

Title: Developing a framework as a concourse management strategy: a selected literature review to guide novice researchers using Q Methodology.

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Abstract

Background: For novice researchers in Q Methodology the development of the concourse is challenging.

This challenge is exacerbated by the paucity of literature focussing on concourse development.

Aims of paper: To highlight the lack of strategy related to concourse development within Q Methodology literature and to undertake a selected literature review to suggested frameworks for concourse development in order to guide researchers to possible options for usable frameworks.

Design and data source: A limited search was conducted using CINAHL PLUS to synthesise relevant peer reviewed publications in 1990-2017. This 'snapshot' of papers appraises the variety of concourse strategies used in Q studies.

Review method: 44 Papers were reviewed using five criteria interrogating the detail of concourse development. These included; means of gathering concourse data, whether themes were generated, or alternative frameworks was used, sources of frameworks and whether the limitations of strengths of concourse development were discussed in papers.

Results: 23 papers used no framework, 21 used one of four types of framework; thematic, profession specific, broader health and social care frameworks or a framework that the researchers devised specifically for their research.

Conclusion: The Q Methodology literature frequently lacks discussion around the development of the concourse. Therefore, studies that focus on concourse development should be a focus of future research along with the further development of the ideas put forward in this paper for possible frameworks.

Implications for practice: This paper raises awareness within and outside the Q Methodology community that novice researchers want to use Q Methodology but may require more detail within published research on how concourses can be constructed in a robust way.

Keywords - Q Methodology; Concourse; Novice

Introduction

As a novice researcher, the challenge of choosing an appropriate research method for a research question is a daunting one (Ellis and Levy, 2010). Having chosen to use Q Methodology to investigate a research question about harm in healthcare and commenced what Watts and Stenner (2012) describes as 'the review of the concourse', it became very evident that the Q methodology literature lacked clarity on concourse development, resulting in a lack of detailed and clear frameworks.

Q Methodology is a research methodology used to study subjectivity. Subjective opinions on a specific topic are collected and a factor analysis process used to reduce the many individual viewpoints of the subjects down to a few "factors," which represent shared ways of thinking. (Herrington and Coogan 2011).

Q methodology is a five step process and regardless of the research topic, a review of the concourse is always the initial stage (Watts and Stenner, 2012). The concourse is established and becomes the pool of opinions from which the Q sort statements are drawn. These statements are categorised, sorted by participants and analysed using factor analysis. Once factors are established these are interpreted by the researcher, usually triangulated using additional qualitative data, such as interviews (Exel and Graaf, 2005). The concourse is defined as the body of knowledge and experience representing the range of opinions and views about the topic (Exel and Graaf, 2005). Stephenson (1968), the founder of Q Methodology, believed that '*all subjective communication was reducible to concourses*' (p24). McKeown and Thomas, (2013) remind the reader that the concourse material is likely to be diverse, as each person's meaning is different. However, a key tenet of Q methodology is that a limited number of viewpoints exist on any given topic, therefore these differences can be accounted for. It is therefore

essential to be able to select the material that make up the concourse in a robust and replicable manner to ensure that the researcher has the best possible representation of the range of opinion within the statements (Stenner *et al* 2008).

Q Methodology as a research method

Q was developed by psychologist William Stephenson (1902 – 1989) and has been utilised in a variety of different disciplines to consider how individuals think about a particular subject. Q methodology has been subject to a number of criticisms related to a perceived lack of robust methods for gathering data and subjecting this data to rigorous analysis. However, prominent Q researchers suggest that poor or incorrect processes allow for mistakes and undermined the robust nature of Q (Stenner *et al* 2008). For Q researchers, reliability is about replicability. Suggesting that the same condition of instruction might lead to similar results that represent the range of views across the topic even when Q samples are different and when administered to different sets of persons, might seem unlikely. Nevertheless, according to Brown (1996) the limited number of viewpoints that exist on any given topic can be captured by any robust method that sufficiently represents the viewpoints of any similar representative group. Considering the criticisms levelled at Q methodology, the lack of robust strategies demonstrated in the literature on concourse development, and the need to make the methodology accessible to researchers, the question of the robust development of the concourse requires exploration.

