



UWL REPOSITORY
repository.uwl.ac.uk

“Ethnographic” thematic phenomenography: a methodological adaptation for the study of information literacy in an ontologically complex workplace

Forster, Marc ORCID logoORCID: <https://orcid.org/0000-0002-5942-3169> (2019) “Ethnographic” thematic phenomenography: a methodological adaptation for the study of information literacy in an ontologically complex workplace. *Journal of Documentation*, 75 (2). pp. 349-365. ISSN 0022-0418

<http://dx.doi.org/10.1108/JD-05-2018-0079>

This is the Accepted Version of the final output.

UWL repository link: <https://repository.uwl.ac.uk/id/eprint/5541/>

Alternative formats: If you require this document in an alternative format, please contact: open.research@uwl.ac.uk

Copyright:

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy: If you believe that this document breaches copyright, please contact us at open.research@uwl.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.

Rights Retention Statement:

‘Ethnographic’ Thematic Phenomenography – a methodological adaptation for the study of information literacy in an ontologically complex workplace

Abstract

Purpose

The workplace is a context of increasing interest in information literacy research, if not necessarily the most visible (Cheuk, 2017). Studies have described contextual, relationship-based experiences of this subjective, knowledge-development focused phenomenon (Forster, 2017b). What research contexts and methods are likely to be most effective, especially in workplaces which contain professions of widely differing ontologies and epistemological realities?

Approach

An analysis and description of the value and validity of a ‘qualitative mixed methods’ approach in which the thematic form of phenomenography is contextualised ethnographically.

Findings

This paper describes a new research design for investigation into information literacy in the workplace, and discusses key issues around sampling, data collection and analysis, suggesting solutions to predictable problems. Such an approach would be centred on thematic phenomenographic data from semi-structured interviews, contextualised by additional ethnographic methods of data collection. The latter’s findings are analysed in light of the interview data to contextualise that data and

facilitate a workplace-wide analysis of information literacy and the information culture it creates.

Originality/value

Insights from recent research studies into information literacy in the workplace have suggested the possibility of an epistemologically justifiable, qualitative mixed methods design involving an ethnographic contextualisation of a thematic phenomenographic analysis of the information culture of an ontologically varied and complex workplace - with the potential for descriptive contextualisation, categorisation and generalisability.

Keywords: information literacy; epistemology; phenomenography; ethnography; workplace; methodology

Article Classification: Conceptual paper

The Aim and Scope of this paper

This paper is concerned with the value and validity of a proposed variation in research methods. It is not an in-depth discussion of methodology per se, although epistemological issues will be discussed where necessary. It is concerned in a general way with the epistemological value for workplace information literacy research of analysis of the variation in experience of information literacy as facilitated by the phenomenographic approach, but fundamentally about those additional and specific insights into that variation obtained through the 'thematic' form of phenomenography. With that epistemological value in mind, it discusses whether

recent research studies validate the idea that thematic phenomenographic methods might be applied to ontologically varied and epistemologically complex workplaces, and therefore justifiably employ, to increase the richness of perspective on information behaviour and experience, an ethnographic perspective. It must be added that the focus of the paper is not on ethnography, and hence will discuss ethnographic methods in only in sufficient depth to shed light on that perspective.

The value of investigating the 'experience' of information literacy is discussed, but the variation of that experience is of particular significance for the workplace because of a perceived value in understanding contexts of knowledge creation, suggesting the added value of phenomenography compared to phenomenology. The detail available through the thematic form of phenomenography, and its value, will be shown through examples. It is that complexity which gives such vivid ontological and epistemological detail which makes thematic phenomenography the driver of this paper.

The thematic phenomenographic method, discussed in detail in Forster (2015c) and Forster (2017b), allows short narratives of experience of information literacy to be built into detailed context-sensitive and complexity-sensitive structures. These structures can show subtle variations and radical differences in complexity and context in which knowledge is developed. Structures, this paper will suggest, which could portray the variations and similarities of experience, of congruence and divergence, between several 'information ontologies'. This makes it somewhat distinct from usual phenomenographic practice, whose outputs often offer great insight into the variations in experiences of phenomena, but lack that ability, it is gently argued, exhibited by the thematic form through Dimensions of Variation and Themes of Expanding Awareness, to provide such contextual subtleties and

mappings of complexities of experience. The concentration on the value of the thematic form of phenomenography, and its apparent wider epistemological applications, are why this paper, while describing the epistemological concepts and methodological approaches of phenomenography, will not discuss the 'standard' phenomenographic workplace literature in depth.

It is this additional detail in the variation expressed within a coherent picture of information literacy experiences in a particular workplace or profession which is at the heart of a second focus of the paper. Can it give explicit ontological validity to the investigation of workplaces whose constituent professions may have highly divergent epistemologies? Thematic phenomenographic structures yield amongst other things varying 'personas' of information literacy experience which describe contexts and complexities of 'being information literate'. Inskip and Donaldson (2017)'s study has shown that a profession (insurance broker) manifestly different in terms of knowledge values and applications from nurses (Forster, 2015b), experiences information literacy in the form of the same 'personas'. This suggested that professions, even those with little in common in terms of conceptions of workplace phenomena, experience information literacy in ways that are similar enough to provide ontological and epistemological justification for investigating apparently ontologically diverse workplaces (ways that, despite their differences, can be seen to be epistemologically coherent enough to be expressed through the details of thematic phenomenographic outcomes). That is, perhaps all information focused professions are informationally ontologically coherent enough to be investigated through thematic phenomenography; a analysis yielding a single set of personas, and other outcome details for a single workplace might be viable? It is suggested that prior to this, phenomenography could be said to be, in terms of strict research-

supported validity, ontologically and epistemologically limited to single professions, or those studies which investigated workplaces such as, for example, the operating room (Arakelian et al., 2011) where concepts are widely understood in the same way by related professions.

A third focus, as hinted at above, takes things further. If there is a phenomenographic method which can be justifiably applied to any workplace as a whole, no matter how ontologically varied, it follows that a triangulating ethnographic, observational stance may be possible and desirable. Thematic phenomenography has shown how so many of experiences involve collaboration and community – behaviours which ethnography specialises in analysing. Such a ‘qualitative mixed methods’ (Philips et al., 2014) approach may be controversial, but surely valuable and potentially insightful.

