set of tools. For this study, however, we developed a novel tool (the Future-Creating Workshop Workbook) to enhance both the workshop process and data collection. Designed specifically for this context, the workbook guided participants through each phase of the workshop and helped them organize, visualize, and record their ideas in a structured manner. The Future-Creating Workshop Workbooks were created using 42 cm x 40 cm project board pads. This workbook, which represents a significant enhancement to the traditional Future-Creating Workshop methodology, had the following key features:

- Structured sections: The workbook was divided into sections corresponding to each workshop phase, ensuring a logical flow of activities.
- SWOT analysis template: A dedicated section for SWOT analysis included explanations and space for participants to record their insights. The template provided clear quadrants

for strengths, weaknesses, opportunities, and threats, with guidance text helping participants understand each category.

- Themed pages: Preprepared sections for identified themes in both the Critical Appraisal and Utopian phases allowed for organized idea generation and categorization.
- Integrated mind mapping: Space and guidelines were provided for creating mind maps, facilitating visual representation of ideas and their interconnections.
- Reflection prompts: Carefully crafted questions and prompts stimulated deeper thinking and discussion at various points in the workshop.
- Idea recording space: Ample blank space was included for participants to write, sketch, or attach sticky notes with their ideas.

At the beginning of the workshop, each team received a workbook that would serve as a foundational tool for the session. Participants used the workbooks to record their ideas, often utilizing sticky notes that could be easily moved and reorganized. This flexible format allowed for dynamic reorganization of thoughts and facilitated the iterative process of brainstorming and refining ideas. The workbook functioned as a central repository for all team discussions and outputs, ensuring all contributions were documented and accessible for review. This method streamlined the data collection process and supported a collaborative environment in which ideas could be easily shared and built upon.

The structured workbook was designed with several key objectives. It aimed to provide a clear framework for organizing the workshop and addressing all critical topics. It was also intended to support systematic data collection and make it easier to analyze discussions afterwards. It aimed to encourage hands-on participation, boost engagement, and create a more interactive and collaborative environment. Another goal was to promote continuity, allowing participants to revisit and build on earlier ideas for a cohesive flow. Overall, the workbook was developed to strengthen the Future-Creating Workshop methodology by offering a structured yet adaptable tool to guide idea generation and documentation while addressing common facilitation challenges such as maintaining focus and capturing meaningful input (Landreman, 2013).

To complement the Future-Creating Workshop Workbook, the following traditional tools were also utilized:

- PowerPoint presentations for plenary sessions
- colored pens, paper, and broad-tipped markers for additional note-taking and visual representations
- sticky notes for quick idea capture and easy reorganization of concepts
- a portable projector for displaying presentations and shared digital content

Combining the innovative Future-Creating Workshop Workbook with these traditional tools created a comprehensive toolkit that supported all aspects of the workshop process, from individual ideation to group discussion and plenary presentations.

Venue. The venue's location and layout were key to the workshop's success. Following Egmore et al's (2020) recommendations, we chose a room with no permanent fixtures, soft lighting, and moderate acoustics. The space was furnished with light, movable tables and chairs, and a noticeboard for displaying visual materials. The room was set up for both plenary and team sessions. In plenary, chairs were arranged in a semicircle to encourage open discussion and equal participation. The furniture was rearranged for team activities to create distinct workspaces for each group, promoting focused collaboration while remaining close for easy facilitation. A portable projector was used during introductions and plenary sessions to present key information and ideas. The room's flexibility allowed smooth transitions between workshop phases without disrupting the flow or requiring participants to move locations. The space could be quickly reconfigured from a semicircle arrangement for plenary discussions to distinct team workspaces with clustered tables and chairs.

Particular attention was paid to creating an atmosphere conducive to creativity and collaboration. As Troxler and Kuhnt (2007) have suggested, unique decorations convey that something exceptional is happening, setting the stage for cooperation and innovative thinking. Our careful structuring of the physical environment was designed to enhance participant motivation and engagement throughout the workshop. All venue preparations were completed at least 1 hour before the workshop's commencement, ensuring a smooth start and allowing time for any last-minute adjustments. This meticulous approach to venue setup contributed significantly to the overall effectiveness of the Future-Creating Workshop.

