Proposing the Use of Q-methodology in HRD Research and Practice

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Importance of the Paper

The use of Q-methodology for social science research is on the rise; yet, a keyword search of four refereed journals published by the Academy of Human Resource Development (AHRD) and fifteen years of AHRD conference proceedings revealed no empirical studies that have used this research paradigm. It is not clear whether the absence stems from a lack of exposure to the method, or some other concerns. Unlike surveys and questionnaires that rely on objective measurements, Q-methodology offers researchers a way to explore and quantify participant’s subjective points of view.

Value of Q in Social Science Research

Social sciences are academic disciplines concerned with aspects of social behavior such as anthropology, communication, cultural studies, education, international relations, political science, psychology, sociology, and social work. Since human behavior is set in the context of social interaction and the connections between subjective states and behavior (Patton, 1986), the social sciences can benefit from alternative paradigms that seek to understand human perspectives, as opposed the scientific method used in the natural sciences (e.g., for the study of plants and non sentient beings). It is reasonable to suggest that if social science research is focused on social behavior, then researchers ought to consider how they can reveal the inherent subjectivity involved in a given situation, for instance, how people value, judge, interpret (make meaning) and perceive different phenomena. Q-methodology is a participatory approach increasingly being used as a tool to better understand the viewpoints, beliefs, and values of participants (Militello and Benham, 2010).
Interpretivist researchers feel very at home with the qualitative and naturalistic aspects of Q-methodology. Researchers are accustomed to citing the methodology literature to make a case for the use of a particular approach, typically qualitative or quantitative. Q-methodology transcends that distinction because it offers a systematic combination of naturalistic inquiry, card sorting, factor analysis and interpretive analysis to answer appropriate research questions. Although it uses a prescribed set of qualitative and quantitative techniques, scholars do not call it a mixed methods approach; it is a methodology in its own right. It is a versatile approach with unlimited potential for application in research and practice across disciplines.

The approach has gained momentum in social science research, and as such, understanding the method, procedures, and techniques will prove useful to researchers motivated to consider alternative designs. Researchers choosing Q-methodology may have research questions for which the method is appropriate to answer, or they may be motivated to allay criticism within the field that, to its detriment, research has relied too heavily on traditional methods (i.e., cross-sectional survey designs reporting aggregated mean scores).

The use of alternative research approaches to understand “complex human organizations” and glean implications for practice has been a subject of interest among human resource development (HRD) scholars (Kuchinke, 2004, p. 537). Scholars have called for the use of innovative research paradigms that explore links between research and practice to find out what works and why (Jacobs, 1990; Short, Keefer, and Stone, 2009). Traditional HRD research “tends to focus on instrumental issues rather than on values” (Kuchinke, 2010, p. 577), lending support for exploring individual points of view. While it is conjecture to suggest that a theory-to-practice gap is linked to the predominance of HRD studies that rely on self-report data gathered through cross-sectional surveys, Q-methodology holds promise in applied research to explore what
differences might exist compared to results obtained from traditional approaches and to generate new insights about human behavior and social interaction in organizational settings.

**Theoretical Base**

William Stephenson first introduced Q-methodology in his 1935 letter to the journal *Nature*. Q-methodology, also known as by-person factor analysis, enables a researcher to quantify the subjective viewpoints of individuals in such a way that they can be held constant for inspection and comparison (Brown, 1993). Subjectivity is expressed through values, attitudes, beliefs, feelings and opinions. Q-methodology is ideal for small-scale research with the aim of identifying model points of view and finding consensus, or affinity, among persons (Brown, 1993; Stephenson, 1953, 1981). Although Q-methodology resists traditional classifications (e.g., positivist, interpretivist, quantitative, or qualitative) (Brown, 1993; Watts and Stenner, 2012), it is considered systematic, rigorous, and “a ‘whole’ methodology with distinct techniques, procedures, processes, and epistemological assumptions” (Janson and Militello, 2013, p.2).