Information literacy in the Workplace – a subjective yet collaborative, ‘cultural’ phenomenon

Workplace professionals are information workers (Cheuk, 2017). This applies not only to librarians and information scientists, but to lawyers, medical and business professionals and the many others who sense and understand information need, and plan a search, locate and apply new information within a workplace context on a day to day basis. Such a description applies also to those professions where the information that is found, conveyed and used isn’t necessarily ‘documentary’: it may be in the form of speech or physical ‘performance’ (Lloyd, 2010, Lloyd, 2012; Forster, 2017a). It follows that to understand how each contemporary workplace operates

requires a deep and detailed analysis of the information literacy experiences of all of those professions who in their various ways live, direct and transform it.

There are several ways of looking at information literacy; it is a concept which has evolved constantly. From generic skills in using databases and catalogues and a knowledge of information types and sources, to the more constructivist notion of a personal attribute: the ability to locate and find useful information for whatever purpose. However, how, why and when are the skills and knowledge applied, or the capability shown?

A recently re-emphasised way of looking at Information literacy is as an experience of the concept 'using information to learn' (Somerville, 2015; 2013; 2009; Bruce, 2008; Bundy, 1999; Kuhlthau, 1993). To be information literate requires a lived awareness of those contexts which require knowledge development: a constantly adapting understanding of why, when and how to seek out, critique and use information to learn (Forster, 2015a). This approach is particularly relevant to the workplace where information use, in an impatient, focused and time-limited culture (Cheuk, 2008), is significantly purposive: to create knowledge to function in particular roles, to inform and support others, to fulfil key aims, or develop strategy. Bruce et al. (2014) have discussed at length the value of investigating 'Information Experience' to understand complex engagement with information in real-world contexts. Most significantly, 'the multidimensional nature of people's engagement with information differentiates information experience from other information research paradigms'. (Bruce et al, 2014, p.4). Information experience, investigated by methods derived from the methodology phenomenography and its emphasis on the many variations in the complexity and context of that experience seems especially relevant to the multiple ways in which information is engaged with, and

actionable knowledge developed, in the workplace (Sayyad Abdi and Bruce, 2015; Cheuk, 2008; Lloyd, 2010)

Studies (Inskip and Donaldson, 2017; Forster, 2015b; Lloyd, 2012) have shown that workplace Information literacy experiences are often collaborative, even 'social'.

Unlike in academic contexts, workplace information literacy is often about using information for common or even altruistic purposes (the caring professions), including in relationship with clients, customers and patients and their families; and is in fact often part of the 'social cement' which creates and maintains workplace relationships. Information might be used to teach, comfort, develop an approach and culture of working, develop strategy, solve problems or save money (Forster, 2015b).

In the various contexts in which a person works, including when interacting with patients, customers or clients, or as part of a team working towards a series of common aims, there are several questions which are constantly addressed: why is there a need for information, now and in this context?; what information sources are needed and are available?; where is the information, and how is all relevant information to be found, critiqued and applied? Questions which aren't necessarily conscious, but are asked and answered within, and as part of, experiences of the workplace dynamic each day in the context of relationship: colleagues; team members; subordinates and superiors; patient/clients/customers and their associates and families (Forster, 2017a); questions and answers which give expression to a mutually experienced information literacy 'horizon' or 'landscape' of the workplace (Lloyd, 2010). The answers to these questions are contextual, because the knowledge to be developed, the purpose of the information search, is contextual. Studies have described the complex contextual variation in information literacy experience within professions, or in some case workplaces of ontologically similar

professions (Arakelian et al., 2011; Cattaneo, Galizzi and Bassani, 2012). However, how coherent might such variations be in a workplace in which ontologically distinct professions operate, even if working together to use information to produce knowledge to the benefit of the workplace as a whole? If such professions exist within their own 'world' in which information use and knowledge development have no relation, how can a workplace be justifiably researched for its 'information literacy' culture?

Methodological Options and Possibilities

If we consider a model of workplace Information literacy which addressed such issues and concerns: its expression as many and varied contextual lived experiences within, and as part of, purposeful workplace-driven knowledge acquisition and learning; and simultaneously consider the ontologically diverse, inter- and intra-professional, mutually supportive and instructive nature of its complex and varied themes and contexts that generates the sense of a culture of information that allows each workplace to function; how can it be investigated in the most effective way? How might methodological approaches be adapted for the best outcomes, especially difficult in the busy, complex and ontologically varied modern workplace? This model would suggest a methodology that addresses the problem that information behaviour, and information literacy in particular, is often integrated so deeply into workplace experiences, and their social/collaborative, professional and personal contexts and meanings, and not always consciously that it is difficult to describe the former without careful descriptions of variations in the latter. It suggests a methodology that focuses on the workplace as a community and an 'information

culture', that is capable of dealing with the widely varied experiences of many different professions and job roles: professions and roles which have ways of using information, and understanding what constitutes valid and valuable knowledge, that may be quite distinct. Such a methodology would yield a complete understanding of the detail and interrelationships of those varying 'customer/patient focused', 'team focused' and 'professional objectives focused' experiences within each workplace, while still being able to take a more observational perspective on how the experiences create and contribute to that culture – the 'information culture' that analysis of experiences suggests exists but can't by definition give an objective perspective on - and how that culture operates.

Such a model doesn't appear to lend itself to investigation by a single methodological approach. While phenomenography, for instance, has been used to discover the range of experiences of a phenomenon by a single, or related profession(s), it doesn't take an observational stance. Ethnography, which does both, doesn't analyse the range of experiences of phenomena in the same way.

Ethnography has been applied to investigate how information is used by a community or culture and how the community or culture influences and determines how information is used (Cooper *et al.*, 2004; McKnight, 2006). Ethnography is 'an approach to learning about the social and cultural life of communities' (Schensul *et al.*, 1999, p.1).

The ethnographic method examines behavior that takes place within specific social situations, including behavior that is shaped and constrained by these situations, plus people's understanding and interpretation [of that behaviour].

(Wilson and Chaddha, 2010, p.549)

Ethnographers look at as many aspects of the social/cultural community's environment as possible, to properly analyse

'...beliefs, attitudes, perceptions, emotions, verbal and non-verbal means of communication, social networks, behaviours of the group of individuals with friends, family associates, fellow workers and colleagues, use of tools technology and manufacture of materials and artefacts, and patterned use of space and time.'

(Lecompte and Schensul, 1999, p.4).