Participant Selection

The Future-Creating Workshop aimed to enhance existing services and was primarily practice oriented (Lauttamäki, 2014). To ensure the workshop's effectiveness, participation was restricted to key stakeholders from the ITSL project, explicitly focusing on essential agents and decision-makers. The final sample consisted of 18 participants representing three distinct stakeholder groups.

Community Members ($n = 9$). These participants were individuals who had previously completed the ITSL computer literacy training. All came from historically disadvantaged backgrounds within the Mangaung metropolitan area. The group had the following demographic characteristics:

- The community member cohort included seven female participants and two male participants.
- Community members' ages ranged from 22 to 54 years.
- Their educational backgrounds varied from incomplete secondary education to matriculation.
- All participants spoke Sesotho as their first language, with varying levels of English proficiency.
- Most were unemployed or employed in the informal sector.
- Prior to the ITSL project, none had formal computer literacy training.

Community Partners ($n = 6$). The project included two representatives from each of the three partner organizations:

- Mangaung Concerned Residents (MCR) organization: Community development workers with grassroots organizing experience
- South African Red Cross Society: Program coordinators with humanitarian sector experience
- loveLife organization: Youth program facilitators with NGO sector experience

University Students ($n = 3$). These were undergraduate service-learning students who had previously served as ITSL project presenters. All were computer science majors in their third year of study, representing the demographic diversity of the university's student population.

Sampling

Special attention was paid to addressing potential power imbalances between academic and community participants. The community member

participants, many of whom had experienced educational and economic exclusion, came from historically disadvantaged backgrounds within the Mangaung metropolitan area. Most had limited formal education, spoke Sesotho as their first language, and had no prior formal computer literacy training. Both purposive and convenience sampling methods were used.

Purposive sampling ensured that only individuals directly involved in the ITSL project were included (Staller, 2021), while convenience sampling allowed the inclusion of participants who could be easily reached through an existing WhatsApp communication group established during previous ITSL activities. This sample size aligned with Jungk and Müllert's (1987) recommendations that Future-Creating Workshops should involve 15–20 participants for effective engagement.

Phases of the Future-Creating Workshop

Introduction Phase. While the classic Future-Creating Workshop model moves directly from the Preparation phase to the Critical Appraisal phase, our study added a 30-minute Introduction phase. This change ensured participants understood the process and their roles, which were key to the workshop's success. This phase marked the start of the active workshop and laid the groundwork for the activities to follow. It began with a structured introduction for participants from all three stakeholder groups, giving each individual an opportunity to introduce themselves briefly and articulate their expectations for the workshop concisely. This approach aimed to foster equality among participants and create an open atmosphere from the start to set the stage for collaborative engagement.

After introductions, a comprehensive overview of the Future-Creating Workshop method was presented, covering the theoretical background and principles, specific techniques to be used during the workshop, and rules for participant interactions and idea generation. This overview was essential for establishing a shared understanding of the workshop's structure and objectives (Troxler & Kuhnt, 2007).

Clear guidelines were set to promote a productive, inclusive environment. Criticism of ideas was discouraged to encourage free thinking; quantity was emphasized over quality or feasibility. Participants were urged to build upon and combine ideas, focusing on imagination and originality (Egmoose et al., 2020). These norms fostered creative

ideation and collaborative problem-solving. Participants were divided into three balanced teams to ensure equal representation from all stakeholder groups. This composition facilitated diverse perspectives and cross-stakeholder dialogue, which enhanced the richness of ideas (Andress et al., 2020).

The Introduction phase used a plenary format. Subsequent phases alternated between plenary and team sessions. This approach balanced collective understanding with small-group work, as supported by research on effective workshop design (Ørngreen & Levinsen, 2017).

Critical Appraisal Phase. The Critical Appraisal phase began with a plenary session outlining the aims and tasks. Participants were then divided into teams to conduct a SWOT analysis of the ITSL project (Nash et al., 2019), which provided a framework for the critical assessment. Teams recorded their ideas on sticky notes and organized them in the relevant sections of their Future-Creating Workshop Workbooks.