Method for literature review

The method for this review uses the five-stage integrative review method developed by Cooper (1982) modified by Whittemore and Knafl (2005). This modified five-stage framework involves; problem identification, data collection, evaluation of data, analysis and interpretation of data and presentation of results (Whittemore and Knafl 2005).

Problem identification

A research question was developed – What methods do researchers use to construct and develop their concourse in a Q study. The aims of research were:

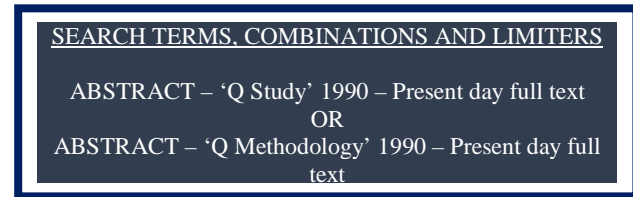
- To review health related Q studies and explore information about how the concourse was constructed and developed.
- To review the different methods used to review the concourse in Q methodology research papers.
- To make recommendations for novice researchers that will support them to engage in a robust review of the concourse and facilitate identification of Q sort statements.

Data collection

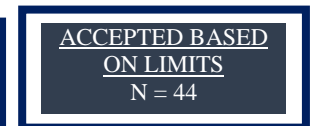
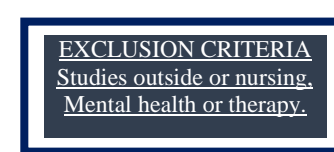
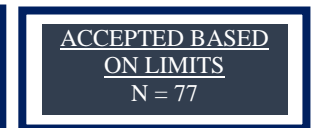
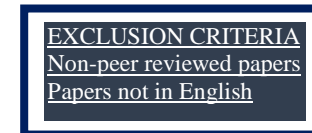
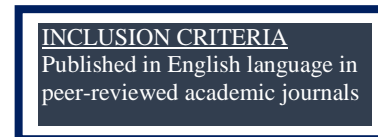
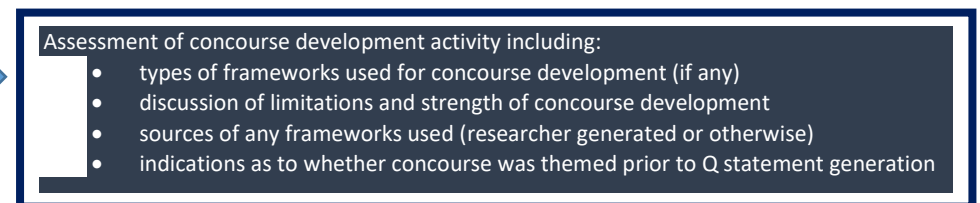
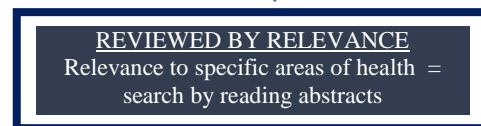
A selected literature review was carried out using CINAHL PLUS. This review took an initial broad review followed by the development of search terms that focused on the studies using only Q methodology and the area of health as demonstrated in Fig 1, which is structured to reflect the PRISM flow diagram (Moher *et al.*, 2009). Health, for the purposes of this review, includes a range of healthcare settings but excludes social care as the original research questions focused on healthcare alone. A limit was placed on peer reviewed studies between 1990 and July 2017 with the search being undertaken during summer 2017. This date was chosen as an appropriately limiting date as prior to 1991 Q Methodology was little known in the UK and came to the fore with the work of Stainton-Rogers (Exel and Graaf, 2005). The broad search terms of 'Q Methodology' OR 'Q study' AND 'Health' yielded 103 papers in which the search terms were mentioned in the abstract. Papers were then refined by 'peer reviewed' papers, as the peer review process is a recognised quality assurance process (Jesson *et al.* 2012) and in 'English Language' to 77 papers as the researchers first language. Papers were further refined, as per Fig 1. by a review of the abstracts and the relevance of the papers to nursing, mental health or therapy to ensure relevance of the study to the researcher's overall area of expertise.

