An extended briefing and debriefing technique to enhance data quality in cross-national/language mixed-method research

S. Chereni, R. V. Sliuzas, and J. Flacke

PGM Department, University of Twente, Enschede, Netherlands

ABSTRACT
Mixed methods surveys using multilingual assistants in areas without clear pre-defined sampling units are often difficult to manage and unpredictable, thereby threatening data quality. More so when such surveys are executed in unfamiliar territories where cultural and language barriers prevent direct communication between the principal researcher and the respondents, and field assistants act as cultural/language brokers. This paper provides a method to enhance data quality in such contexts through a reflection on the research design and data collection experience in our study on flood damage mitigation processes among households and businesses in Kampala. Associated field challenges included different disciplinary and language skills levels of assistants, their multiple positionalities when translating concepts from the inquiry language to the source language and vice-versa, low settlement permeability/accessibility, multiple households per sampling unit, and socio-psychological issues among respondents and research assistants. The available literature lacks comprehensive systematic methods to address the challenges above, using detailed research fieldwork management experiences in which data collection is outsourced from field assistants. Our application of an extended version of the briefing and debriefing technique closes this gap. As a guide to apply this approach, we conceptualize social science research into four inter-related dimensions – paradigm, people, process, and presentation.

1. Introduction

1.1. Aim and structure

The aim of the paper is to provide a comprehensive method/procedure for enhancing data quality in challenging mixed – methods research contexts building on the Briefing and Debriefing Technique (Mackenzie, 2002; Marshall & Samuel, 1979). We describe and discuss how we adapted the Briefing and Debriefing Technique (BDT) to overcome potential pitfalls in our study on flood damage mitigation in Kampala and proffer insights on how research fieldwork in related contexts can be better managed to improve data quality. We identify four dimensions (4 Ps) of research where quality enhancement efforts could be focused, namely: Paradigm [view about the nature of truth (Kuhn, 1970)], Person/People (the principal researcher, assistants, and respondents’ background, frames of understanding and skills), Process (flow of research activities), and Presentation (documentation of research process). This section introduces the Briefing and Debriefing Technique (BDT) and describes the research context in which it was modified and applied. Section 2 explains our
modification and application of the technique. A discussion of its application in relation to data quality debates in the social sciences follows in section 3 and section 4 concludes the paper.

1.2. BDT in the literature

Briefing is orienting someone to a task or an experience prior to its execution. ‘It includes instructions about goals, procedure and rules within which to participate and achieve intended goals and learning outcomes’ (Mackenzie, 2002, p. 83). ‘Debriefing is a deliberate reflection, by an individual or a group, to discuss and work through ideas, issues, feelings or concerns which are generated by individual or group experience during the execution of a task’ (Mackenzie, 2002, p. 83) for informed decisions to improve future actions. The (BDT) originated in Military Science (Marshall & Samuel, 1979) as pre-mission briefs and After Action Reviews (Allen, Reiter-Palmon, Crowe, & Scott, 2018) and has been adopted in Educational Science, Aviation, Marine Science, and Health Science (Lee, Sulaiman-Hill, & Thompson, 2014; Mackenzie, 2002; Raths, 1987; Sellberg, 2017). As one can observe, the technique has been applied and developed further mostly in High Reliability Organisations (HROs) where teams should minimise errors by monitoring and efficiently reacting to risky and tempestuous environments in which errors are costly (Allen et al., 2018). In Educational Science, BDT is mainly used to enhance students’ understanding of the link between theory and practice or practical simulation. In the above contexts key strategic uses of the technique have been summarised as: crew/team coordination, learning, sense-making, or managing ambiguity (in mixed methods research this also relates to understanding polyvocality of texts); and team reflexivity (Allen et al., 2018).

BDT has been applied in research fieldwork (Brod, Tesler, & Christensen, 2009; Lee et al., 2014). Lee et al. (2014) used BDT in research fieldwork supervision but their main aim was mainly to augment some research participants’ lack of disciplinary knowledge and language skills. However, we argue that there is more to supervision/monitoring in research fieldwork than assessing disciplinary knowledge and skills levels of assistants. Additional potential issues include incorrect sampling procedures where recognisance visits are not affordable; different interpretations by research assistants due to multiple positionalities; loss of meaning through translation; (de)motivation of research assistants over time; (un)trustworthiness; (dis)honesty; power dynamics between research assistants local leaders and respondents. All these issues can reduce data accuracy, reliability, and validity.

In relation to the above issues, Wallin and Ahlstrom (2006) suggested a framework for fieldwork competence that includes: number of assistants/interpreters; their background and competence; styles of interpreting/assisting; extent of assistant/interpreter participation; trustworthiness; and interpreter visibility/invisibility. This framework can be more effective when integrated in a systematic methodological tool such as BDT.