Various techniques were used to generate at least five positive and five negative points for each theme. Storytelling was used to elicit participants' lived experiences related to each theme, with individuals sharing brief personal narratives of positive and negative encounters within their teams. These narratives were translated into written inputs through brainwriting, with participants recording positive and negative comments on sticky notes. Mind mapping was then used to categorize the ideas, separating positive and negative comments into clearly organized sections within their workbooks. This visual organization helped teams identify patterns and prioritize the most significant issues for further discussion. Each team selected a representative to share their critical appraisal during the subsequent plenary session, during which the facilitator recorded responses on a visible PowerPoint presentation.

Utopian Phase. Merely critiquing the project and analyzing problems can be depressing. Consequently, the Utopian phase aimed to develop future visions, counterbalancing the potentially discouraging effects of problem analysis. Participants were encouraged to use their imagination and dream about a better future for the project without limitations (Troxler & Kuhnt, 2007). The atmosphere became notably more animated as participants embraced the freedom to think creatively without practical constraints.

Mind mapping was used to categorize the utopian ideas in the workbook, with participants

clustering related concepts and building on each other's visionary thinking. The visual organization helped teams see connections between different aspirational elements. Participants shared their ideas within teams, creating supportive spaces for speculation about alternative futures (Noel et al., 2019).

Thereafter, everyone had the opportunity to share their utopian ideas with the other team members. Supportive spaces for participants to speculate about different futures or alternative scenarios were created by reflecting on concerns and sharing experiences (Noel et al., 2019). Participants were requested not to critique ideas but to select and develop them further. Team representatives presented their utopian ideas in a plenary session, with the facilitator recording feedback on visible displays. This sharing process generated excitement and cross-pollination of ideas between teams.

Realization Phase. The Realization phase focused on developing an action plan. Participants reviewed and selected implementable ideas from the Utopian phase, categorizing them using team discussions and mind mapping. After reaching a consensus, they created an action plan with tasks for future implementation. Due to time constraints, the Realization phase was extended through non-face-to-face activities (Troxler & Kuhnt, 2007). Teams continued discussions via WhatsApp for a week, and leaders compiled ideas into action plans. Photos of the workbook sections were shared on WhatsApp to help participants refine ideas into actionable initiatives (Clark et al., 2020). The phase concluded with the foundation of initiatives in an action plan.

Follow-Up Phase. The workshop concluded with the development of a consolidated action plan that brought together implementable strategies from all teams (Lauttamäki, 2014). The researcher compiled this plan using the individual team submissions, which were then shared with all participants for review and approval.

Data Collection Methods

The exploratory nature of CUAR led to the primary use of qualitative methods for data collection. The Future-Creating Workshop utilized three data collection methods: audio recordings, participants' notes (artifacts), and informal observations by the researcher-facilitator. Audio recordings captured team and plenary sessions, aiding thematic analysis (Lauttamäki, 2014). Three types of artifacts were collected: a PowerPoint

presentation recording feedback during plenary sessions, a creative tool (Future-Creating Workshop Workbook) for participants to share and categorize ideas, and action plan documents detailing implementable strategies. This immersive and collaborative environment allowed for negotiated meaning-making (Ørngreen & Levinsen, 2017). The researcher's role as facilitator enabled immediate clarification of any inconsistencies or misunderstandings. The combination of these methods provided a comprehensive approach to documenting the workshop process, from inception to conclusion, despite the challenges inherent in capturing such dynamic interactions.

Data Analysis Approach

Following Braun and Clarke's (2006) six-step approach, thematic analysis was used to analyze data from the Future-Creating Workshop. This method was chosen for its ability to capture and interpret participants' opinions, ideas, and experiences.

Initial Coding and Analysis. Our analysis began with a hybrid approach that used both inductive and deductive coding strategies. The deductive codes were based on the 10 predetermined workshop themes identified during the Preparation phase. The process began with reviewing all collected data, including workbooks, presentations, audio recordings, and action plans, ensuring consistency across the 18 participants. Data were consolidated in Microsoft Excel and analyzed using NVivo 12 for Windows. We generated initial codes and aligned the data with both the predetermined themes and emergent patterns. A semantic approach was used to focus on the explicit content of the data, as much had already been categorized within the workbooks (Terry et al., 2017). Inductive codes emerged from participant responses that extended beyond the initial framework.