Q-method studies are conducted in five stages: (1) building a collection of statements, called a concourse; (2) culling a representative sample of statements from the concourse, called a Q-set; (3) selecting participants, called a P-set; (4) facilitating card sorts with participants, called a Q-sort; and (5) analyzing and interpreting results (van Exel and de Graaf, 2005). While a complete description of the method is beyond the scope of this paper, researchers wishing to learn more about Q-method may refer to recent books (see McKeown and Thomas, 2012; Watts and Stenner, 2012), primers (Brown, 1993), and join the Q-method listserv (http://qmethod.org). In addition, the peer-reviewed journal *Operant Subjectivity* is devoted to publishing studies using Q-method.
Purpose Statement

The purpose of this doctoral submission is twofold: (a) to explore the use of Q-methodology in human resource development (HRD) research and practice through a limited review of the literature, and (b) to identify implications for considering the use of Q-methodology in HRD research through a review of selected studies.

Research Questions

The questions guiding this paper are:

1. How is Q-methodology being used in HRD research and practice?
2. What are some implications for considering the use of Q-methodology in HRD research?

Method

This study was based on Torraco’s (2005) methodology for an integrative literature review, however the search was limited to two sources: the full catalogue of four refereed journals published by the AHRD (Advances in Developing Human Resources, Human Resource Development International, Human Resource Development Quarterly, and Human Resource Development Review) and fifteen years worth of digital, searchable AHRD conference proceedings (from 2000-2014). The reason why the researcher bounded the search to only these publications was to specifically explore the use of Q-methodology within the extensive literature and knowledge base of the AHRD. The data collection had three parts: (1) a keyword search of the journals, (2) a keyword search of the conference proceedings, and (3) a criterion-based search for selected studies using Q-methodology. The following section describes the research design.

The first search was conducted in late 2013 using the university library’s online databases ERIC, Academic Search Complete, and Business Source Complete. The researcher entered the name of the journal (e.g., Advances in Developing Human Resources) and applied one at a time,
each of the three keywords *Q-methodology*, *Q-method*, and *Q-sort*. The database search was carried out within the full-text of the article. This systematic process was repeated for each journal. To cross check the database results, the researcher turned to the journal publishers’ websites [http://hrd.sagepub.com/](http://hrd.sagepub.com/), [http://www.tandfonline.com](http://www.tandfonline.com), [http://onlinelibrary.wiley.com](http://onlinelibrary.wiley.com), and [http://adh.sagepub.com/](http://adh.sagepub.com/) to run the three keyword searches for each of the four journals.

For the second search, conducted in early 2014, the digital conference proceedings from the year 2000 through 2014 were either downloaded from the [www.ahrd.org](http://www.ahrd.org) website to the researchers computer and unzipped to pdf documents, or accessed through the online member’s portal. Using the Find command, the keyword search was repeated for each year of conference proceedings.

For the third part of this study, the researcher searched for published, peer-reviewed articles that used *Q-methodology* and had published findings. The studies had to be in a social science discipline, preferably within a set of topics related to HRD chosen by the researcher. A set of inclusion criteria was developed to guide selection of these studies. The articles were required to:

1. Be published in a peer-reviewed journal;
2. Have presented the findings of an empirical study;
3. Contain at least one of the following keywords: *leadership, training, education, workplace, evaluation, mentoring, learning, communities of practice*; and
4. In addition, contain at least one of the following keywords: *Q-methodology, Q-method, or Q-sort* in the title or abstract.
Findings

The search of four AHRD journals returned no results with the keyword *Q-methodology* and four results with the keyword *Q-sort* in one of the journals, *Human Resource Development Quarterly* (Baldwin and Magjuka, 1991; De Meuse and Hostager, 2001; Rowe and Cooke, 1995; Yaghi et al., 2008). The results matrix in Table 1 reports the findings by journal and keyword.