Additionally, the what (what has to be briefed and with what aim and targeted impact on data quality); when (When is the most suitable stage in the fieldwork processes to brief and debrief, and how can more lessons be generated and fed into the research process); how (how can adoption of social media platforms help researchers to effectively manage the research process through briefing and debriefing) questions regarding implementation of the technique are not adequately answered. Documented applications of BDT do not include comprehensive descriptions of the application in unfamiliar language territories where bi/multi-lingual research assistants are used. While the application of BDT has largely concentrated on addressing lack of disciplinary knowledge and language skills among research assistants, the nitty-gritty processes that characterise contact between the researcher, the research assistant, and the respondents are also invaluable in shaping the micro-contexts in which data is gathered. Although, for example Lee et al. (2014) used bilingual assistants both as interviewers and as cultural brokers to allow for different views from the data, they did not discuss how these different views were intersubjectivity considered to come up with balanced views.
1.3. The research context in Kampala and pre-fieldwork design

Many social science methodology scholars have converged on the idea that the context in which research is done can affect the quality of results if proper precautionary measures are not put in place (Elam & Fenton, 2003; Hanna, Hunt, & Bhopal, 2008; Meleis, 1996; Shimpuku & Norr, 2012; Temple, 2006). Examples of such contexts include research on sensitive issues like sexuality (Elam & Fenton, 2003) and children issues (Walker, Medd, Burningham, & Tapsell, 2010); research in crisis or post-conflict situations (Shesterinina, 2019); research in the developing world context (Mathee et al., 2010); time and resource bound contexts (Kirkpatrick & Van Teijlingen, 2009); and cross-cultural and cross-language contexts (Small et al., 1999), among others.

We applied an extended BDT (EBDT) in a rapid (because of a limited budget, the study which targeted over one thousand questionnaire respondents had to be completed in 24 working days) mixed-methods research project with multilingual research assistants in three neighbourhoods of Kampala, Uganda, namely Bwaise III, Natete, and Ntinda. The first two are informal settlements where houses and businesses co-exist with high density, presenting accessibility and security challenges. Many researchers had studied these settlements such that response fatigue was most likely. The third is an affluent suburb which in sharp contrast presented challenges of long walking distances for the research assistants. Another general challenge about research in Kampala is that it is a politically charged city where the central government had appointed an authority to oversee the running of the city on allegations of corruption by elected officials some few years before our study (Chereni, Sliuzas, Flacke, & van Maarseveen, 2020).

Another layer of complexity (Shimpuku & Norr, 2012) was that the principal researcher was a foreigner with limited understanding of the study area and not fluent in the main local language – Luganda.

The study aimed at modelling the determinants of flood damage mitigation. We prepared a semi-structured questionnaire in the English language for a largely Luganda speaking population which was administered as a structured interview, as in Kirkpatrick and Van Teijlingen (2009). Cognisant of the literacy levels of targeted respondents and different measuring orientations of both research assistants and respondents, key measurement scales, for example on flood levels, coping appraisal, response efficacy, and socio-economic variables in the questionnaire were presented with simple annotations and structure. For example, we opted for subjective estimates of flood levels, i.e. ‘covering feet, knee height, waist level, above waist level, instead of using meters, to avoid confusion in estimation (Peters-Guarin, McCall, & Van Westen, 2012). Moreover, realizing the potential mixture of annotations in shop, office, and warehouse area among businesses (for example; square meters or square feet), we left the respondent to choose what annotation to put and we later standardised the measurement in square meters and meters.

These variables were modelled using Bayesian modelling and Agent Based Modelling. To ensure integrity in these models, the data gathering process was aligned to key scientific methodological principles – accuracy, reliability, and validity. Accuracy is the degree to which a measurement reflects the true value of an object under observation. Validity is achieved when we measure ‘the intended’ (Drost, 2011). Reliability/dependability is the adherence to research quality conventions that guarantee repeatability (Drost, 2011), reminiscent of Deming’s (1944) four groups of errors namely: (i) variability in response about the same thing from same respondent or different respondents; use of a different canvas; and errors from the interviewer; (ii) bias from the use of different methods and imperfections in the tool; and difference between time of research and time of tabulation plus reporting of results; (iii) non-response, unrepresentativeness of date/period investigated; unrepresentative selection of respondents and other sampling errors; and (iv) other sampling errors.

We demonstrate in this paper practical measures that can be put in place through briefing and debriefing, to get more value from a rapid cross-national/language mixed methods research, bearing in mind potential challenges and pitfalls. It addresses the following issues: (i) How can we effectively
select and work with research assistants bearing in mind their inevitable agency and cultural brokerage during data gathering, (ii) how can we deal with multiple ontologies of the truth when one is working with research assistants, (iii) How best can we beneficially consider multiple positionalities and subjectivities that can potentially affect consistency in drawing meaning from the field, and (iv) How can we avoid loss of meaning due to translation.