Ethnography uses several methods of data gathering, most of which involve personal contact with those going about their daily lives: watching, listening, and asking questions. Data consists of detailed accounts: 'thick descriptions', of the interactions within the culture, from semi-structured interviews, observations of interactions, focus groups, and texts which have the status of operational guidelines for the community. Thematic analysis is undertaken on the understanding that behaviour can't be absolutely abstracted, while recognising the researcher as a potential source of 'bias' and 'contamination' (O'Reilly, 2009), and the role of 'theory' in any attempt at generalisation – with either a deductive or inductive role – to 'formulate questions concerning the social organization of the subjects and their settings' (Anderson, 2002, p.1536). Ethnography's methodological strengths are in its closeness to the analysed culture, its varied perspectives and detailed analysis (O'Reilly, 2009).

Phenomenography investigates the range of experiences of a phenomenon, distinguishing between different contexts and complexities, through a more subjective, experiential approach than the '*understanding and interpretation*' (Wilson and Chaddha, 2010, p.549) of ethnography, as quoted above. It is a methodology

that can develop, especially in its thematic form, a highly detailed, structured analysis of variation in complexity and context of experiences of phenomena, allowing a process of generalisation from its findings without the need for theory. An analysis which aims to show, in depth, the nature and contextual structure of experiences within a defined group. Phenomenography has been used to investigate information literacy experiences of professionals or others working within a defined community of practice (Forster, 2015b; Sayyad Abdi and Bruce, 2015; Somerville 2015; Inskip and Donaldson, 2017); and workplaces where several related professions share common ontological and epistemological assumptions (Arakelian et al., 2011; Cattaneo, Galizzi and Bassani, 2012). However, could it be applied in ontologically diverse, epistemologically complex workplaces?

Phenomenography's field has been narrower than ethnography, even if its claims to a specific interest in the experiences of phenomena, rather than processes and interpretations of behaviour, suggest a 'deeper' one. Concentrating on the *experiences* of information literacy as a phenomenon, and specifically the contextual variations of that experience, it has, by self-definition, neglected any objective, 'observational' analyses which might have contextualised experiences in the workplace culture beyond a grasp of the sociality or collegiality of those experiences; it has also concentrated on professions rather than localised workplaces.

If it could be shown that a form of phenomenography is epistemologically justified as a method for investigating ontologically varied workplaces, might it be worth contemplating that an ethnographic analysis of the whole workplace could be employed to add additional data? Or would ethnographic methods be discordant or even invalid if applied in a phenomenographical context? Can phenomenographic methods be applied in such a way that a workplace of varied ontologies can still be

studied, so that such a workplace might also invite ethnographic supplementary data practically, validly and meaningfully?

In fact despite somewhat different foci, some of the research methods and encountered phenomena that are characteristic of phenomenography would be familiar to ethnographers, and vice-versa. Phenomenographic studies have also involved semi-structured interviews (Bowden, 2000) or occasionally focus groups (Osborn, 2011). Phenomena which have been observed in ethnographic studies e.g. 'People learn the norms and taboos of their culture by observing peers and mentors and through practice' (Pashia and Critten, 2015, p.86) have been highlighted in phenomenographic studies as aspects of information literacy experiences, such as non-verbal means of communication of Lloyd (2012; 2010), use of tools, technology (Bruce 1997, Sayad Abdi and Bruce 2015) and information-based relationships between fellow workers and colleagues (Forster, 2017a). Could ethnographic methods of observation be helpful triangulation for these 'physical' forms of information literacy experience?

This paper proposes that the ontologically and epistemologically elucidating and validating methods of analysis provided by thematic phenomenography, especially as such methods show how such experiences are often collaborative and group focused, can be contextualised and triangulated (especially in those experiences which are collaborative and social) through more broadly focused and more physically and observationally engaged ethnographic methods. The result is a 'qualitative mixed methods' design (Philips et al., 2014), producing a convincing analysis of information literacy in the workplace. Thus providing a more vivid representation than has been possible before now. Such a design has as its centre of gravity a phenomenographic investigation of workplace information literacy

experience, supplemented and contextualised by data from focus groups, observation, questioning and analysis of relevant documentation.

Details of how a local information 'culture' of numerous professions and work roles might be validly investigated in such a way will be discussed later in this paper.

Phenomenography

Phenomenography originated in Sweden in the early 1970s, developed by Ference Marton and colleagues. Marton defined Phenomenography as

The empirical study of the limited number of qualitatively different ways in which various phenomena in, and aspects of, the world around us are experienced.

(Marton 1994, p.4424)

Phenomenography began as a way of determining the variation of student experiences in the classroom (Marton, 1988). Some students were surface learners, some deep learners – the question arose, could one find out the nature of the differences in the complexity of their learning experiences, and therefore could educational interventions be adjusted to this knowledge? What was the range of experience of learning? Marton adapted techniques which analysed the experience of phenomena to give them a radically different twist, to describe the variation in the experience of a phenomenon rather than the facets of the phenomenon itself. Since then, phenomenography has been used to investigate the range of complexity of experience of other phenomena, often in the educational field. Information literacy, when investigated in this way, has often come to be seen as an engine of knowledge creation or learning (Limberg, 1999; Maybee, 2006; Lupton, 2008; Bruce, 2008; Forster, 2015a; Somerville, 2015), and the insights provided have been applied in

educational interventions to develop Information literacy competencies (Andretta, 2007; Forster, 2016). Such analysis of the different contexts of experiences has allowed understanding of Information literacy to go beyond a simple recognition of that it has a role in learning to an understanding of its role as a medium for communication, teamwork, creativity, compassion and leadership (Forster, 2017a; Inskip and Donaldson, 2017).

Phenomenography accepts the phenomenological non-dualist perspective on phenomena, and data gathering is through the same lightly structured interviews in which descriptions of experiences of the phenomenon are encouraged with the minimum of 'leading' or interviewer prioritisation (Bowden, 2000). How do you 'live' the phenomenon, rather than 'what is the definition of the phenomenon'; (Entwistle, 1997); what are your experiences of using information to successfully achieve a goal, rather than, 'how is information used in your workplace', is the focus of interest, discussion and interpretation. As mentioned above, phenomenography is interested in the variation in experiences not in the facets of the phenomenon itself (Marton, 1988). Samples are data saturated and purposive, and studies describe both the variations in experience of the phenomenon found in the category of participant the sample describes, and how those variations relate to each other – usually in terms of complexity.