Triangulation Process. Data triangulation was achieved through systematic comparison across three primary sources:

- audio recordings capturing real-time participant discussions and reactions
- written artifacts from Future-Creating Workshop Workbooks documenting structured responses
- facilitator observations noting nonverbal responses and group dynamics

We compared findings across these data sources for each theme to identify convergent and divergent perspectives. For example, when

participants discussed venue challenges, we examined their initial written SWOT responses, their verbal elaborations during team discussions, and facilitator observations of their engagement levels during these conversations.

The final step involved relating our analysis to the research questions and organizing subthemes within each major theme category. This systematic approach enabled a comprehensive interpretation of CUAR's effectiveness in service-learning contexts while maintaining methodological rigor.

Ensuring Validity and Reliability

Multiple strategies ensured the credibility and validity of the research. Triangulation was the primary approach; diverse data sources such as audio recordings, facilitator observations, and three different artifacts were used to enhance reliability by corroborating findings (Clark et al., 2020; Cohen et al., 2017). Member checking was employed to verify that data analysis reflected participants' experiences. During plenary sessions, participants could correct misunderstandings in PowerPoint summaries, and each participant reviewed the action plan synthesis for accuracy (Ørngreen & Levinsen, 2017; Parson, 2019). A semantic approach to thematic analysis minimized researcher bias by focusing on the explicit content of the data (Silverman & Patterson, 2021; Terry et al., 2017). Thick descriptions of research settings, participants, data collection methods, and analysis procedures were provided to enhance transferability (Peel, 2020). Comprehensive audit trails were maintained to ensure the study's reliability and dependability (Johnson & Christensen, 2019). These measures aimed to enhance the credibility, validity, and transferability of the research findings.

Evaluation and Personal Reflection

Workshop Effectiveness

The Future-Creating Workshop's effectiveness was validated through multiple participant testimonials and concrete outcomes, demonstrating the methodology's capacity to facilitate systematic problem-solving and collaborative action.

Systematic Problem-Solving Process. One of the workshop's key strengths was its structured approach to problem-solving. Participants found the methodology particularly effective in moving from critique to actionable planning. As one participant explained, "The workshop helped turn ideas into concrete plans by breaking them into clear steps."

The phased methodology successfully guided participants through a comprehensive analysis. One participant noted the effectiveness of the progression: "The initial brainstorming sessions were, naturally, rife with ideas as the facilitator advised us to think without limits. Then, we were tasked with summarizing our ideas, which helped us focus on turning the ideas into workable solutions."

The methodology proved effective in managing complex input from multiple stakeholders. As one participant observed:

The collaborative effort across the board led to the workshop's success. In selecting participants, the facilitator ensured that each stakeholder group was represented. This effort to ensure that every relevant cohort had a say in the utopian solution to the program provided a well-rounded action plan.

Methodological Innovation and Tools. The Future-Creating Workshop Workbooks emerged as a particularly effective innovation. Participants had not experienced this structured documentation approach before. As one community member reported, "The workbooks were the highlight of the workshop. I had not seen, heard of, or been a part of this technique before, and through the workshop, I saw how effectively it supports idea gathering and organization."

The visual organization tools proved especially valuable for different learning styles. One participant explained, "The Post-It activity. I am a visual thinker, and being able to jot down ideas on the Post-It notes freely and then only organize them based on feedback received in the group helped the most to present a coherent critique." Another participant emphasized, "For me, the workbooks helped with arranging the ideas visually to see overlaps, gaps, etc. Seeing these overlaps and gaps would then encourage further group discussions."

The addition of an Introduction phase proved crucial for stakeholder integration. A community member emphasized, "Most of us attending the workshop were gathering together with the project's primary stakeholders for the first time. The information session at the beginning of the workshop made the most significant difference in encouraging collaboration between all attendees."

Process Flexibility and Data Collection Effectiveness. Participants valued the workshop's adaptive approach to time management and

participation. The intensive format was viewed positively, with one participant noting, “I think the timing was spot on. I began to fade as the workshop was due to wind down, so I don’t think I could have continued if the workshop had gone on much longer.”