Fig 1. Selected literature review search strategy using Cinhal database including inclusion and exclusion criteria.

SEARCH 1



SEARCH 2



Evaluation of data

44 papers were identified from the initial search. A table was used to summarise the content of each and specifically evaluate the study against the following criteria:

- Means of gathering concourse data
- Whether a framework was used for the identification of the concourse material
- Whether themes were established as a means of framework to shape the concourse development
- The sources of any frameworks used (if any)
- Whether limitations and strength of concourse development were discussed in the paper.

All articles were included in the review and evaluated against the five criteria (Table 1)

Following refinement 21 papers were identified that explicitly discussed their concourse development strategy. 23 papers were identified but failed to discuss any insight about this crucial part of the research design. Articles that lacked a framework or did not discuss the strengths and limitations of concourse development were not excluded from the next stage of the process as the deficits of the papers contribute to the overall understanding of the identified problem of lack of detail.

Analysis and interpretation of data

The review was limited to considering the activities around the development of the concourse including the identification of material that would be included in the concourse, what framework, if any was used to guide the inclusion of material, and themes identified to pursue prior to the review of the concourse. How the concourse material was gathered, although interesting and included within the Table 1, was not a focus of the review as the range of ways of collecting concourse data and the types of data gathered are varied and are usually clearly articulated well within the research articles. However, the framework or means to ensure that the concourse is fully representative of the opinions available on the topic is rarely articulated. Articles selected were published between 1996 (Brown 1996) and 2017 (Dune *et al.*, 2017; Grimshaw *et al* 2017). Generally, the type of concourse data identified are articulated as textual statements. It is these textual statements that are given to participants to 'sort' in

to a preference in answer to a guiding question called a 'condition of instruction' (Watts & Stenner 2012). Two themes were identified in the literature; theme generation for concourse development and established or new frameworks for concourse development.

Presentation of results

From the 44 articles 23 did not identify any framework, including any thematic groupings that could be used as a framework during the development of the concourse). Of these 23 articles, only 2 discussed the limitations of their concourse development strategies or recognise that a framework might have added clarity or credibility to their work (Butler *et al.*, 2014; McHugh *et al.*, 2015).

Use of theme generation for concourse development

From the remaining 21 papers 10 used some means to generate themes to pursue in the development of the concourse. Concourse themes were most often generated using a range of strategies including literature reviews, interviews, focus groups, or expert and professional panels. Some researchers used TV documentaries and websites (Jedeloo *et al.*, 2010), patient literature (Jones *et al* 2003), undertook literature reviews (Malia and Bennett, 2011), utilised semi-structured interviews (Herron-Marx *et al*, 2007) used statements from mailing list discussion on a report pertinent to the research topic (Logan, 2007) or generated themes by asking students to complete sentences in relation to their sexual health beliefs (Stenner *et al.* 2006). These themes further shaped the development of the concourse by generating statements that would ultimately be used in the Q sort. Of the ten papers that used researcher generated themes to shape the concourse six of those discussed the limitations of their concourse development strategies or recognised that a framework might have added clarity or credibility to their work (van Exel *et al* 2006; Logan, 2007; Jedeloo *et al.*, 2010; van Exel *et al.*, 2015; Hislop *et al.*, 2016; Grimshaw *et al* , 2017)

Table 1. Sample of frameworks used for managing concourse data - results of selected literature review.