The **Thematic method** of analysis (Akerlind 2005; Forster, 2015c; Forster 2017b) breaks down outcomes into short experiential narratives, or Dimensions of Variation, traced through several transcripts, and groups them under Themes of Expanding Awareness. These Themes are the several meanings of experience or processes of experience (the two aspects of the phenomenon according to Husserl (Cerbone

2006)) relevant to the group. Dimensions are arranged under their appropriate Theme in order of complexity, or 'awareness' of the potentialities of richness of experience of the phenomenon - its potential breadth and significance as it may occur within the lifeworld. In the Thematic form, phenomenography's outcomes, the 'Categories of Description' are descriptions of experiences of the phenomenon which are the amalgam of the narratives from each Theme at the same level of complexity. The resulting Categories have been cast as 'personas' in workplace studies (Forster 2015b; Inskip and Donaldson, 2017) in which the thematic form of phenomenography is used. In the 'persona' formulation, each archetypal way of experience of a phenomenon, if the sample implies a profession or work role, can be described in the manner of a person performing that role or working in that profession at a certain level of complexity of experience and behaviour. Personas express roles of varying complexity and autonomy in using information to develop knowledge. More complex roles describe a more 'expanded' understanding of the potentialities of information literacy experience. Can such insights into the workplace find confirmation from other approaches? A large scale non-phenomenographic study into workplace culture by Dierdorff and Morgeson (2007) found that variation in understanding of work roles increased in complexity from molecular tasks, to responsibilities, to 'molar' traits. They also found that consensus in understanding and experience of work role requirements was influenced by the amount of interdependence, autonomy, and routinization present in the surrounding task and social contexts.

Thematic Phenomenographic Outcomes in Workplace Information literacy Studies

What do thematic phenomenographic analysis structures in the analysis of workplace information experiences look like, and what is their ontological and epistemological value? Thematic phenomenographic Information literacy studies have yielded Themes (Forster 2015b; Inskip and Donaldson, 2017) whose collected narratives of experience describe how participants interact with colleagues, other professionals, and members of the public and their families. Information is provided, received and shared, to inform, direct, educate and enlighten colleagues and team members to make the best possible decisions; to help teams and workplaces function effectively; and inform, empower, guide and comfort patients, clients and family members. Nurses, for instance, (Forster, 2015b) worked in teams, both profession-based and multidisciplinary, where information was sought, analysed and applied to understand the latest developments in healthcare, and allow the ward and hospital to function effectively.

Below is an example of a Theme from the nursing study with its Dimensions of Variation of Experience narratives grouped under 6 descriptive titles, from the least (A) to the most (F) complex.

Theme: Information literacy experienced through its role in helping to achieve 'Best Practice'

A. Practising with sufficient background information

- *Obtaining sufficient background psycho-socio-cultural background knowledge on a patient*
- *Determining the most cost-effective/efficient treatment option*

B. Helping the team practice with sufficient information to function

- *Contributing evidence and other information to the Multidisciplinary team.*

C. Using evidence as a tool for 'improvement'

- *Attempting to improve individual outcomes*
- *Attempting to 'improve my practice'*
- *Suggesting a change in practice*

D. Developing strategies of justifiable change

- *Developing up-to-date- practice*
- *Developing practice that is recognised as objectively proven / justifiable*
- *Developing rationales for change*

E. Developing an information rich culture

- *Developing a culture of change within the ward*
- *Developing a culture of accountability to patients*
- *Developing an evidence-based ward culture*

F. Developing an information supported ethical focus to care

- *Exploring the parameters of compassionate care*
- *Facilitating patient safety*
- *Achieving optimum and so ethically defensible care*

(Forster, 2015b)

Information sharing and knowledge development collaboration was not only experienced within the team but between the professional and patients and their families. Nurses sought out and critiqued information before passing it to patients

and patients' families in order to keep them informed, but also to facilitate self-confidence and a sense of being supported as they negotiated the complexities of care and treatment decisions and priorities:

Theme: *Information literacy experienced in development and maintenance of Relationships with patients, patients' families, colleagues and other professionals.*

A. *Interacting passively with others –others as a source of information*

- *Receiving information from patients, colleagues and other professionals*

B. *Interacting actively – a give and take of information*

- *Sharing information with patients, colleagues and other professionals*

C. *Developing functional relationships*

- *Functioning as part of the multi-disciplinary team*

D. *Developing the trust of patients, families and colleagues*

- *Creating trust in you in others*
- *Being seen to be accountable for actions*
- *Achieving autonomy and status within the team*

E. *Developing a teaching role*

- *Functioning as a teacher for junior colleagues and other members of the team*

F. *Developing a leadership role*

- *Becoming a patient advocate*
- *Fulfilling a leadership role within the team*

(Forster, 2017a, p.36-37).

As described above, Information literacy 'personas' can be formulated from experiences of information literacy at the same level of complexity from each Theme. Each describe a way of being information literate in the workplace. Personas can take on contexts of teamwork and leadership, teaching and strategic planning. In fact, Information literacy experience seems to be an intrinsic part of professional culture and behaviour. The personas are not descriptions of individuals or types of individuals; anyone can take on any of the personas depending on the context of information use. Those in senior positions can often find themselves using information in the manner described in A or B below, although junior employees are usually not given the opportunity for more complex experiences.

The following personas of increasing complexity of experience were sketched out in the nursing study and confirmed in a study into the experience of insurance workers (Inskip and Donaldson, 2017), suggesting a more general validity:

A. The passive minimalist.

This category describes experiences of information literacy in which 'the facts' are obtained to deal with the immediate and simple issue or context. Passive information absorption occurs as frequently as information gathering; the latter may frequently be of the 'scavenging' type.

B. The knowledgeable goal achiever

This category describes a way of experiencing information literacy in which the nurse is focused on specific goals. Information is sought out, identified and applied in the context of specific clinical requirements; this is done in conjunction with a developing background knowledge which allows the nurse to

know how to address these aims. Skills and relationships are developed with such goals in mind.

C. The focussed, competent and evolving professional

In this Category Information literacy is experienced in processes of professional effectiveness and achieved functionality. This is governed by a widening awareness of the value of finding and applying evidence and the ability to do so in terms of what can be achieved in improved practice and patient outcome.

D. The confident and trusted promoter of justifiable change

Information literacy is experienced as one of the means and stimuli of an incipient tendency to think abstractly and strategically and as a leader: confident, trusted and with that increasing grasp of the parameters of practice which results in an understanding of the potential value of change and where and how it may usefully occur.

