

QUIC Briefing Paper

Research design for longitudinal case-study project: tracking the use of software in real projects using different methodologies

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The CAQDAS Networking Project

This research project forms part of the capacity building elements of the Qualitative Innovations in CAQDAS (QUIC) Research Node funded by the ESRC National Centre of Research Methods (NCRM). More information about QUIC Capacity Building can be found at <http://caqdas.soc.surrey.ac.uk/tcb.html>

Background

Researchers and users of CAQDAS packages do not always receive appropriate targeted support for their research work subsequent to initial training. This is often the result of a lack of local expertise in qualitative data analysis techniques and qualitative software. Interview data collected for the 'Online QDA and CAQDAS' project, as well as feedback to the CAQDAS Networking Project (CNP) (<http://caqdas.soc.surrey.ac.uk>), support the need for exemplar projects which link analytic work with software tools and processes. The Online QDA website (<http://onlineqda.hud.ac.uk>) developed by Gibbs and Lewins as an outcome of the 'Online QDA and CAQDAS' project has significantly addressed these gaps, particularly in terms of providing information about and links to other resources for various qualitative methodologies. It has been well received by researchers, teachers and students; for example, over a 6 month period, the website was visited by over 250 distinct users a day. Other than to inform the Online QDA website, very little research has been conducted into the adoption and experience of users of qualitative software, with Fielding & Lee's (2002) study concerning this topic now being somewhat dated.

To address this gap the longitudinal case-study project is generating up-to-date and in-depth data concerning researchers' use and experience of five mainstream CAQDAS packages subsequent to initial introductory training. This data will contribute to addressing gaps in basic software awareness by informing the development of protocols for planning and managing software projects and for manipulating software to support analytic strategies in a range of disciplines and qualitative methodologies. Frequent queries of the CAQDAS Networking Project Help Line concern choosing appropriate software with many researchers asking which is the 'best' software package. There is no one best software, with different methodological and practical needs affecting the appropriateness of software tools for particular projects (Fielding & Lee 1991; Lewins & Silver 2007). Rather than promoting any particular product, therefore, the aim of this project is to support novice researchers and software users in choosing between CAQDAS packages, planning for their effective use and making informed and critical decisions about the selection of tools within packages for various methodological and practical purposes. The development of these materials is also informed by research being undertaken in QUIC's three substantive research projects. See <http://caqdas.soc.surrey.ac.uk/quic.html> for more information.

Research Design

During the first two years five two-day introductory workshops will be run in which participants will use their own project data whilst learning. These will be for the packages ATLAS.ti v.6, MAXQDA v.2007, NVivo v.8, QDA Miner v.3.2 and TRANSANA v. 2.4. The consecutive two-day training model has previously been trialled effectively by Lewins and Silver and feedback suggests that participants value the extended period of time to focus on their own project data and familiarise more thoroughly with software tools under the guidance of tutors than is possible in a one-day format. Participants also benefit from the opportunity to network with researchers learning the same software and discuss research progress and software-supported analytic strategies.

The new two-day workshops are being fully evaluated using the standard NCRM evaluation model. In addition, a sample of training participants from each workshop are being recruited to take part in a longitudinal case-study project in which we follow progress with their chosen software. Participants are recruited from a number of disciplines and who employ different qualitative methodologies in order to reflect the broad range of applications. Data will be collected from participants by online questionnaire at three stages of their work and through an optional support session approximately one year after initial training. The online questionnaire is composed of a number of closed questions concerning current use of software tools in order to make direct comparisons of software usage over time. Participants, however, are encouraged to elaborate on their experiences with software tools through a series of open-ended questions. The importance of information provided by respondents is explained at beginning of each questionnaire and clarifying instructions used for open-ended questions, both of which have been found to result in improved response quality amongst respondents of online surveys (Smyth et al. 2009). Where possible questions are comparable for each of the five software packages, although this is not always possible due to the differences between functionality.

Research Aims

- 1) To identify problematic areas of using software for particular methodologies
- 2) To identify key support needs which can be addressed through online protocols

Data Collection

A new model of two-day software training will afford more focussed support than previously provided through the CAQDAS Networking Project in that participants will learn how to use the chosen package by working with their own rather than exclusively with sample data, and on two consecutive rather than dispersed days. A sample of participants attending these training events will be invited to partake in a longitudinal project to track their learning and use of software. We aim to track at least 2 participants from each software workshop.