The structured timeline enhanced rather than constrained creativity: “I like how the workshop was structured but still left room for the free-flowing nature of brainstorming. The structured timeline ensured that we could make the most out of the workshop.” When time constraints threatened completion of certain phases, the framework showed adaptability through digital extensions, with one participant appreciating, “The organization was good. The content was shared at a pace that allowed all to follow. The schedule was friendly and accommodating.”

The workshop’s effectiveness was validated through its comprehensive data collection strategy, which captured multiple forms of evidence: workbook entries, audio recordings of team and plenary sessions, PowerPoint presentations documenting feedback, and facilitator observations. This multimodal approach supported robust triangulation of findings and enabled real-time validation of the methodology’s success.

Concrete Implementation Outcomes. Most significantly, the collaborative process led to immediate action beyond the workshop itself. As one community partner representative highlighted, “The workshop helped us to start a computer class with UFS for the youth of Botshabelo” (Fouché & Nel, 2024b). This outcome shows the workshop’s capacity to move beyond discussion to actual implementation, demonstrating the practical effectiveness of the CUAR methodology in service-learning contexts.

Participants appreciated the practical focus throughout the process. As one reflected, “The workshop presented such a tangible approach to generating solutions and making a plan of action on how to implement the solution.” This feedback validates the workshop’s effectiveness in bridging the gap between ideation and actionable strategies.

Stakeholder Engagement

One of the workshop’s most important achievements was its ability to authentically engage stakeholders, particularly those who had been marginalized in previous decision-making processes.

Empowering Marginalized Voices. The CUAR framework effectively shifted traditional

power dynamics from top-down decision-making to inclusive participation. This transformation was particularly evident in how marginalized participants gained confidence and voice. As one community member explained, “The workshop gave me a voice by encouraging open discussions and valuing everyone’s input. Group activities, sticky notes, and the workshop books made sharing ideas easy and comfortable.”

Community participants, many from backgrounds marked by educational and economic exclusion, experienced significant empowerment through the workshop process. The systematic approach particularly benefited those who had internalized limiting beliefs about their capabilities. One community partner reflected on this transformation:

Years ago, when I decided to assist UFS with the ITSL project, I didn’t think much about it. For someone who is already computer literate, we seem to take it for granted until you hear those testimonies of becoming computer literate that changed so many people’s lives. I got to realize that I have become a part of a big change in my community.

Another participant described how the workshop challenged their self-perceptions: “I believe I have a good understanding of the needs of the youth in my community and the challenges they face regarding computer literacy. Seeing my input valued in discussions has strengthened my belief that every voice counts.”

Participants consistently reported feeling respected and heard throughout the process. As one community member remarked, “There was never a moment where I was made to feel like I didn’t have a contribution to make. Everyone was open, receptive, and encouraging.” Another noted the facilitators’ inclusive approach: “They probed for responses in such a way that everyone had a chance to contribute.”

Inclusive Participation Design. The workshop’s design effectively enabled participation from individuals with diverse communication styles and comfort levels. Smaller breakaway groups proved particularly valuable for ensuring all voices were heard. A community member emphasized this impact: “The smaller groups made a significant difference. The size allowed space for everyone to speak, even the quietest participants, and their insights were drawn out in a way that

wouldn't have been possible in a larger group.”

The methodology successfully fostered collaboration among organizations that might otherwise compete for resources. One community partner representative explained this shift: “We realized that collaboration is key. Competition only leads to our downfall, and the community suffers. By working together as organizations, we are able to pool resources and make the most of what we have.”

The workshop's systematic process enabled stakeholder input across all identified areas for improvement. This comprehensive coverage emerged through authentic stakeholder engagement, with participants from marginalized backgrounds actively contributing throughout the collaborative process. The methodology proved effective in capturing diverse perspectives while ensuring equal participation opportunities for all stakeholder groups.

Building Authentic Partnerships. The high level of engagement during the workshop translated into continued commitment after the event. One community partner shared, “The experience was great. It was informative to meet with other NGOs and share experiences. The content was relevant to all of us, and some even shared personal stories, showing how meaningful the content was.”