Author(s)	Means of gathering concourse data	Framework generated for concourse data	Themes generated and used as a framework	Source of framework	Limits/strengths of concourse development discussed
Ahmed, S. <i>et al.</i> (2012)	Literature review of journal articles, reports, books, newspapers and magazines + qualitative data using thematic analysis	No	-	x	No
Bang, H. Y. <i>et al.</i> (2015)	Relevant literature and previous studies on the topic were reviewed plus, in-depth interviews were conducted.	No	-	x	No
Barr, K., Ormrod, J. and Dudley, R. (2015)	Interviews with service users and staff plus theoretical observations derived from literature & published guidance on service delivery	No	-	x	No
Bryant, L. D. <i>et al.</i> (2011)	The Q-set for this study had been used previously in a related study.	No	-	X	No
Butler, H. <i>et al.</i> (2014)	Literature search, questionnaires, evaluation forms, existing relevant Q-sets, e-mail correspondence plus semi-structured interviews	No	-	x	Yes
Cross, R. M. (2005)	Academic literature and research	No	-	x	Yes
Cross-Sudworth, F., Williams, A. and Herron-Marx, S. (2011)	Literature review and individual face-to-face semi-structured interviews and focus groups.	No	-	x	No
Dune, T. <i>et al.</i> (2017)	literature review plus related materials from online newspapers, websites and clinical guidelines plus semi-structured interviews	No	-	x	No
Farrimond, H., Joffe, H. and Stenner, P. (2010)	Academic literature, media and previous interviews	No	-	x	No
Gidman, W. <i>et al.</i> (2009)	Previous interviews	No	-	x	No
Grijpma, J. W. <i>et al.</i> (2016)	Self-Management literature and focus groups with patients.	No	-	x	No
Harvey, H. <i>et al.</i> (2015)	Literature review plus interviews.	No	-	x	No
Hazen, A. C. M. <i>et al.</i> (2016)	Literature review plus interviews	No	-	x	No
Kim, J. and Bates, D. W. (2011)	Broad literature review	No	-	x	No
van der Knaap, L. and Jedeloo, S. (2015)	Literature search and professional discussions	No	-	x	No
McHugh, N. <i>et al.</i> (2015)	Popular media, a public consultation conducted by NICE, qualitative interviews with key informants and focus groups	No	-	x	Yes
Liu, M. Y. <i>et al.</i> (2013)	Interviews	No	-	x	No
van Staa, A. L. (2011)	Interviews - Q only part of the study	No	-	x	No
Stone, T. E. <i>et al.</i> (2016)	Literature search was conducted in both countries, both academic and popular news. Nursing experts guided topics	No	-	x	No

Valaitis, R. K. <i>et al.</i> (2011)	Survey and focus groups	No	-	x	No
Wong, W. <i>et al.</i> (2004)	Literature and contributions from authorities in the fields of clinical ethic	No	-	x	No
Work, J., Hensel, D. and Decker, K. A. (2015)	Written student feedback after simulation, focus group and student blogs.	No	-	x	No
Yeun, E. (2005)	Literature review & Interviews and written narratives conducted with 65 participants.	No	-	x	No
van Exel, J. <i>et al.</i> (2015)	review of the literature informed a Framework generated by researchers around pertinent themes	Yes	Yes	Generated by researchers	Yes
van Exel, N. J. A., de Graaf, G. and Brouwer, W. B. F. (2006)	Based on literature and seven interviews 'pertinent' issues were identified as the basis for statements – further interviews asked participants for other 'issues' - the basis for a framework	Yes	Yes	Generated by researchers.	Yes
Grimshaw, P., McGowan, L. and McNichol, E. (2017)	journal literature, and practitioner perspectives to develop 5 themes used as a framework	Yes	Yes	Generated by researchers	Yes
Herron-Marx, S., Williams, A. and Hicks, C. (2007)	Semi-structured interviews used with interview schedule developed from literature and the findings of an earlier retrospective cross-sectional community survey – sorted into themes to provide framework	Yes	Yes	Generated by researchers	No
Hislop, J. <i>et al.</i> (2016)	Literature review with items coded into a set of emergent themes	Yes	Yes	Generated by researchers	Yes
Jedeloo, S. <i>et al.</i> (2010)	Interviews, TV-documentaries, documentation and websites of patient organizations identifying themes for a framework	Yes	Yes	Generated by researchers	Yes
Jones, S., Guy, A. and Ormrod, J. A (2003)	literature, self-help booklets, and information sheets; sampling popular discourse and the media; and having discussions with patients – 3 categories emerged as a framework	Yes	Yes	Generated by researchers	No
Malia, C. and Bennett, M. I. (2011)	Extensive literature review and items from discussions with two focus groups. Sorted into themes to form a framework.	Yes	Yes	Generated by researchers	No
Logan, R. A. (2007)	Verbatim statements from mailing lists Comments from health care professionals about the IOM report and health literacy related issues.	Yes	Yes	Generated by researchers from discussion on IOM Health Literacy report	Yes
Stenner, P. H. D. <i>et al.</i> (2010)	Students were asked to complete unfinished sentences, and to produce essays related to five selected relevant areas.	Yes	Yes	Generated by researchers	No
Renberg, T. <i>et al.</i> (2011)	Literature review resulting in a potential model	Yes	-	Generated by researchers	Yes
Baker, R. M. (2006)	Interviews with patients plus patient resources, medical textbooks and journal articles	Yes	-	Heaps (1989) Framework of rationality.	Yes.
Clarke, D. J. and Holt, J. (2014)	nursing rehabilitation role descriptions identified in a meta ethnography of nursing practice in stroke rehabilitation	Yes	-	Role descriptions pertinent to topic	No
Stellefson, M. <i>et al.</i> (2012)	Statements generated in response to prompt questions	Yes	-	Atomic components of thought theory (ACT) (Anderson 1998)	No
Brown, S. R. (1996)	One participant interview guided by framework.	Yes	-	Larsons (1984) Care Q Set	No
Chen, S.-F. <i>et al.</i> (2016)	literature reviews/ views collected from focus group interviews	Yes	-	Health Belief Model (Carpenter 2010)	Yes
Exel, J. van, Graaf, G. de and Brouwer, W. (2007)	Structured interviews	Yes	-	Andersen's model of health services' use (1995) and Koopmanschap's <i>et. al</i> (2004) conceptual model	Yes