Process of data collection

- a) Routine evaluation forms
- b) Post-training questionnaire
- c) 6 month follow-up questionnaire
- d) 1 year follow-up questionnaire
- e) Optional software support session (email/phone/face-to-face)

a) Routine evaluation forms will be used to collect initial feedback from participants concerning the two-day learning experience.

b) Within one month of attending the training session, recruited participants will be sent a post-training questionnaire in order to understand how they have been working with the software since the training session. This will be designed to ascertain their progress since setting up a project at the training session as well as their early thoughts on how the software will be useful to them in the mid- to long-term and their general reflections on the training session itself.

c) Approximately six months after the training session respondents will be sent another questionnaire to track their progress.

d) Approximately 1 year after the initial training event respondents will be sent a final questionnaire in order to track their continued progress.

e) At the time of completing and returning the one year post-training questionnaire participants will be offered a targeted support session. If taken up, this will take place via telephone or face-to-face depending on the participants' preference and will be supplemented by email correspondence as required. Any telephone conversations or face-to-face meetings will be audio-recorded and email correspondences collected for analysis.

Data Analysis

Data from this longitudinal project will be analysed using QDA Miner 3.2., taking a conventional thematic analytic approach. The analysis will be undertaken by two researchers. Each researcher will be responsible for tracking the progress of particular respondents in order to ensure continuity for the respondents and also in terms of data collection and analysis. Regular team meetings will ensure cross-fertilisation of ideas and progress. Each researcher will work within a separate software project, which will be incrementally merged at strategic moments to enable comparisons across all respondents. The experience of working in a team situation will also be documented throughout the project in order to provide additional information to inform online materials concerning working in teams using QDA Miner.

Outcomes

Together with existing data drawn from the 'Online QDA and CAQDAS' project and historical feedback to the CNP, this longitudinal data will be used to inform the development of new online support materials.

Two types of material will be developed: 1) those that concern qualitative software generally or compare packages, and 2) those which are specific to the effective manipulation of particular products and tools in different research circumstances.

- 1) **Software Options:** in the first type of material, we will cover the following core aspects as well as any others which the research data brings to light:
 - a. *Making informed choices between software* – summarising the key similarities and differences between packages; highlighting key factors in the decision-making process; listing further sources of software-specific information, relevant literature and support.
 - b. *General Project Management* – scoping the issues involved in setting up a project; planning logistics within a dynamic team; establishing efficient data formatting and management.
 - c. *Using software to support qualitative methodologies* – highlighting the strengths and weaknesses of software tools for the requirements of different analytic approaches.
- 2) **Specific or Advanced materials:** in the second set of materials we will use data from the three substantive research projects mentioned in the 'Background' section, to illustrate ways that individual software packages can support the analysis of particular data types or analytic approaches. As well as aspects of integrating methods, analysing visual data and converging GIS and CAQDAS (the methodological foci of the substantive projects), materials will include considerations when using specific software packages including ATLAS.ti, MAXQDA, NVivo, QDA Miner and TRANSANA.

This project will provide information concerning the response to and use of CAQDAS packages. Since little work has been published in this area since Fielding & Lee's 2002 article, this will fill an important gap and contribute to understandings of uptake during a period of rapid development in software.

The materials themselves will fill local gaps in support for novice researchers and other software users, providing complementary provision to established hands-on training. In addition, these materials will provide targeted information for the more advanced and methodologically specific approaches. All work in these respects will seek to prolong support to the research community beyond the life of the NCRM funded Research Node.

Ethics

The QUIC project has been through University of Surrey internal ethical approval and therefore we do not need to secure separate ethical approval for this project. We will be following standard practice in terms of confidentiality and anonymity of materials provided by respondents and we will seek permission to release examples of their work for teaching purposes.

Further information

The QUIC project will be publishing interim and final results from this project during 2011 as part of the Working Paper series. There will also be opportunities to discuss the implications via our Methodological Seminar Series (see <http://caqdas.soc.surrey.ac.uk/methodseminars.html>).

References

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