

Triangulation in Institutional Qualitative Data Analysis: clarity from viewing through multiple lenses?

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The purpose of this paper is to discuss challenges of qualitative data analysis at institutional level and to provide arguments advocating importance of applying triangulation to achieve a better understanding of a problem or a research question. Examples of three types of triangulation (data, method and theory) undertaken by educational developers at LJMU are used to illustrate the benefits of the approach.

Challenges of qualitative data analysis on institutional level

Higher Education institutions collect qualitative data on a regular basis - mainly via the free text survey comments from student and staff experience surveys, but also through interviews or focus groups as part of various enhancement initiatives. Unless part of formal research, analyses typically take the form of broad thematic exploration of a data set which will have been collected for a specific purpose. At the local scale (e.g. programme) the number of comments may be too low to provide a representative picture, but at the institutional scale qualitative comments can provide powerful insights.

Problems with the under-exploitation of large qualitative data sets have been acknowledged (Bolden & Moscarola, 2000; Bazeley, 2003); for example, Bolden and Moscarola (2000, p. 450) noted that open text survey comments are ‘poorly utilised, either being totally ignored, analysed non-systematically, or treated as an aside’. Analysis at the institutional level is inevitably time and resource consuming, dependent on resources and skill-sets. It is often of a scale that requires more than one researcher, and may often lack a framework for ensuring quality of analytical method to make sure that data interpretation is both accurate and consistent.

A further dimension to the problem is that data sources are often distributed across institution. Feedback collected for different purposes is likely to be held in separate departments. Organisational structures may be such that these groups will not always be aware of initiatives that were undertaken by their colleagues with the same group of staff, students or external stakeholders.

In the current culture of performativity in contemporary higher education, and the focus on evidence-based practices, the attention paid to institutional data has never been higher. A strong focus is placed on quantitative data as it signifies the magnitude of whatever variable is measured – essential for benchmarking activities. In addition to external reporting, such benchmarking is frequently used to inform decision-making and enhancement activity both institution-wide and locally, filtered to departmental leaders and teaching teams. Given the frequent negative impacts on academic staff morale and trust resulting from this performative culture (Kok et al., 2010; Ade-Ojo 2011; Kallio and Kallio 2012), the necessity for quality, accurate and reliable analysis and interpretation is paramount. Scrutinising qualitative data can play an important role in contextualising numerical scores by answering the question ‘why’ and by shedding light on other issues that might fall through the gaps of the survey categories.

In our recent experiences working with quantitative and qualitative datasets, primarily student satisfaction survey data, a number of concerns have arisen that highlight a need to make greater use of qualitative data and to triangulate qualitative data sets for more accurate interpretation. These are explored through a series of vignettes that highlight problems with data and provide insights gained following integrative analysis. Denzin (1978) identified four basic types of triangulation (method, data, theory and investigator); the cases presented here are examples of the first three and discuss the benefits of the approach as well as some challenges and issues that institutional researchers could face.

Method triangulation: manual and automated analysis

Method triangulation implies the use of multiple methods to study a single problem. ‘Since each method has its own limits and biases, and single methodologies might result in personal biases, using multiple methods paves the way for more credible and dependable information’ (Decrop, 1999, p.160)

Routine analysis of the National Student Survey (NSS) qualitative data at an institutional level presents a challenge for universities. Processing and coding thousands of brief, disjointed and anonymous comments - positive and negative revelations related to the same elements of student experience – is an onerous task. In 2009 and 2010 a project team of five academic developers at LJMU - each responsible for one Faculty – undertook a manual thematic analysis. Team discussion of the findings and identification of overarching institutional themes had, among others, the aim to overcome inconsistency of interpretation arising from an individual’s familiarity with the Faculty context. However, inconsistencies were inevitable and the task was time consuming.

In order to develop a usable methodology for consistent and time-efficient routine institutional-level data analysis an automated semantic analysis tool was piloted (see Zaitseva et al, 2013, for more information). Semantic analysis software Leximancer provides a helpful interface for information and knowledge visualization, enabling users to interact with large volumes of data instantly and to reveal hidden characteristics and patterns in a textual data. An interactive concept map generated by the software represents key concepts contained within the text, overarching themes as well as information about how they are related/interlinked. The software has the potential to identify sentiments associated with a concept by calculating statistical probability of it being mentioned in a positive or a negative context.

In 2011 we undertook a triangulation exercise – comparing and subsequently combining results of the manual and automated analysis. It was found that the majority of the institutional-level themes identified manually in the NSS free text comments were present in the Leximancer analysis. This increased the team’s confidence in relation to consistency of our findings. Two methodological approaches were found to be complementary and helped to achieve a better understanding of the data. Leximancer analysis surfaced some aspects of the student experience that were not represented by the NSS statements. For example, group work was found to be a significant unfavourable institutional-level concept, linked to students’ concerns over fair attribution of academic credit. Automated analysis also revealed the distinct ways that students differentiate between their experience of the university: by favourably rating their course but perceiving its modular elements unfavourably. This prompted institutional discussions on strengthening course identity and building a cohesive curriculum.

Topics that were not picked up by Leximancer were generated through the next level of researchers' inductive reasoning and generalisation or via detecting patterns and regularities across the number of themes. For example one of the 'manual' findings was that residential trips, fieldwork, industrial visits and other 'different' learning experiences were associated with more positive perception of course experience. Combining both methods, although implies more resources and time allocated, allows us to get a most comprehensive picture of student satisfaction and factors impacting on it.