Hammami, M. M. <i>et al.</i> (2015)	Literature review	Yes	-	Preferences About Death and Dying (PADD) questionnaire and Quality of Dying and Death (QODD) questionnaire	Yes
van Hooft, S. M. <i>et al.</i> (2015)	Review of websites of stakeholders, policy documents and journal articles plus transcriptions of qualitative interviews - statements compared to models as indicated.	Yes	-	Five A's cycle model (Glasgow et al 2003) and the Chronic Care Model (Wagner et al 2001).	No
Mason, H., Baker, R. and Donaldson, C. (2011)	QALY used to structure 4 themes as well as a literature search of clinical guidelines	Yes	-	QALY outcomes - quality-adjusted life-years (NICE 2008)	No
Wagman, P. <i>et al.</i> (2012)	From two previous studies supported by the Model of Lifestyle Balance	Yes	-	Model of Lifestyle Balance (Wagman 2011)	No

Use of frameworks for concourse development.

The remaining 11 papers used a range of different frameworks that were utilised in various ways and can be grouped in to four different types. One study (Renberg *et al.*, 2011) used an initial literature review to develop a model which was then used in concourse development. This dimensional model was specifically designed to give a 'comprehensive coverage of the topic' (p363) in recognition that without specific focus the development and management of the concourse might be viewed as being piecemeal and lacking in robustness. Three papers used models from within their profession. Professional specific models include job roles descriptions identified in a metaethnography for nurses working in stroke rehabilitation (Clarke and Holt, 2014), a model of rationality that is fundamental to an understanding of health economics (Baker, 2006), and the Atomic Component of Thought Theory (ACT) used by medical internet researchers to consider health students perspectives of personal eHealth search practices (Stellefson *et al.*, 2012). These professional specific frameworks are well understood by their users and provide a coherent for concourse development for that researcher and for others in that profession. Of those three, only one discussed the limitations of their concourse development strategies or recognised that a framework might have added clarity or credibility to their work (Baker, 2006). The remaining seven papers draw on non-profession specific models that are more pertinent to health generally (Exel *et al* 2007; Wagman *et al.*, 2012; Chen *et al.*, 2016), aspects of care (Brown, 1996; Hammami *et al.*, 2015; van Hooft *et al.*, 2015) or outcomes measures (Mason *et al* 2011). Of these, only three discussed the limitations of their concourse development strategies or recognise that a framework might have added clarity or credibility to their work (Exel *et al* 2007; Hammami *et al.*, 2015; Chen *et al.*, 2016).