E. The Teacher and Promoter of an evidence-based culture

Information literacy is experienced in contributions to the performing of roles in which a wider strategic focus is beginning to operate; evidence is skilfully obtained and applied towards the development of policy. A leading contribution is made to the development of an information rich culture, often in a teaching role, especially with junior staff.

F. The Leader, Philosopher and Strategist

The most sophisticated level of experience of Information literacy operates in the context of the nurse as leader, through its part in the promotion of the development of the ability to think strategically and philosophically. The ethics

of obtaining or failing to obtain the evidence for best practice, the relationship of evidence to knowledge and experience and the strategic use of evidence and other information are amongst the challenging contexts in which Information literacy is experienced in this category.

(Forster 2017a, pp.32-33)

Those professional cultures in which information is a means through which action and interaction is facilitated, which gives such action and interaction meaning and purpose, require a research data analysis which can determine the range of subjective experiences but also the related levels of complexity of those experiences.

Such a range of complexity of information literacy experiences which are at the same time social and cultural literacies, shows how a 'deep structure' analysis of the information culture of a workplace might be possible - even if the sample was the workplace rather than a profession. An analysis which might give sufficient detail to show any congruence between different information ontologies which would allow workplaces to be compared in ways which suggest their possible, and comparable, categorisation.

An Ethnographic Thematic Phenomenographic study of Information Literacy of an Ontologically Diverse Workplace

We have seen how thematic phenomenographic investigations into the experience of information literacy in the workplace might bring a deep, complex and emotion, ambition, compassion and relationship rich centre of gravity to a study of workplace information culture by focussing on Information literacy's role in relationships,

contribution to the common purpose, and team dynamics. Inskip and Donaldson (2017) showed how that detail may have within it the ability to extend phenomenographic analysis, with epistemological justification, to those (common) workplaces where professions work with common and interrelated purposes but within very different ontologies. They showed that it is possible to recognise in very different professions the same information literacy 'personas' first identified by Forster (2015b). This suggested that a structure of variation of information literacy and corresponding knowledge development exists which is common, even between very different professions. And hence there exists a fundamental congruence between different professions' information literacy experience; one which this method can show and describe. This congruence, suggests that thematic phenomenographic methods could be successfully applied in multi-professional, ontologically varied, 'samples' such as workplaces.

This is not to suggest that the experiences are the same, but that they have a fundamentally similar architecture. The experiences of different professions appear to have a similarity of variation in complexity, even if the contexts of experiences are different. Might a multi-professional workplace exhibit a diverse, yet congruous, range of narratives of experience in particular contexts? Some Dimensions of Variation being common to several roles and professions (as seemed to be the case in previous studies when different nursing or insurance roles were involved); while some are unique to the contributions of one role or profession, but part of the joint information-focused endeavour. Would there be a correspondingly similar variation in Themes of Expanding Awareness, but with a common range of Personas?

If the method can therefore be applied to ontologically complex, indeed any and all, workplaces, this suggests that ethnographic analysis might be added, as a

permanent additional contextual aspect of design, to investigations into variations in Information experience in the workplace.

The workplace doesn't exist solely within subjective experiences, and close and informed observation of information activities within the workplace environment could add a contextualising narrative towards a more complete understanding of the workplace information culture. This is not to suggest that phenomenographic studies into information literacy experiences and behaviour produce doubtful outcomes. Nor is it suggested that observation can give greater insight into experience than the methods of phenomenographic interviewing. Observation, focus groups, questioning in situ, may add contexts and formulations of complex and extended experience only touched on, or not uncovered by, in what are usually single interviews; or may simply 'see' a wider dynamic of information experience beyond the description of the experiences of individuals. However, it is suggested, the analysis of such sources can, and should, be interpreted in a Heideggerian manner to increase phenomenological validity, not in a bracketed, 'unbiased' but uninformed manner, but with an awareness of the information literacy experiences described in the interviews.

In detail, then, how would an ethnographic phenomenography be conducted? What would be its methods? At its core, the phenomenographic interviewing of a whole workplace, or (Forster, 2015b) enough members of that workplace to produce data saturation; this, as discussed below, might need to involve the systematic saturation of individual departments. Interview data is then supplemented and contextualised by observation and textual analysis using ethnographic methods.

The result is a complex description of information literacy experiences showing the ways in which different professions work together in common, or through complementary roles, to produce the various types and complexities of knowledge the workplace in question needs in order to function.

The Key Issue of 'Sampling'

The characteristics and research evidence described above, therefore, allow us to address the fundamental questions which need to be addressed when considering the possibility of researching a localised workplace information culture consisting of different types of workers in a satisfactory manner.

i. Is it investigable?

a. Is the workplace a group of individuals who are all using information in the context of the workplace's common purposes and activities?

b. Do they use information in ways in which their information experiences of all the professions and groups are ontologically interpretable and epistemologically congruent to a degree that justifies a 'workplace' study?

And also, not previously addressed in this paper.....

ii. Is it generalizable?

Does the culture consist of ontologically comparable and epistemologically congruent experiences, allowing its structures of varied contexts and complexities of information literacy experiences to be analysed as a single workplace information culture and so potentially compared and contrasted with other workplace information cultures ?

The answer to question (i.a) may in part be located in the statement made at the beginning of this paper. If all contemporary professional workers are information workers (Cheuk, 2017), then it can be argued that a workplace culture is a culture of information and a potential phenomenographic research population for a study into the experience of Information literacy. Question (i.b) asks whether the information experiences of the different professions operating within a workplace be investigated together, or are they so radically different that no coherent analysis is possible? Inskip and Donaldson's work seems to answer this, or suggests a tentative affirmation with a need for further confirmation.

As described above, phenomenography traditionally uses purposive methods to create a sample which 'represents' a profession or other definable identity of participant (Bowden, 2000). The number of participants in a sample is determined by both Maximum Variation Strategy and Data Saturation (Åkerlind, 2005). The participants are usually found in different locations and their membership of the investigated identity group is not one in which location or relations to the rest of the sample plays a part. Many complex workplaces have subcultures by department and work group; the researcher identifies the relevant boundaries ahead of time and makes sure each department is sampled continually until data saturation is complete.