1.4. Potential pitfalls

The above-mentioned characteristics of the research area, the tight research budget and the principal researcher’s lack of local language and cultural fluency, could potentially affect data quality. They could, for example lead to data fabrication; recording errors; low response rates; sampling bias; social desirability bias; loss of meaning and thickness due to translation; low motivation of respondents; multiple positionalities and subjectivities of both field assistants and respondents; and patronization of research. Although quality issues in both quantitative and qualitative research are often addressed (for example, Babbie, 2013), little attention has been paid on threats to quality encountered during household surveys administered in situations where deviation from pre-fieldwork research design is common. Furthermore, few scholars discuss the detailed ‘nuts and bolts’ (Brod et al., 2009) of research fieldwork done with multilingual field assistants and relate them to data accuracy, validity, and reliability. Our extension and application of the briefing and debriefing technique close this gap. It provides practical measures to align research fieldwork to key quality principles during fieldwork. We use the 4 Ps to describe the philosophical and conceptual basis of the approach and demonstrate how it enhances data quality during fieldwork. However, mathematical computing of quality criteria is outside the scope of this paper.

2. Extending and applying BDT in Kampala

We planned to use BDT as a quality control measure but realized from the outset of fieldwork that it was inadequate in scope in its formulation and use in the social research methods literature. Cognizant of the 4 Ps of research, we added more stages and clarified procedural connections between stages as they apply to survey research. We perceive the briefing and debriefing process as one that starts not in the field but in the pre-fieldwork phase when the researcher consults about the study area, who and how best to recruit for field assistance, among others; and after post-fieldwork data analysis, when the researcher seeks clarity on some recorded data during analysis. Figure 1 shows the stages in the EBDT:

2.1. Recruiting research assistants

Prospective research assistants were invited to submit brief resumes through our contact at Makerere University. Since familiarity with the study area and subjectivity of research assistants both helped us to access the three neighbourhoods and to contextually translate questions, respectively, we considered their origin, language fluency, and disciplinary background, important criteria for selection. At least two assistants were familiar with each case. For example, two of the research assistants had worked in Bwaise III under the Urban Action Lab spearheaded by Makerere University. We also considered appreciation of urban flood risk and mapping or training in geography, Urban Planning, or Environmental Science [Bachelor of Science (BSc) degree]. The above qualifications were important for enhancing epistemic, internal, and external validity by enabling conceptual consistency and creating a comfortable environment for honesty disclosure (Meleis, 1996) by the respondents.

The above qualities, coupled with skills levels, determined the strategic roles (Squires, 2008) that the research assistants were assigned in the field. In this arrangement, they could turn to a colleague comfortable with a respondent’s language and culture which they lacked competence in. It also involved training colleagues to use Global Positioning System (GPS) trackers and introducing the
team to local leaders by those with disciplinary knowledge and contacts, respectively. Those with research experience in closer topics and good language skills were used to train and supervise others and help in translating difficult concepts.

Although it was not easy to find all the desired qualities in the research assistants, we ensured that there was adequate pooled skill to facilitate interactive learning among them. This was crucial for intersubjective judgements and ability to capture new frames of understanding from respondents. Table 1 gives detail on this strategic arrangement.

### 2.2. Training

Besides interviewing skills, we trained research assistants to appreciate the theoretical reasoning behind our questionnaire, together with the research objectives. Additionally, it was a moment of mutual reflexivity, when we exchanged our mental frames through which we understood the key concepts guiding the study. This, coupled with language training, strengthened epistemological and linguistic grounding to ensure that research assistants would acquire data in line with our requirements.

**Table 1**

<table>
<thead>
<tr>
<th>Recruit</th>
<th>Train</th>
<th>Transect</th>
<th>Reflect</th>
<th>Brief</th>
<th>Assign</th>
</tr>
</thead>
<tbody>
<tr>
<td>Look for candidates with a close disciplinary training to yours and with as higher qualification as possible. Get some locals.</td>
<td>Paradigm, concepts, instruments, language, highlight potential pitfalls and fieldwork skills</td>
<td>Accessibility assessment, look for sticking out evidence, talk to local leaders, skills</td>
<td>Think about the setting and what you saw moving around. Is there need to reconceptualize, resample, train more?</td>
<td>Talk to the team about what they should expect and do. Remind them of key concepts and how they should be translated.</td>
<td>Talk to the team about what they should expect and do. Consider personal strengths.</td>
</tr>
</tbody>
</table>

Figure 1. The extended briefing and debriefing technique.