Table 1

*Results matrix, by journal and by keyword*

<table>
<thead>
<tr>
<th>Publication Name</th>
<th>Q-methodology</th>
<th>Q-method</th>
<th>Q-sort</th>
</tr>
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<tbody>
<tr>
<td><em>Advances in Developing Human Resources</em></td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td><em>Human Resource Development International</em></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><em>Human Resource Development Quarterly</em></td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td><em>Human Resource Development Review</em></td>
<td>0</td>
<td>0</td>
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The findings from the search of conference proceedings returned only one result with the keyword *Q-methodology* (Short, 2000) and three results of the keyword *Q-sort* (Burton, 2005; Foucar-Szocki et al., 2001; Mathis, Egan, and Nafukho, 2010). The results matrix in Table 2 shows the number of times each keyword appeared in the AHRD conference proceedings during each of the years 2000-2014.

Table 2

*Results matrix, by keyword and by year of AHRD conference proceedings*

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Q-methodology</td>
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<td>Q-method</td>
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<tr>
<td>Q-sort</td>
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In the search for topical studies that used Q-methodology resulted in a total of eight articles selected for inclusion based on the criteria (Table 3). The key findings and implications from these studies will be covered in the discussion.

Table 3

Selected topical studies using Q-methodology: Frameworks and implications

<table>
<thead>
<tr>
<th>Author (Year)</th>
<th>Topic</th>
<th>Framework</th>
<th>Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ramlo and Berit, 2013</td>
<td>Program needs assessment</td>
<td>Small sample to determine program needs and areas of consensus in the views and preferences of caregivers for aging adults</td>
<td>P-sample is small; a different or larger sample may have expressed different views and preferences</td>
</tr>
<tr>
<td>Militello and Benham, 2010</td>
<td>Leadership development evaluation</td>
<td>Q-sort was one of several data sources for evaluating a leadership development initiative across several sites</td>
<td>Evaluation needs additional data; pre-determined Q-set may not represent the scope of expression of participants</td>
</tr>
<tr>
<td>Rodríguez, 2013</td>
<td>Communities of practice</td>
<td>Explore perspectives of individual participation and beliefs participants hold in a virtual community of practice (CoP)</td>
<td>Post-sort surveys help remedy the limitation of pre-determined statements, ask participants to provide statements they would like to have seen in the Q-set</td>
</tr>
<tr>
<td>Strunk and Montgomery, 2013</td>
<td>Learning styles</td>
<td>Discover student preferences for learning styles and the learning environment</td>
<td>Other topics, such as instructional methods, could be explored using different Q-sets with the same sample</td>
</tr>
<tr>
<td>Clifford, 2009</td>
<td>Mentoring</td>
<td>Perceptions of mentoring relationships of new professionals in college student affairs from the vantage point of the protégé</td>
<td>Q produced rich and granular data; potential as an educational research tool and for exploratory qualitative studies</td>
</tr>
<tr>
<td>Chang, 2012</td>
<td>Dynamic capabilities of entrepreneurs</td>
<td>Opinions of entrepreneurs focused on explicit behaviors of entrepreneurs during company start-up and growth stages</td>
<td>Q-set is basis of a self-assessment instrument to measure dynamic capabilities</td>
</tr>
<tr>
<td>Pruslow and Red Owl, 2012</td>
<td>Experiential education</td>
<td>Student teachers’ observations of fieldwork experiences produced distinct, shared models of what constitutes inclusive classroom and school environments</td>
<td>Considered a very successful application of Q; useful for small- and whole-group discussions for critical reflection, analysis, and interpretation</td>
</tr>
<tr>
<td>Woods, 2012</td>
<td>Workplace well-being</td>
<td>Used to study emotion in the workplace to discover holistic accounts of employee perceptions of the emotional tone of the workplace</td>
<td>Q is a practical and unobtrusive way for participants to communicate openly about emotions</td>
</tr>
</tbody>
</table>
Discussion

This review of the four journals published by the AHRD and fifteen years of AHRD conference proceedings produced very scant findings. There were a total of four citations found in journals and four in conference proceedings. No studies were found that used the approach to Q-methodology as described by Stephenson (1981). In the journal HRDQ, the keyword *Q-sort* was found the following four citations. Baldwin and Magjuka (1991) used card sorting to collect data from organizational employees about training interventions. De Meuse and Hostager (2001) had junior- and senior-level business students sort words used to develop their Reaction To Diversity inventory. Rowe and Cooke (1995) used Q-sort with subject matter experts to troubleshoot performance actions. Yaghi et al. (2008) included a reference with Q-sort in the title, but cited the term nowhere in the body of the paper.