Inskip and Donaldson's confirmatory answer to i.b, suggests a similar answer to question ii might be possible. Can the workplace be categorised and so conclusions drawn about similar workplaces' information culture? As highlighted above, whereas standard phenomenographic designs have been used to investigate workplaces where several related professions share common ontological and epistemological assumptions (Arakelian et al., 2011; Cattaneo, Galizzi and Bassani, 2012), thematic

phenomenography can be used to investigate any workplace, even those which contain professions with little ontological commonality. It is proposed that representative experiences of a workplace's information culture, as described in the outcomes of a thematic phenomenographic study of the whole of the workplace or a large representative sample, will be detailed, complex and coherent enough to allow us to make comparative statements about similar workplaces. Thematic phenomenographic analysis might clarify the unifying principles and structures of the workplace information culture in ways that show its fundamental structural 'identity', which transcends its immediate circumstances, suggesting under what terms the findings could be validly generalised. Themes/ Contexts of experience, of which in a complex multi-professional workplace there could be many, would form an internal structure to the culture's information literacy experiences which may suggest how workplaces of similar information and learning preoccupations, needs and foci can be interpreted and understood.

Let us now look at how relevant methods might be employed.

Phenomenographic Interviews and focus groups

Semi-structured interviews and even focus groups have been employed in phenomenographic studies as well as in ethnography. But what would be a distinctive thematic phenomenographic method of deployment in the context of the workplace?

Data Collection

Phenomenographic interviews are 'light touch' and open ended. They encourage participants to describe their experiences of Information literacy in a manner which

reveals the range of meanings it has for them (Marton, 1988) as they seek, share and interpret information; and learn, inform, teach, comfort, support and empower with and through information in the workplace. How is information literacy experienced so that those experiences initiate, accelerate, permeate, enrich, give perspective on, structure, and conclude working practices? How does the participant 'live' information? How is information the lifeblood, the lubrication, the fuel, the brainfood, the guidance, of their working life?

The interview should be flexible – allowing the basic questions of the interview protocol to be adapted and re-ordered 'on the hoof'. The interviewer guides, but is not an authority; helps the interviewee elucidate but not to an end the interviewer can necessarily see; helps them recall and lets them go in directions that may at first seem irrelevant to the interviewer but may be relevant to the participant.

Focus groups have also been employed in the investigation of Information literacy experience (Osborn, 2011). Transcripts can be analysed in similar fashion to the way interviews are analysed as described below. However there may be some doubt as to whether the conversational dynamic of a focus group really allows an untrammelled revelation of the experiences of the participants to come out, when considering how personality power dynamics expressed in the group might overemphasise or silence contributors in ways which do not reflect actual 'information relationships' (or perhaps it reflects it?). Taking this into account, the advantage of the focus group may still lie in the possibility of a mutually aware, provocatively reflective, intimately cogent expression of Information literacy experience which may mirror, contextualise and/or refocus relationships expressed and described in the interviews, if the focus group is managed in ways which allow all to express their experiences.

Analysis

The thematic analysis process is commonly used (Maguire and Delahunt, 2017) to analyse transcripts from interviews and discussions occurring in focus groups in ethnography, as well as for other methodologies that have a qualitative approach. Words and phrases which suggest a concentration of focus and meaning in a participant's behaviour are highlighted, and the process of grouping/generalising and thematicising is continued till a small number of themes can be isolated and described. Ethnographers may even return to ask additional, more focused, questions (Maguire, 2009).

In Thematic Phenomenographic analysis (Forster, 2017b; 2016), the process is more narrative, and attempts to be particularly sensitive to experiences and their variation and complexity; a complexity which is mirrored in the complexity of outcomes.

Thematic phrases are identified but the analyst looks to expand on the experience the phrase hints at by searching for phrases which contextualise and develop the experience further. By analysing the transcript and also other transcripts from the same team or work environment, a 'narrative of experience' can be described which should, on further analysis and modification, be common to at least some participants if not all.

These narratives, or Dimensions of Variation of Awareness – so called because each shows, in the depth or limitation of the complexity of experience and ability to fully grasp, or experience, the phenomenon in question – are paths of experience within a particular context of the group's experience of the phenomenon. The narrative may be of meaning or process (the two aspects of a phenomenon). However each extended narrative thread needs to be given a supplementary

narrative of the other type (meaning or process) and a context of relative complexity within the community's experience.

Each Dimension is arranged in Themes of Expanding Awareness and 'Categories of Description' as described above.

Here is an example from the nursing study of how a dimension is developed:

How the Dimension of Variation ...***achieving optimum and so ethically defensible care*** was formulated.

Initial statements describing searching for, and applying research evidence in both primary and secondary form, occurred in contexts in which it was made clear by participants that evidence-based practice was an attempt to achieve the best possible care. This was frequently contextualised in discussions of responsibilities to patients and the nature of those responsibilities. These discussions often referred to the negative consequences of failure to be information literate in this way; consequences which could be harmful for patients and therefore gave an ethical colouring to Information literacy. Forster (2017b, p.20)

Observation and Improvised Questioning

'[Ethnographers] pay close attention to the distinction between what people believe should occur, what they believe does occur, and what can be observed to occur in particular circumstances' (Forsythe, 1998, p.40).

Observational data is not usually sought out in phenomenographic studies - the focus is on self-reported experiences. From a phenomenographic perspective, observation of information behaviour and relationships, with questions on the nature

of, and reasons for, behaviour, can't be given the status of evidence of experiences in comparison to that from interviews. However might it be used as a source of contextual and triangulating data in a way which strengthens the claim to a phenomenography of information culture? In fact, can phenomenographic analysis techniques be used to analyse descriptions of observations of information experiences: (e.g. visual/physical - how information is physically used and shared, as described in Lloyd (2012); virtual – how information functions within both a physical and virtual workplace, as described in Sayad Abdi and Bruce (2015)), and the improvised questioning which form part of the observational process, in a way which strengthens its ability to report on Information literacy experiences. Or must descriptions of observations remain 'locked out' of the experience of Information literacy, even if in the form of the 'thick description' of ethnographic practice? Can the contextual and triangulating value of observations be 'tweaked' to give them a greater strength and congruence? The key is in part in the nature and quality of observational reporting. Context and complexity of experience, two key epithets which describe the architecture of phenomenographic analysis, might be enhanced through corresponding understanding and awareness of phenomenographic approaches when reporting observations. Marton (1988) describes the preferred interview technique in which participants are allowed to express experiences freely and in detail, guided by their own notions of relevance, rather than those of the interviewer. For a phenomenographic approach, observation of descriptions of the exchange, use and circulation of information between the members of the analysed community, would need as far as possible, to be in ways which do not impose an agenda of significance in the reporting of observations, but describe objectively. However, analysis must take a different perspective, as Heidegger would insist

(Sherman, 2009). Analysis of information experiences observed as communication and exchange within the culture and community must be fundamentally aware of Information literacy experiences as described by the phenomenographic interviews in order to properly grasp how information experiences form part of 'being in the world' for the participants. This requires an observation technique which is open to any interaction, even if the observer is unaware of its significance at the time of observation, but with an informed awareness of information literacy experiences and relationships based on the phenomenographic data. As in interview interpretation, narratives and themes must be mapped out and described from the transcripts – in this case the transcripts of observed activity. These must be compared, integrated or contrasted with the interview transcripts in the ways already familiar to phenomenographers in their processes for dealing with multiple interview transcripts. However, as emphasised above, the data, though valuable, must still be treated with caution but still valuable in a contextual and triangulational role.