NB: Broken arrows represent steps that may be skipped.
Table 1. Backgrounds and strategic roles of research assistants (pseudo names used).

<table>
<thead>
<tr>
<th>Research Assistant</th>
<th>Qualifications</th>
<th>Research experience</th>
<th>Language skills</th>
<th>Strategic role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jenny From Mkono</td>
<td>BA in Urban Planning, MSc Land use and Regional development – thesis stage, Training in Applied Statistics and Scientific writing</td>
<td>Thesis research on flood risk induced relocation in Kampala, Research assistant with researchers from the Bartlett Development Planning Unit, University College London and contributed in the final research report writing, Volunteer research assistant with students from the Norwegian University of Science and Technology collaborating with Slum dwellers Uganda, Makerere University and Act together Kampala, Research intern at Makerere University working on Kampala land use map, vulnerability and adaptability to climate change among others</td>
<td>Runyakitara – Native user English – Advanced user Luganda – Intermediate user</td>
<td>Oversee other research assistants and helping in GPS points reading and translating key concepts into Luganda. Taking over where others encounter Runyakitara speaking respondents</td>
</tr>
<tr>
<td>Japheth</td>
<td>Bachelor of Arts in Geography</td>
<td>Research and mapping Worked with us in our previous research in 2015</td>
<td>Luganda – Native User English – Advanced user</td>
<td>Help with training other research assistants and overseeing logistical issues</td>
</tr>
<tr>
<td>Martin From Makerere</td>
<td>Bachelor of Arts majoring in Geography Short training in GIS and Remote Sensing Short training in Resource Economics and Environment</td>
<td>Research assistant in the department of Geography, Geoinformatics and Climate change at Makerere University. Had experience carrying surveys, interviews in Environmental Science research</td>
<td>Lusonga – Native user English – Advanced user</td>
<td>Help with overseeing other research assistants and training them to use and maintain GPS trackers correctly. Also helping in translating difficult concepts from the questionnaire and those coming in answers. Taking over where others experience Lusonga speaking respondents</td>
</tr>
<tr>
<td>Hillary</td>
<td>3rd year student, Bachelor of Arts, majoring in Geography</td>
<td>Undertaken research in Katanga slum settlement in Kampala on socio-economic and environmental problems. Community profile coordinator</td>
<td>Runyangole – Native user English – Advanced user Luganda – Intermediate user</td>
<td>Since she was on holiday, she helped work overtime to help beat the deadline. Taking over where others encounter Runyangole speaking respondents</td>
</tr>
</tbody>
</table>

(Continued)
To enhance the correctness and adequacy of responses, we trained research assistants to correct reading and recording of GPS points and to intertwine the questionnaire interview with observation. For example on questions about flood mitigation measures, they could also probe for information on flood experience using visible evidence on the property. The same applied to flood depth about which they could use visible flood markings on the walls to probe further.

Some questions had the potential to generate social desirability bias (Sanzone et al., 2013). For example it might have been hard for some men to give correct income figures to female research assistants. In such situations, research assistants were taught to use other related questions like monthly expenditure and savings to ascertain the daily income.

We also motivated research assistants by stressing that besides monetary benefit, the fieldwork experience could enhance their research skills. By so doing we made them to 'own' the research project, thereby reducing the potential for cheating. For example by fabricating data or deliberately skipping other households and businesses to reduce their workload.

### 2.3. Transect walks

The tradition of transect walks preceding questionnaire/interview administration is not new; in the literature, it is documented as an armchair walkthrough (Morse, 2016). We used them to assess: i. accessibility (pattern and state of access roads and footpaths, and the drainage network) of points selected on the map; ii. deprivation levels from the state of buildings.; and iii. flood damage mitigation activities in the area.

In Ntinda and Natete, these observations caused us to reconsider our sampling approach from the fishnet grid centroids to picking every nth number in a row of houses and business premises because not every selected unit on the ArcMap fishnet grid was easily accessible. However, the process was still not easy because the road patterns in Nzimbiziwome area of Ntinda, Natete, and Bwaise III, were irregular. In Bwaise III we did not necessarily reconsider the sampling procedure because there were many footpaths, hence accessibility was better.

One scientific guiding principle in selecting objects/subjects for investigation is to ensure sample representativeness. Where we changed the sampling procedure, we still used the ArcMap fishnet grid as a guide to ensure the spatial spread of sample points, bearing in mind the irregular network of roads in footpaths in the study areas. Additionally, there was a temptation to choose sampling units along the roads. This could have resulted in the selection of more business units in some areas since shops are mainly found along the roads.