The willingness of participants to continue collaboration through WhatsApp groups and ongoing project development showed the workshop's success in building genuine partnerships rather than superficial consultation. This sustained engagement validated the methodology's effectiveness in creating meaningful stakeholder relationships that extended beyond the formal workshop timeframe.

Methodological Insights

Among the most valuable outcomes of this study were the methodological insights gained about implementing CUAR effectively in service-learning contexts.

Multimodal Participation Effectiveness. The CUAR methodology successfully captured participants' authentic experiences and perspectives through multiple channels. The combination of verbal, written, and visual participation methods proved particularly effective. One community member highlighted the value of diverse expression modes: “Being able to jot down ideas on the Post-It notes freely and then only organize them based on feedback received in the group helped the most.”

This multimodal approach was especially important for participants with varying literacy

levels and communication preferences. As another community member explained, “The workbooks helped organize the many ideas visually, making it easier to identify overlaps and gaps. This visual representation encouraged further group discussions and helped refine our thinking.”

The workshop's comprehensive data collection approach proved methodologically sound. Audio recordings effectively captured real-time interactions and spontaneous insights that might have been lost in written formats alone. PowerPoint presentations during plenary sessions served dual purposes. They both documented participants' feedback and provided immediate validation of their contributions, helping participants see their ideas as valued and incorporated into the collective understanding.

Framework Innovations and Adaptations. The extension of the Realization phase through WhatsApp groups was a methodological adaptation that emerged from practical constraints but proved valuable for deeper engagement. Participants appreciated this flexibility. As one noted, “The organization was good. The content was shared at a pace that allowed all to follow.” This digital extension maintained momentum between face-to-face sessions and allowed for continued reflection and refinement of ideas. The sharing of workbook photographs through WhatsApp enabled participants to continue building on each other's contributions beyond the formal workshop timeframe.

These adaptations showed the importance of contextual responsiveness in participatory research methodologies. They also demonstrated how the CUAR framework can be modified to address specific service-learning partnership dynamics while maintaining methodological integrity.

Transition Management and Activity Integration. The transition from utopian thinking to practical planning emerged as both a methodological challenge and an insight. Participants' reflections revealed strategies that supported this cognitive shift. One community member explained:

What helped with the transition from big ideas to practical plans was formulating solutions for the ideas associated with more practical things like venues and equipment. It was easier to determine which ideas were workable plans when we needed to make them fit into existing structures.

This finding suggests that grounding abstract concepts in tangible, familiar elements can support the challenging move from idealistic to pragmatic thinking. Another participant described the structured progression: “The structured process included the reality of the project, the Utopia, and the encouragement of what it could finally be. This encourages imagining a perfect future without limitations before working backwards to make it real.”

The systematic progression through structured phases proved particularly effective. Participants appreciated the clear process flow, with one reflecting, “It was a completely new experience, and I am excited to apply [it] going forward. I like the steps of idea generation → determine what is workable → visualize themes → compile themes in a tangible way (workbooks) → outcome (action plan).”

Methodology Transferability. Participants recognized the broader applicability of the CUAR approach beyond the specific context of computer literacy training. As one participant observed, “The workshop showed me a different way in which one can take an idea and formulate it into a solution, especially where there are many perspectives to consider.” Another participant expressed enthusiasm for applying the methodology: “It was a completely new experience, and I am excited to apply it going forward.”

These insights suggest the methodology’s potential for addressing diverse community challenges through participatory approaches, validating CUAR’s transferability to various service-learning contexts and community engagement initiatives.

Challenges and Limitations

While the workshop achieved significant success, several challenges and limitations emerged that provide important guidance for future CUAR implementations.

Conceptual and Cultural Navigation Challenges. The shift from utopian thinking to practical implementation proved challenging for some participants, particularly those less familiar with project planning processes. One community member acknowledged, “The most challenging part was not restricting oneself right out of the gate when initially generating utopian ideas, then finding it difficult to scale back to practical possibilities.”