In the conference proceedings, *Q-methodology* was mentioned once by Short (2000) as a method of analysis that could be used to explore metaphors. In addition, the term *Q-sort* was mentioned as a way to assess organizational culture (Burton, 2005), an activity in an innovative session used to measure individual and organizational competencies (Foucar-Szocki et al., 2001), and as a way to test rhetorical visions for training and HRD scholarship and practice (Mathis, Egan, and Nafukho, 2010).

These findings confirm that there has been no scholarly exchange within HRD on this topic, or use of the methodology as articulated by current scholars of Q-methodology (Brown, 1993; McKeown and Thomas, 2012; Stephenson, 1953, 1981; Watts and Stenner, 2012). This gap within the HRD literature provides an opportunity for HRD scholars and practitioners to learn how this alternative research approach has been used to study topics that are commonly the
focus of HRD research, such as needs assessment, leadership development, communities of practice, learning styles, mentoring, dynamic capabilities, education, and workplace well-being. The following section identifies salient points from the selected studies shown in Table 3, and provides implications for the use of Q-methodology.

Ramlo and Berit (2013) used Q-methodology as a way to determine program needs and areas of consensus gathered from insights into the views and preferences of caregivers for aging adults. The study provided insight not previously documented in the literature, which will help program developers meet the needs and preferences of caregivers. Q-methodology is effective with small sample sizes.

Militello and Benham (2010) used Q-sorting as one of several data sources for evaluating a leadership development initiative across several sites. The findings provided a cross-site view of leadership perceptions, as well as current practice, and the extent to which practice had affected change in the community. The Q-sort data was used to triangulate findings for the purpose of evaluation, and also as a tool for discussion, reflection, and planning future activities. The researchers note that evaluation should gather additional data sources and not rely only on Q-sort results. Sorts are done with pre-determined statements, which may may the scope of expression available to participants or not fully represent their views.

Rodríguez (2013) conducted dissertation research using Q-methodology to explore the perspectives of individual participation in a virtual community of practice (CoP) and the beliefs participants hold about virtual communities. The author wanted a simple way to understand participant beliefs and generate comparative data to be used with other data to triangulate findings in an exploratory study. Similar to Militello and Benham, Rodríguez (2013) recognizes that pre-determined statements may not fully represent the beliefs of participants. He suggests
the use of a post-sort survey to help remedy this limitation, asking participants to comment on why they placed cards at the +5 and -5 positions and also to list any additional statements they would have liked to see in the Q-set.

Strunk and Montgomery (2013) used Q to explore student perceptions of learning styles and the learning environment. The results of their study provided a much needed student perspective on preferences in learning, as well as descriptions of learning styles and learning environments that can be further researched using other methods. Other topics, such as instructional methods, could be explored using different Q-sets with the same sample.

Clifford (2009) used Q-methodology to study perceptions of mentoring relationships of new professionals in college student affairs from the vantage point of the protégé. Clifford confirms that Q-methodology was an effective way to study participant perspectives, beliefs, and viewpoints. Participants liked the sorting experience. Because Q produced rich and granular data, it has great potential as an educational research tool and for exploratory qualitative studies.

Chang (2012) explored expert opinions of IT entrepreneurs and focused on explicit behaviors, called dynamic capabilities, of entrepreneurs during company start-up and growth stages. A benefit of Q-methodology is the inclusion of statements with theoretical and practical aspects into the Q-set. The findings from this study could form the basis of a self-assessment instrument to measure dynamic capabilities.