<table>
<thead>
<tr>
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<th>Language skills</th>
<th>Strategic role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melody</td>
<td>3rd year student, Bachelor of Commerce in Purchasing and supply</td>
<td>Field assistant with AMREF Uganda, collecting data in Kabale district</td>
<td>Runyoro – Native user</td>
<td>Taking over interviewing</td>
</tr>
<tr>
<td>Nathan</td>
<td>Bachelor of Arts in Geography</td>
<td>Thesis research</td>
<td>English – Advanced user</td>
<td>Assisting with GPS trackers</td>
</tr>
<tr>
<td>Jim From Natete</td>
<td>Diploma in Business studies</td>
<td>Intern at Luwero town council</td>
<td>Luganda – Native user</td>
<td>Point of contact in Natete</td>
</tr>
<tr>
<td>Sandra From Ntinda</td>
<td>Diploma in cosmetology</td>
<td>Nil</td>
<td>Luganda – Native user</td>
<td>Contact person for Ntinda</td>
</tr>
<tr>
<td>Claudia From Ntinda</td>
<td>Diploma in cosmetology</td>
<td>Nil</td>
<td>English – Advanced</td>
<td>2nd contact person for Ntinda</td>
</tr>
</tbody>
</table>
2.4. Reflect

As highlighted earlier, we carefully used our observations from transect walks to assess the accessibility of selected points on the map and changed the sampling strategy in Ntinda and Natete. In these cases, reflection happened during transect walks as we talked to community leaders. In these conversations, we got precise information about flood hotspots within the neighbourhoods, which we had not received during consultation with an expert from Makerere University during the research design phase.

2.5. Briefing

We reminded research assistants of the key concepts in the questionnaire and how to correctly translate them into the Luganda language. We also briefed them about the findings from our transect walks. These findings included the route network, sticking out evidence of mitigation, and strategic meeting places for additional questionnaires and/or GPS tracker batteries. Additionally, every morning, we discussed new challenges, new evidence, new opportunities, and new frames of understanding from the respondents captured in the debriefing session of the preceding day. This was, as Gibbert and Ruigrok (2010); Baumgartner (2012); Squires (2009), suggested, a constant struggle to improve the credibility of the research as fieldwork unfolded. It was not about field etiquette only, it also enabled abduction.

2.6. Assign

Information obtained from transect walks also helped us to assign assistants to different sections of the study area according to their strengths and confidence levels. Sometimes female research assistants were afraid of walk through risky bridges and jumping across open drains. For such areas, we would assign men because more non-responses or data fabrication in the worst case were likely. Gender dynamics in working with research assistants were discussed in the literature (Scheyvens & Storey, 2011), but more towards male assistants offering security to female principal researchers. Balancing research assistants’ differential strength and courage, with challenge levels of the routes, was an additional precaution in our study. When assigning routes, we also considered disciplinary knowledge, language, and cultural competence among research assistants, ensuring a mutually beneficial match of skills to those working close to each other.

2.7. Monitor

Although some scholars have argued against monitoring research assistants, arguing that it is oppressive and akin to viewing them as neutral and passive mechanical components (Berman & Tyyskä, 2011), we believe that for research credibility and smoothness of the process some form of monitoring is integral. It was aimed at: (i) assessing challenges in terms of questionnaire interview administration; assessing the trustworthiness of research assistants; updating interviewers about new developments; and distributing additional fieldwork resources such as questionnaires and GPS tracker batteries. The process helped us to solve a number of issues that could threaten the integrity of our study.

First, is a case in Ntinda where one Local Council (LC) chairperson doubled escorting us with her administrative job and started lashing out at respondents who had not slashed grass on their compounds. This we thought would directly intimidate respondents and put them in a bad space to respond to our questions. When the principal researcher witnessed this, he found a way of excusing the chairperson and briefed the field assistants on how best to deal with such challenges.

Second, is when one of our research assistants was below the adequate Luganda language proficiency as already discussed in section 2.6. Although he had indicated little language fluency before, the principal researcher had not realized that he actually required assistance. On assigning sections to cover and routes to follow, the principal researcher realized that the research assistant
would take the last assignment in order to negotiate with the local chairperson for assistance. Good as it was, it meant that the local chairperson had to concentrate on helping this assistant and neglect his colleagues who also needed help with introductions to some household heads or business heads/attendants who were sceptical. Above all, it meant an additional role to the chairperson which did not resonate with the token of appreciation we had agreed on. To avoid this we looked for an additional local person to help. Before we solved it, we managed the power imbalances which could possibly compel some respondents to respond in a certain way because of the chairperson’s presence.