Relevant Documents

Relevant documents which contribute to and influence professional and workplace activities, for example: evidence-based clinical guidelines for nurses, must also be analysed to determine how they contribute to the workplace's information literacy culture. Again, as with observations, the findings from the analysis of the transcriptions of the previously conducted phenomenographic interviews must be used as a guide for interpretation. How is professional practice represented or guided in the document and how does that compare with experiences described. How do the ethical and moral imperatives discussed, and procedures recommended and described in terms of professional ambitions, necessities and requirements,

compare to relevant Dimensions and Themes? Can the details of the document add further context and colour to information literacy experiences as previously described? Can it emphasise or recontextualise processes and priorities expressed in the interviews?

The Final Outcome

Each study will produce a range of Dimensions of Variation, Themes of Expanding Awareness and Categories of Description describing the narratives, contexts and personas that make up the descriptions of information literacy experiences of the workplace under investigation, derived from the interviews. Details which show the variation and congruence of experiences of all the professions within the workplace under investigation. Both interpretively contextualised by and contextualising it, are thick descriptions of observed activities, described relationships from focus groups, and analysed documentation which have yielded data analysed in light of the experiences described in the interviews. The final report is a representation of the ways in which information literacy is experienced within the workplace, concentrating on variation in context and complexity, role and collaboration, expressed as a range of mutually informing and coherent personas and narratives of action and relationship.

Conclusion

Can workplaces with ontologically unrelated professions be investigated for information literacy experiences, in a way that can be shown to be epistemologically valid? Phenomenographically derived descriptions of variations in information

literacy experiences give, using the thematic method of analysis, a complex representation of contexts and complexities of those experiences. That two professions as different as nurse (Forster, 2015b) and insurance broker (Inskip and Donaldson, 2017) can be shown through this method to have complex, varied but fundamentally congruent information experiences suggests application of thematic phenomenography might effectively encapsulate the varied ontologies of even the most diverse workplace. If the information culture of a workplace is fundamentally coherent in this way, this also suggests that a 'qualitative mixed methods' approach might be valid, and data from thematic phenomenographic interviews can be contextualised by ethnographic data: 'phenomenographically adjusted' outputs from focus groups, observations, onsite-questioning and documentary analysis. Such additional perspectives are particularly valuable as mutual, relationship-based experiences are reported widely in both in ethnographic and phenomenographic studies of workplace information literacy, and phenomenography reports on such experiences only, no matter how richly, from a subjective point of view.

This approach promises a rich source of insight for the increasing number of academics and librarians focusing on information literacy in, and of, the workplace. Such methods could, amongst other things, highlight and address any experiences under-reported in phenomenographic interviews (Pashia. and Critten, 2015) – of particular value if the information experiences are of the observably physical, visually social, ones.

As interest in Information literacy in the workplace continues to increase, this paper describes an exciting opportunity to develop a flexible, detailed and sensitive method

to investigate and elucidate the information literacy experiences and information cultures of a diverse workplace. Additional further confirmations of experiential congruity between diverse professions, and the value and validity of the design as a whole, would be welcome.

References

Åkerlind, G.S. (2005), "Phenomenographic methods: a case illustration", in Bowden, J. & Green, P. (Eds.) *Doing Developmental phenomenography*, RMIT University Press, Melbourne, pp.103-127.

Anderson, E. (2002), "The Ideologically Driven Critique", *American Journal of Sociology*, Vol.107 No.6, pp.533-50

Andretta, S. (2007), "Phenomenography: a conceptual framework for information literacy education", *Aslib Proceedings: New Information Perspectives*, Vol.59 No.2, pp.152-168.

Arakelian, E. , Gunningberg, L. and Larsson, J. (2011), "How operating room efficiency is understood in a surgical team: a qualitative study", *International Journal for Quality in Health Care*, Vol.23, No.1, pp 100–106.

Bowden, J.A. (2000), "The nature of phenomenographic research". in Bowden, J.A. and Walsh, E. (Eds.) *Phenomenography*, RMIT University Press, Melbourne.

Bruce, C. (1997), *Seven faces of information literacy*, AUSLIB Press, Adelaide.

Bruce, C. (2008), *Informed learning*, Association of College and Research Libraries, Chicago.

Bruce, C., Davis, K., Hughes, H., Partridge, H. and Stoodley, I. (Eds) (2014), *Information Experience: Approaches to Theory and Practice* (Library and Information Science), Vol. 9, Emerald, Bingley.

Bundy, A. (1999), "Information literacy: The 21st Century Educational Smartcard", *Australian Academic & Research Libraries*, Vol.30 No.4, pp.233-250.

Cattaneo, C. Galizzi, G. and Bassani, G. (2012), 'Efficiency as a Domain of Health Care Systems: A Phenomenographic Approach', *Annual Review of Health Care Management: Strategy and Policy Perspectives on Reforming Health Systems*. pp.161-188.

Cerbone, D.R. (2006), *Understanding Phenomenology*, Acumen, Durham.

Cheuk, B. (2017), "The 'hidden' value of Information literacy in the workplace context: how to unlock and create value", in Forster, M. (Ed.) *Information literacy in the Workplace*, Facet, London, pp.131-148.

Cheuk, B. (2008), "Delivering business value through information literacy in the workplace", *Libri*, Vol.58 No.3, pp.137-143 .

Cooper, J., Lewis, R. and Urquhart, C. (2004), "Using participant or non-participant observation to explain information behaviour", *Information Research*, Vol.9 No.4, pp.9-14.