Language differences also created subtle barriers during plenary sessions conducted

primarily in English. While the workshop accommodated participants’ preferred languages during small group work, some community members appeared less comfortable during plenary segments. However, workbook activities and small group discussions in Sesotho enabled full participation. One community member indirectly referenced this challenge: “Initially, I had to grasp the idea of a Utopia workshop because, before that, the ideas did not seem connected to the reality we live in.” This suggests that abstract concepts require additional cultural and linguistic bridging.

Time and Participation Constraints. The intensive 1-day format led to observable participant fatigue, particularly during later phases. One participant reflected, “I remember that I began to fade as the workshop was due to wind down, so I don’t think I could have continued if the workshop had gone on much longer.” Audio recordings from afternoon sessions showed decreased verbal participation and energy levels compared to morning activities. Despite these challenges, participants generally viewed the compressed timeframe positively, with the same participant noting, “Knowing that we only had a few hours and 1 day to meet the workshop outcomes ensured that, as a group, we kept things moving instead of getting fixated on one aspect for too long.”

Initial participation levels varied significantly among stakeholder groups and individuals. Facilitator observations and audio analysis revealed that university students and community partners spoke more frequently during early activities than community members did. One student participant reflected on this dynamic:

Personally, the challenge was being tasked with drawing out insights from those in my group. I am introverted by nature, but because of the specific stakeholder cohort I represented in my group, my group members expected me to spearhead the session.

However, the workshop structure effectively addressed these imbalances over time. The same participant noted:

I had to assume the role of trying to ensure that everyone in the group understood that they had something to contribute and that we were all equal in the process; they were not there to sit and listen to me speak but truly collaborate.

Sampling and Representation Limitations.

The convenience sampling approach, while practical, may have excluded some community perspectives. As one participant noted:

Due to space limitations and COVID restrictions, not everyone could participate in the workshop. Considering that participants came from across the Mangaung Municipality, including both rural and urban areas, some had to travel up to 2 hours by public transport to reach the venue.

This practical constraint potentially affected the comprehensiveness of stakeholder representation, though the methodology effectively engaged those who were able to participate.

Methodological Implementation Challenges.

Managing diverse group dynamics while maintaining methodological integrity presented ongoing challenges. The facilitator had to balance multiple roles: ensuring equal participation, maintaining focus on CUAR principles, managing time constraints, and navigating interpersonal dynamics. This complexity was evident in participants' recognition of the facilitator's efforts, as reflected in their appreciation of the inclusive approach to ensuring all voices were heard.

While triangulation across multiple data sources strengthened findings, some participant experiences may not have been fully captured. The reliance on verbal articulation during audio-recorded sessions potentially missed nonverbal forms of engagement and understanding, particularly among participants who were less comfortable speaking in group settings. These data collection limitations highlight the ongoing challenge of capturing comprehensive participant experiences in complex, multistakeholder research environments.

These limitations, identified through systematic analysis of participant feedback, audio recordings, and facilitator reflections, provide important insights for future CUAR implementations in similar service-learning contexts and show the methodology's capacity for self-reflection and continuous improvement.

Personal Reflections

Participating in this collaborative process was an intellectually stimulating and transformative experience. The shift from being an outside expert

to a cocreator of knowledge challenged traditional research paradigms and provided unique insights into the power of participatory methodologies. As a researcher, my role fundamentally changed; rather than conducting research on participants, I became embedded in the process, working with and for project stakeholders. This shift led to collaborative knowledge generation whereby ideas emerged collectively rather than from a single perspective. The Future-Creating Workshop also democratized expertise, giving equal value to academic knowledge and community experience and resulting in richer and more nuanced understandings of challenges and solutions. Balancing my roles as organizer, facilitator, and researcher required constant reflection and adaptation, ensuring my perspectives did not dominate the process.

One of the most rewarding aspects was witnessing the empowerment of participants. The group's creative energy drove the method forward, highlighting the importance of spaces for collective imagination and problem-solving. The workshop structure broke down social barriers, allowing participants from diverse backgrounds to contribute equally and reinforcing the value of inclusivity in research and community development. It was particularly inspiring to see socially marginalized individuals develop self-belief and take an active role in shaping their futures and communities.