2.8. Debrief

At the end of each business day, the team gathered to give feedback on their experience in the field. Such sessions necessitated a continuous fine tuning of interpretation skills by interactively learning unfamiliar vocabulary used by respondents and brainstorming its equivalence in the inquiry language. Moreover, it helped us to bring together different frames through which respondents understood the concepts in the questionnaire, which we had not captured in the pilot survey. Such knowledge helped equip assistants for a deeper orientation of respondents to the requirements of the survey.

We also shared the ‘highs and lows’ of each researcher’s day. Colleagues who interviewed well informed respondents and acquired interesting findings were able to share with the team. For example, in Natete – kigaga village, a colleague generated a rich narrative from a respondent, which helped us to appreciate the flood experience of the residents and how limited their mitigation options were. We commended it to others as an example of what they could not ignore on account of strictly following the questionnaire, which would be akin to ‘reading the script,’ (Qu & Dumay, 2011). On the other hand, challenging experiences were reported, for example; in Ntinda, a female research assistant was chased away and had stones thrown at her. This incident had the potential to instil fear and lead her to skip all suspicious housing units. In response to this, we paired male and female researchers to recover the confidence of the victim using security from the male assistants. We also had debriefing ‘on the fly’ where colleagues would give urgent feedback via our WhatsApp group.

Besides debriefing sessions in the field, we had pre-fieldwork debriefing sessions with an expert with research experience in the area as already explained in section 2.4. Additionally, we extended debriefing to post-fieldwork data analysis. We kept the WhatsApp platform which we used during fieldwork functional, so that we could be able to interactively seek clarity on some data entries on the questionnaire.

3. Discussion

This section discusses EBDT in relation to different arguments regarding data accuracy, reliability, and validity in the social science research literature.

3.1. Enhancing data accuracy and reliability using the EBDT

EBDT provides a framework to avoid/reduce sampling, survey mode, interviewer, coverage, respondents related, measurement, and interaction errors (Biemer & Lyberg, 2003; Deming, 1944; Juran & Godfrey, 1998; Kish, 1965) in rapid cross-national/language research. It enables the researcher to incrementally collect relevant information from the pre-fieldwork to the post-fieldwork phase, to competently train research assistants, and enables intersubjective judgments of meaning. The framework assisted us to make strategic decisions like revising the selection of respondents, integrating new frames of understanding into the interview canvass, and assigning primary and secondary roles according to research assistants’ competences, among others. This comprehensive management of the research process builds upon the recently proffered ideas of research total quality management (Beullens, Loosveldt, Denies, & Vandenplas, 2014).
3.2. Enhancing data validity/credibility

Denzin, Lincoln, and Guba (1994) assert that, ‘unlike objectivity, validity is a more irritating construct, one neither easily dismissed nor readily configured by new-paradigm practitioners’ (p. 178). Although there are ‘clear strong theoretical, philosophical, and pragmatic rationales’ for the former, it is not the same as validity. According to them, one key problem regarding validity is its failure to accommodate conflation between method and interpretation. Its subscribers conceptualise truth as separate from the knower because for a long time, objectivity has dominated validity criteria yet it is problematic in social sciences.

A counter argument has developed since Kant and Hegel (Mills, 2017) – that truth cannot be completely detached from human interpretation given that this definition makes it inaccessible. A stronger critique was put forward by Denzin et al. (1994) arguing that: ‘Objectivity is a chimera: a mythological creature that never existed, save in the imaginations of those who believe that knowing can be separated from the knower’ (p. 181). According to this, argument subjective elements that include historical specificities of human knowledge production are no longer seen as irrelevant nor as threats (Alcoff, 1991; Campbell & Machado, 2013). They rather form an important constituency of knowledge production.

Consequently post-positivists, constructivists, and pragmatists view research assistants as coresearchers rather than mechanical components, and how they are integrated in the research process and their decisions debated, are key in enhancing credibility (Berman & Tyyskä, 2011; Temple, 2006).

Our extension of BDT enhanced the researcher’s ability to manage the conflation between method and interpretation since it’s iterative framework accommodates a departure from preoccupation with pre-fieldwork designs and quantitative description of human phenomena (Fine, Weist, Weseen, & Wong, 2003) – what Schwandt (1996) calls, ‘bidding farewell to criteriology’ and others call pragmatism (Denscombe, 2008; Greene 2007; Morgan, 2007). Schwandt (1996) envisages a social research ideology that views practice goals both as moral critique and as practical philosophy. EBDT answers the question about how to ensure validity in ‘pragmatic research’ that is ‘bidding farewell to criteriology.’ In our case, it provided for constant interaction between the researcher and his/her field assistants resulting in inter-subjective assessment of observations.

Denzin et al. (1994) suggestion of three dimensions of validity – validity as authenticity, validity as resistance/post-structural transgression, and validity as an ethical relationship, further strengthens the case for EBDT as a practical strategy for enhancing data quality in a rapid cross-national/language mixed methods research context.