Pruslow and Red Owl (2012) studied experiential education programs using Q-methodology. They captured student teacher’s observations of fieldwork experiences, which produced distinct, shared models of what constitutes inclusive classroom and school environments. These prototypical, shared experiences are represented by clusters of people with common viewpoints. The authors were full of praise and enthusiasm for the use of Q-
methodology, and considered it a very successful application, and useful for small- and whole-group discussions for the purpose of critical reflection, analysis, and interpretation, helping participants make meaningful connections. This method promotes collaboration and participation during data analysis, thus provides an opportunity for social learning.

Woods (2012) used Q method to study emotion in the workplace. The findings were holistic accounts that captured employee perceptions of the emotional tone of the workplace. Q-sorts and factor identification helped to surface and compare different accounts of emotion and well-being. It was successful in yielding useful data, thus the Q approach has a place in organizational research. One limitation of this method is that individual perspectives are highly situated and individual, and human response to similar circumstances can vary widely. However, Q is a practical and unobtrusive way for participants to communicate openly about emotions. A study such as this one brings Q to the attention of scholars and has the “potential to establish a novel, empirically derived typology of common ways people experience workplace issues” (Woods, 2012, p. 904).

This review of eight studies found five key considerations that social science researchers should consider when contemplating the use of Q-method for educational and organizational research. First, it is an efficient an effective way to conduct exploratory research. Second, it is appropriate for use with small sample sizes. Third, post-sort surveys help in the interpretation of factors and gather descriptive information about participants. Fourth, factor interpretation can be used as an educational tool for reflection and participatory analysis, thus contributing to individual and organizational learning. Finally, in evaluation, Q-sort data should be used along with other data points to triangulate the findings.
Additional lessons from these studies point to the need for researchers to select a population, sampling procedure, and a concourse of statements that are appropriate for identifying clusters of viewpoints on the topic of interest. A concourse contains representative statements derived from theoretical and practical sources. Developing the concourse is one of the first steps in designing a Q-methodology study.

The examples cited in this discussion suggest that there are a number of ways that Q-methodology can be applied in educational and organizational research, opening the door for exciting research possibilities in the field of HRD.

Implications

The findings from this study point to the advantages of this method, along with the many ways Q-methodology may be used in organizational research. This approach is suitable with small samples sizes to collect perception data, develop instruments, evaluate scenarios, analyze data, assess intangibles such as culture and emotion, test findings from other studies, and as an activity in training or development programs.

The findings from studies using Q-methodology may generate new knowledge and contribute to theory development, especially in exploratory topics. We may be able to learn about the larger population by examining a few individuals and understanding their perspectives, especially in subjects where there are distinct opinions. For research study participants, this method promotes engagement, reflection, and opportunities for learning. Anecdotal accounts of study participants report they enjoy the tactile experience of card sorting, and researchers remark how the participatory nature of the method minimizes the distance between researcher and participant. Since Q-methodology allows for marginalized voices to be heard through
individualized expression that is usually “buried in the mean” of traditional survey data (Janson and Militello, 2013), it is aligned with the social justice values of HRD.

Q-methodology allows researchers an alternative to aggregate data and reporting of statistical means to describe phenomena, and instead produces ‘thinly sliced’ data that reveal aspects of interest in the form of clusters of viewpoints. Findings include rich narrative data from the post-sort survey and participatory analysis that can provide a deeper understanding of the unique points of view, or factors, revealed in the analysis. Research findings from Q-methodology studies can return to the realm of practice and inform future interventions, provide a basis to evaluate outcomes, and improve organizational interventions.

Conclusions

This literature review has revealed a wide gap in the HRD literature around the use of Q-methodology, an alternative paradigm used in social science research. The findings presented in this paper provide many examples of how the methodology might be used in applied research in the field of HRD. There exists the potential to make original and significant contributions to the HRD literature through the use of an approach that has yet to be used in our field. It is hoped that this topic will attract the attention of scholars and practitioners in the field of HRD to advance collective methodological knowledge. In this presentation, the author hopes to engage the audience in a discussion of the methodology to gain further insight into how HRD scholars perceive the method, and to inquire about current work using the approach. To this end, the presenter will describe her upcoming dissertation research that will use Q-methodology.
References