Triangulation of data from different sources : NSS and Module Appraisal Survey of final year students

Final year students' feedback on their educational experience and satisfaction with their course is of particular importance to institutions, contributing to institutional performance indicators. When examining institutional NSS results and their dynamics over last three years, and looking for contextual information in student free text comments using automated analysis, we noticed that 'module' was a consistently unfavourable concept. In some courses, where relevance of 'module' was particularly high and the concept was positioned closely to the 'course', it had a direct impact on satisfaction discourse. This prompted us to triangulate the Module Appraisal Survey (MAS) qualitative data on institutional level with NSS free text comments, in a search of more contextual information that was often missing in the NSS and common themes and patterns in both data sets. We were also interested in elements of module level experience that had the most impact (positive or negative) on their satisfaction with the course. The exercise allowed us to make a number of interesting observations and subsequent recommendations based on the result of the research.

We found that in the module level evaluation a relatively high number of students commented on difficulty in allocating a score to module(s) where delivery was inconsistent across semesters (e.g. taught by different members of staff). Where comments in the module surveys referred to inconsistencies in teaching quality, these were linked to missed learning opportunities, and similar associations were observed in the NSS that went further to make reference to poor value for money.

MAS comments were particularly indicative of final year students 'investing' in their course more than ever. Some students mentioned a need to have more detailed module information - to be in a better position to make an informed choice on optional modules after year two. 'Wasted modules' were connected to low course satisfaction in many cases.

Many students appeared conscious of a ‘right balance’ of effort put into their learning and credit gained – and when the balance was not perceived as fair (even within one module in relation to assessment weighting) – this impacted on their perception of the course.

Another observation was that successful learning experiences associated with single modules could have a demonstrable effect on influencing students’ career plans, inclination to do postgraduate study and affect perceptions of overall satisfaction with the course.

By triangulating the MAS and NSS qualitative data more contextual information became available that was paramount to enhancement of the whole course experience. The programme teams were advised that two data sets should be analysed in parallel and closely mapped by programme teams.

Theoretical triangulation

This type of triangulation is concerned with using different theoretical lenses to examine and interpret the same body of data. In addition to the thematic analysis described in the first case study, a separate study (Stewart et al. 2013) examined institutional satisfaction survey data from a functional linguistic perspective. In this approach, the goal was to apply a form of discourse analysis to examine grammatical structure to identify patterns in students’ choice of language. This provided a number of insights that help understand language use that can refine other forms of qualitative analysis.

First, it was noted that there were significant differences in the grammatical structure when comparing comments left under categories for positive feedback and negative feedback. Positive feedback tended to comprise short, direct comments with relatively simple verb forms (‘is’, ‘are’). In contrast, negative comments included more complex use of verbs, with strong modality through use of auxiliary verbs (‘could have been’, ‘ought to be’, ‘might have’). Secondly, the subject of comments shifted between positive and negative comments; students tended to talk of people – ‘teachers’, ‘lecturers’ when leaving positive comments and to de-personalise and nominalise, converting to noun forms in negative comments – ‘the teaching’, ‘the lectures’. Use of personal pronouns was also found to differ significantly, with greater use of collective personal pronouns (‘we’, ‘us’, non-deictic form of ‘you’) in negative comments. This appeared to serve a range of functions, in some cases to create distance when criticizing or, in other cases, to add weight to a point.

These are just a few of a range of linguistic devices identified that collectively tell us something about the relationships between students and staff. It appeared that students were confident and enthusiastic in giving praise, whilst more cautious in providing criticism, tending to distance the

relationship and use a strong degree of ‘hedging’ strategies. This has value in complementing and interpretation of other analyses, assisting interpretation of sentiment analyses, explaining differences in focus between positive and negative commentary, and unearthing additional meanings implicit in language expression rather than represented explicitly.

Discussion

Longden & Yorke (2009) highlighted the need for policy-makers to integrate data, rather than draw on it selectively with the inherent risks this involves. Triangulation, be it data, method, or theory, could be seen as a luxury and as a more resource/time consuming exercise than just exploration of a single data set with a single methodology and by a single researcher. In our case this approach helped us to:

- ensure that a problem/research question is being analysed using the most comprehensive evidence base
- generate more ‘trustworthy’ findings
- ensure transferability (external validity): can see how applicable/transferable the research findings
- identify areas of evidence patchiness
- assist in making judgements about usefulness of various approaches to qualitative data analysis (their ‘information value’).

We would argue that the primary aim of triangulation is not necessarily as being a mechanism of adding validity to research design and outputs or to promote rigor in qualitative institutional research (although this also could be the case), but as a means of better understanding the data in order to make better informed decisions.

Institutional researchers need to approach triangulation carefully – to avoid eclecticism and ‘sketchiness’, especially when triangulating methodological or theoretical perspectives. It is also important to keep in mind the ultimate purpose of adding breadth and depth to the data analysis, but not ‘pursuing objective truth’ (Fielding & Fielding, 1986, p.33). The latter is unlikely achievable.

There can be an attraction to partition phenomena into piecemeal elements and to tackle problems in isolation, through specific policy or isolated teaching or support interventions, in the hope that solutions will be encountered. However, the fact that so many educational problems are persistent and resistant to intervention is indicative of an underlying complexity. Simplistic analyses of single datasets can leave significant unknowns and rough edges that have potential to generate frustration for managers under significant pressure to enhance quality and meet institutional performance measures

(Stewart et al, in preparation).

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