Under authenticity, Denzin et al. (1994) list three dimensions: (i) fairness in stakeholder selection which relates well to fieldwork design discussed above; (ii) ontological and educative authenticity – awareness of research participants of their surroundings, resulting in responses that reflect the reality; (iii) catalytic and tactical authenticities – the researcher’s/research assistant’s ability to trigger action from respondents and to train them where necessary. While the first relates to the design process, the second relates to both person and paradigm while the third relates to both person, and process.

Validity as resistance/post-structural transgression is an intentionally divergent form of validity which Richardson (1997) metaphorically termed ‘the crystalline,’ which can be turned many ways, which reflects and refracts light (multiple layers of meaning). Through the light, the researcher sees both human currents and elements of truth, feels connected – a process of research with elements that ‘flow’ together.’ This further demonstrates the interwovenness of ‘discovery, telling, storying and re-representation’ in research (Denzin et al., 1994, p. 181). From this point of view, EBDT enabled us to unearth hidden assumptions and determinants of mitigation action, bringing together morals and epistemology, thereby enhancing (neo)pragmatic/situated validity (Lather, 1986; Palmer, 1987).
Neo-pragmatism acknowledges the context-specific nature of generated knowledge in line with dynamic micro/macro-contextual use of words in the changing moral and value setting across time and space (Ibri, 2013; Rorty, 1980; Vodonick, 2017). In this instance we embedded EBDT in the connection between ethics and epistemology (Noddings, 1986), as Denzin et al. (1994, p. 182) put it, taking note of.

‘positionality, or standpoints, judgements; specific discourse communities and research sites as arbiters of quality; voice or the extent to which a text has the quality of polyvocality; critical subjectivity (or what might be termed intense self-reflexivity); reciprocity or the extent to which the research becomes reciprocal rather than hierarchical’

This made flexibility, learning, and process adjustment [rather than just reading the fieldwork design script (Qu & Dumay, 2011)] cornerstones of valid data gathering in Kampala. The main reason is that in mixed methods, abduction is the reasoning criterion in theory building as opposed to deduction and induction (Morgan, 2007). Because of this, the research process was cyclical/iterative (where field experiences led to revision of conceptualisation and design in the same research project) rather than linear and hierarchical. How researchers present such revision is important for enhancing the trustworthiness of the research (Squires, 2009).

Questions arise about implications of abduction on research done with assistants, because how they are integrated is very important when interrogating mixed methods research integrity. Several scholars assert that the researcher must introspect oneself in line with philosophical background, location, gender, etc., and that research assistants are co-producers of knowledge rather than just workers (Alcoff, 1991; Rubinstein-Ávila, 2009; Temple, 2002; Turner, 2010). Applying EBDT helped us to empower research assistants to elicit data that included minute contextual detail related to flood experience and property level mitigation at the same time enhancing the integrity of the research process.

Enhancing integrity involved, first, triggering the research assistants’ multiple ‘reflexivities’ in order to take note of their different viewpoints of the same concepts on asking questions and coding the responses (Alcoff, 1991; Travis, 2017; Turner, 2010) and related subjectivities (Denzin et al., 1994; Harris & Brown, 2010; Morrow, 2005).

Second, it involved acquainting research assistants with the research problem, conceptual framework, hypothesis/assumptions, and method, especially where the research crosses national and linguistic borders (Baumgartner, 2012; Lee et al., 2014; Morrow, 2005; Rubinstein-Ávila, 2009; Squires, 2009; Temple, 2002). In such contexts, the position of research assistants as cultural/language brokers/experts requires that they are competent to gauge conceptual (non)equivalence during data gathering in order to avoid bias (Beck, Bernal, & Froman, 2003; Hanna et al., 2008; Kirkpatrick & Van Teijlingen, 2009; Meleis, 1996; Small et al., 1999; Temple, 2002) bearing in mind that concepts do not cross cultures without some form of manipulation (Temple, 2006). Additionally, research assistants as cultural brokers understand normative ways of communication (Briggs, 1986) but do not have this ability equally among them and constant sharing of ideas is integral.

Thirdly involved is language proficiency. Baumgartner (2012) identifies four code-names of languages in different cross-national/language research – inquiry language, source language, mediating language and target language. Choice of the inquiry language has implications on the detail and authenticity of the data and the assistant/interpreter’s skills to correctly code concepts from the inquiry language to the source language and then to the mediating language are critical. The same can happen on the informant/respondent’s side; when compelled to respond in a language which he/she is not comfortable with, it can limit the expression of emotional issues (Baumgartner, 2012). Godard (1986) summarizes this process of translation as an ongoing appeal to one’s mental dictionary – an endless ping-pong of concepts and words between the translator’s mind, the translation source and target, which can affect detail and meaning where the person involved is not well skilled. This is worse where the respondent or assistant use analogous or colloquial
expressions (Temple, 2006) which are not easy to understand even to a person from a different dialect of the same language.