Dierdorff, E.C. and Morgeson, F.P. (2007) 'Consensus in work role requirements: The influence of discrete occupational context on role expectations', *Journal of Applied Psychology*, Vol 92(5), pp. 1228-1241.

Entwistle, N.J. (1997), "Introduction: phenomenography in higher education", *Higher Education Research and Development*, Vol.16 No.2, pp.127-134.

Forster, M (2015a), "Refining the definition of information literacy: the experience of contextual knowledge creation", *Journal of Information literacy*, Vol.9 No.1, pp.62-73.

Forster, M. (2015b), "Six ways of experiencing information literacy in nursing: the findings of a phenomenographic study", *Nurse Education Today*, Vol.35 No.1, pp. 195-200.

Forster, M. (2015c), "Phenomenography: a methodology for information literacy research", *Journal of Librarianship and Information Science*, Vol.48 No.4, pp.353-362.

Forster, M. (2016), "Developing an 'experience framework' for an evidence-based information literacy educational intervention", *Journal of Documentation*, Vol.72 No.2, pp. 306-320.

Forster, M. (2017a), "Information literacy and the personal dimension: team players, empowered clients and career development", in Forster, M. (Ed.) *Information literacy in the Workplace*, Facet, London, pp.29-40.

Forster, M. (2017b), "How is Information literacy experienced in the workplace?", in Forster, M. (Ed.) *Information literacy in the Workplace*, Facet, London, pp. 11-28.

Forsythe, D.E. (1998), "Using ethnography to investigate life scientists' information needs", *Bulletin of the Medical Library Association*, Vol.86 No.3, pp.402-9.

Kuhlthau, C. C. (1993), *Seeking Meaning: A Process Approach to Library and Information Services*, Ablex Publishing Corporation, New York.

Inskip, C. and Donaldson, S. (2017), "On The Move: Transitioning from Higher Education into Insurance Work", paper presented at The Fifth European Conference on Information literacy (ECIL) 18-21 September, 2017, Saint Malo, France. Available

at: <http://ecil2017.ilconf.org/wp-content/uploads/sites/6/2017/10/D231InskipCharlesSophiaDonaldson.pdf> (accessed 25 February 2018)

Lecompte, M.D. and Schensul, J.J. (1999), *Designing and Conducting Ethnographic Research*, AltaMira Press, New York.

Limberg, L. (1999) Three conceptions of information seeking and use. In: Wilson, T.D. and Allen, D.K. (eds.) *Exploring the contexts of information behavior*. London: Taylor and Graham, pp.116—135.

Lloyd, A. (2012), "Information literacy as a socially enacted practice: Sensitising themes for an emerging perspective of people-in-practice", *Journal of Documentation*, Vol.68 No.6, pp.772-783.

Lloyd, A. (2010), *Information literacy Landscapes: Information literacy in Education, Workplace and Everyday Contexts*, Chandos, London.

Lloyd, A. (2006) "Information literacy landscapes: an emerging picture", *Journal of Documentation*, Vol.62 No.5, pp.570-583.

Lupton, M. (2008) "Evidence, argument and social responsibility: first-year students' experiences of information literacy when researching an essay", *Higher Education Research & Development*, Vol.27 No.4, pp.399—414.

Maguire, M. and Delahunt, B. (2017), "Doing a Thematic Analysis: A Practical, Step-by-Step Guide for Learning and Teaching Scholars", *All Ireland Journal of Teaching and Learning in Higher Education*, Vol.9 No.3, pp.3351-3359.

Marton, F. (1988), "Phenomenography: a research approach to investigating different understandings of reality", in Sherman, R.R. and Webb, R.B. (Eds.)

Qualitative research in education: focus and methods, RoutledgeFarmer, London, pp.141-161.

Marton, F. (1994), "Phenomenography", in Husen, T. and Postlethwaite, T.N. (Eds.) *International Encyclopedia of Education*, vol. 8, 2nd ed. , Pergamon, London, pp.4424-4429.

Maybee, C. (2006) "Undergraduate perceptions of information use: The basis for creating user-centered student information literacy instruction", *Journal of Academic Librarianship*, Vol.32 No.1, pp.79-85.

McKnight, M. (2006). "The information seeking of on-duty critical care nurses: evidence from participant observation and in-context interviews", *Journal of the Medical Library Association*, Vol.94 No.2, pp.145–151.

O'Reilly, K. (2009), *Key concepts in ethnography*, Sage, London.

Osborne, A. (2011), *The value of information literacy: conceptions of BSc Nursing students at a UK university*, [Unpublished PhD thesis] University of Huddersfield.

Pashia, A. and Critten, J. (2015), "Ethnography as pedagogy in library orientations", *Journal of Information literacy*, Vol.9 No.2, pp. 84-93.

Phillips, C.B., Dwan, K., Hepworth, J., Pearce, C., & Hall, S. (2014) "Using qualitative mixed methods to study small health care organizations while maximising trustworthiness and authenticity", *BMC Health Services Research*, Vol.14 No.559.

Philipsen, G. (1992), *Speaking Culturally: Explorations in Social Communication*, State University of New York Press, Albany, New York.

Sayyad Abdi, E. and Bruce, C. S. (2015), "From Workplace to Profession: new focus for the information literacy discourse", in *Information literacy: moving toward sustain -*


ability, Communications in Computer and Information Science. European Conference on Information literacy (ECIL 2015), Tallinn, Estonia, Springer, New York. pp. 59–69.

Schensul, S.L. Schensul, J. and LeCompte, M.D. (1999), *Essential ethnographic methods: observations, interviews, and questionnaires*, AltaMira Press, Walnut Creek, Calif.

Sherman, G.L. (2009), “Martin Heidegger's Concept of Authenticity: A Philosophical Contribution to Student Affairs Theory”, *Journal of College and Character*, Vol.10 No.7, pp.1-8.

Somerville, M. M. (2015), *Informed Systems: Organizational design for learning in action*, Chandos Publishing, Oxford.

Somerville, M. M. (2013), “Digital Age Discoverability: A Collaborative Organizational Approach, *Serials Review*”, Vol.39 No.4, pp. 234-239.

Somerville, M. M. (2009), *Working Together: Collaborative Information Practices for Organizational Learning*, Association of College & Research Libraries/American Library Association, Chicago, IL. 

Wilson, W. J. and Chaddha, A. (2010), “The Role of Theory in Ethnographic Research”, *Ethnography*, Vol.10 No.4, pp.549-564.