Reflecting on the methodological aspects, several key insights emerged. The flexibility in the workshop structure, such as adding the Introduction phase and extending the Realization phase, was crucial to success. The innovative use of the Future-Creating Workshop Workbooks enhanced participant engagement and data collection. Combining workbooks, PowerPoint presentations, and audio recordings provided a robust, multifaceted approach to data triangulation, ensuring a comprehensive understanding of participants' perspectives.

This experience contributed significantly to my personal growth as a researcher and facilitator. It enhanced my adaptability in responding to group dynamics and unexpected challenges, reinforced the importance of deep listening to understand underlying meanings and emotions, and heightened my reflexivity regarding my biases and assumptions. This CUAR experience has profoundly influenced my understanding of participatory research methodologies and their potential to foster meaningful change. It

reinforces my commitment to approaches that empower communities and contribute to social transformation.

Conclusion

This study highlights the potential of CUAR in enhancing collaboration and driving change in service-learning contexts. We addressed our research aims by applying CUAR principles and the Future-Creating Workshop methodology to an ITSL project in South Africa, uncovering valuable insights for both theory and practice supported by extensive participant testimonials.

Our research demonstrates that CUAR can be effectively implemented in service-learning by strategically adapting the Future-Creating Workshop model. Adding an Introduction phase and using tools like the Future-Creating Workshop Workbook increased participant engagement and data collection. Extending the Realization phase beyond the workshop allowed for deeper reflection and refined action plans, addressing the unique challenges of the service-learning environment.

The methodology proved particularly effective in empowering marginalized voices and shifting traditional power dynamics from top-down decision-making to inclusive participation. The multimodal approach successfully accommodated diverse communication styles and literacy levels, while concrete outcomes such as the establishment of new computer literacy programs demonstrated the workshop's capacity to move beyond discussion to implementation.

CUAR's benefits included improved stakeholder collaboration, innovative solutions, and sustained partnerships that extended beyond the formal workshop timeframe. However, challenges such as time constraints, cultural-linguistic barriers, and transition difficulties between utopian and practical thinking were also identified, providing valuable insights for future applications. Theoretically, this study expands CUAR's applicability to service-learning, bridging the gap between academic institutions and community stakeholders while promoting social justice and community empowerment. We recommend thorough preparation, including stakeholder analysis and tool development, extending workshops over multiple days for deeper engagement, and implementing strategies for maintaining momentum postworkshop.

In conclusion, while further research is needed on the long-term impacts of CUAR in service-learning, this study provides a foundation for its

continued exploration and application. CUAR's collaborative problem-solving approach, validated through participant experiences, will help prepare students to be engaged citizens and effective changemakers who contribute to community development and social transformation.

Future Research

Looking to the future, several promising research directions emerge from this study. There is a need to explore the long-term impacts of CUAR-informed service-learning projects on community outcomes and to investigate CUAR's potential in addressing power imbalances between academic institutions and community stakeholders.

The comprehensive data generated through this implementation, including the detailed action plan with 34 specific initiatives across 10 thematic areas, participant workbook artifacts, and extensive stakeholder feedback, will be analyzed in a forthcoming publication. This follow-up study will provide a detailed examination of the specific solutions generated and implementation outcomes, further validating CUAR's effectiveness while addressing the practical applications that space constraints prevented from inclusion in this methodological paper.

By integrating critical analysis, utopian thinking, and participatory engagement, CUAR offers a promising approach to enhancing service-learning initiatives. This study demonstrates CUAR's potential for more equitable and transformative service-learning practices, with forthcoming analysis providing practical validation for broader adoption across diverse contexts.

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Disclosure of Interests

The authors have no competing interests to declare relevant to this article's content.

Statement on Ethics

Ethical clearance for this study was granted by the General/Human Research Ethics Committee of the UFS (Ethical clearance number: [UFS-HSD2020/1088/2508]).

Data Accessibility

The data supporting this study consisted of audio recordings, participant artifacts (Future-Creating Workshop Workbooks), and facilitator field notes containing identifiable information from participants. To protect participant confidentiality in accordance with our ethical approval, these materials cannot be made openly available. Anonymized transcripts or further information about the data collection methods can be requested from the corresponding author.

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