Fourth, it involved dealing with socio-psychological issues such as demotivation, untrustworthiness/dishonesty, courtship advances, and nervousness of being involved in ‘high profile research,’ ethnic patronization, and unfamiliarity with specific fieldwork locations (Turner, 2010), which could possibly reduce assistants’ effectiveness in data gathering. Additionally, some research assistants/translators could juggle between fieldwork and their other commitments. Some of their own commitments could possibly end up overriding their fieldwork roles.

Our application of EBDT to answer the above questions worked well with more research assistants (working as active co-researchers) with relevant disciplinary training (a degree in geography, urban planning or environmental science) and adequate local language fluency (Native level). The technique helped to boost interactive learning which was key for sharing of ideas, bearing in mind that a few assistants did not have the desired qualifications; and to ensure some monitoring and quick response to challenging situations. Please refer to Figure 1 and Table 1.

4. Conclusion

We have argued that the integrity of social science research revolves around astute management of the 4 Ps of social science research – Paradigm, Person/People, Process, and Presentation. A research paradigm determines the position of the researcher, research assistants, and respondents. Because mixed methods research blends deduction and induction (abduction), managing of people and process is crucial. EBDT helped us to address the multiple ontologies of truth and positionalities that could possibly cause inconsistency in deriving meaning, given that we were working with research assistants as co-researchers (Alcoff, 1991). We addressed this by orienting research assistants to pragmatism (Morgan, 2007; Schwandt, 1996; Biesta, 2010) as the guiding paradigm in our study. Working with assistants as co-researchers empowered them to confidently assume their inevitable role as agents and language/cultural brokers during data gathering.

This also averted possible inconsistency in translation from the inquiry language to the source language and to the target language. Our use of background and skills debriefing, combining regular and ‘on the fly’ debriefing, and strategic assigning of both primary and secondary roles to manage the research process provided an opportunity to quickly solve logistical challenges and inter-subjectively consider the meaning of data gathered by research assistants and discuss ways of continuously improve data quality. Secondary roles included taking over the interviewing of a respondent whose language one was fluent in, but the assigned colleague was not.

In view of the above roles and expectations, it was crucial for research assistants to have adequate fluency in the mediation language, target language and at least one source language for accuracy when translating concepts to/from the respondents. Adequate disciplinary knowledge was also expected from them to allow for good acquaintance with research conceptualisation. The assistants were therefore expected to have a minimum of a bachelor degree in the relevant field. However, it was not easy to get all the desired qualities given that we carried out the selection remotely. Six out of nine assistants had relevant disciplinary qualifications and three had some training in other disciplines up to the level that we thought would enable them to grasp concepts and tools during interactive learning sessions.

In the light of the above-mentioned advantages, EBDT can be used as a quality enhancement logistical tool in cross-national/language social science research done using research assistants or with communities. Secondly some of the strategies in the tool can apply broadly in research done with research assistants both in the natural and social sciences. More innovations can be needed where interviewees are distances apart since close monitoring and regular debriefings can be difficult to achieve. Additionally, ‘farewell to criteriology’ should not be understood in its strictest sense, since one can realise that even in our study there was some form of procedure followed.
Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributors

S. Chereni PhD candidate, Department of Urban and Regional Planning and Geo-Information Management (PGM), Faculty of Geo-Information Science and Earth Observation (ITC), University of Twente, The Netherlands; Lecturer, Institute of Development Studies, National University of Science and Technology, Zimbabwe;
Linked in ID: https://www.linkedin.com/in/simbarashe-chereni-07ba7054/

R. V. Sliuzas Professor of Urban Planning for Risk Reduction, Department of Urban and Regional Planning and Geo-Information Management (PGM), Faculty of Geo-Information Science and Earth Observation (ITC), University of Twente, Netherlands;
Linked in ID: https://www.linkedin.com/in/richard-sliuzas-ab26aa1/

J. Flacke Assistant Professor Spatial Planning and Decision Support Systems, Department of Urban and Regional Planning and Geo-information Management (PGM), Faculty of Geo-Information Science and Earth Observation (ITC), University of Twente, Netherlands
Linked in ID: https://www.linkedin.com/in/johannes-flacke-38463340/

ORCID

S. Chereni http://orcid.org/0000-0001-9941-3451
R. V. Sliuzas http://orcid.org/0000-0001-5243-4431
J. Flacke http://orcid.org/0000-0001-8906-7719

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