Findings

Q Methodology is now a well-established research process in the UK, the USA and Europe (Watts and Stenner (2012). Novice researchers are often enthusiastic to employ new and innovative methods but require considerable support in undertaking research in methods that are new to them. To novice researchers Q may be a new and fresh approach (Ramlo, 2016), however, lack of peer research papers that answer specific 'how to' questions, leave out important aspects of process or lack details do

nothing to promote their methodologies to researchers. Having undertaken a selected review of frameworks that other Q researchers use to guide their engagement with the concourse it is evident that the detail of concourse development are variable and generally are sparse. Researchers choose to focus on the detail of analysis, results and discussion at the expense of outlining the concourse development strategy. While the concourse development strategy may be robust, this does not always come through in the research papers reviewed and therefore as a researcher it might be challenging to glean direction from the research. This may be that, due to word limits concourse development, rather than perhaps method, findings or conclusion is the aspect of the study that is cut to accommodate publications. The reader therefore may assume a lack of robust development which might be incorrect. Additionally, in many studies the concourse development strategies are rarely discussed as a limitation or championed as a strength, which adds to the implicit message that a coherent strategy is of no account in the research design. Interestingly, the more well published Q authors have robust frameworks that are explicit and are discussed within the papers, but nowhere is this made explicit as a strength or a priority of design.

However, what is evident is that there are a number of choices for possible frameworks that researchers might legitimately make in the development of the concourse strategy. Researchers might decide that a suitable strategy may be undertaking an initial broad collection of concourse data, with the purpose of identifying emerging themes to pursue in more detail within the broader concourse. Alternatively, using a framework that is specific to the researcher's profession as a means of providing pointers to access the concourse may be preferred. Researchers may look outside their own profession and use a framework from the researcher's broader area of expertise in health and social care, such as outcomes measures or quality indicators to access the concourse. Finally, researchers may decide to devising their own robust framework to demonstrate their engagement with the concourse.

In making these choices, researchers can make explicit their process and strategies for the development of the concourse. A clear rationale for the choice of framework, a coherent process of engagement with the concourse and development themes that contribute to the generation of Q sort statements is part of sound research design principles as much as the design of a literature review or analysis. It seems

that this neglected aspect of Q methodology demonstrates a weakness in the technique that would benefit from further development, debate and research.

Implications of this for future Q researcher practice

Future Q researchers are, within this paper, presented with four options to consider how they manage their concourse development activity. These options enable novice researchers to feel more confident in the process, are a beginning for novice researchers and are not intended to limit creativity in concourse development

Limitation of this study

This study is limited in that it looks at just 44 research papers focused on health only, using one search engine by one researcher. Although a robust search strategy is employed, the study does not suggest that the findings within these 44 articles are indicative of all Q studies or indeed even all Q studies in health. However, this snapshot of articles does allow for the commencement of initial discussion of what constitutes robust concourse development strategies, a discussion that has so far been absent from the literature. It is recommended that a wider review be conducted on this topic and that this include studies for other disciplines to further consider the topic of concourse development.

Conclusion

This study allows future researchers to consider their Q concourse development strategies and how this may be best addressed in relation to using appropriate frameworks or strategies. This study challenges the implicit notion within the Q research papers that sees concourse development strategies as absent from the discussion or frameworks not explicit.

The Q Methodology literature frequently lacks discussion around strategies and frameworks that have contributed to the development of the concourse and this leaves novice researchers without sound guidance and direction as to how to approach their concourse for their topic. This paper identifies four possible types of framework that might be suitable as a strategy for concourse development. Studies

that focus on the constituent parts of Q methodology, specifically concourse development should be a focus of future research along with the further development of the ideas put forward in this paper for possible frameworks. A clear process for concourse development and robust design principles generally may encourage more researchers to engage with Q methodology.

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