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Elaborations of grounded theory in information research: arenas/social worlds theory, discourse and situational analysis

Ana Vasconcelos, Barbara Sen, Ana Rosa, David Ellis

Abstract

This paper explores elaborations of Grounded Theory in relation to Arenas/Social Worlds Theory. The notions of arenas and social worlds were present in early applications of Grounded Theory but have not been as much used or recognised as the general Grounded Theory approach, particularly in the information studies field. The studies discussed here are therefore very unusual in information research. The empirical contexts of these studies are those of (1) the role of discourse in the organisational adaptation in information systems, (2) discourses on Organizational Interoperability in eGovernment and (3) situational analysis and discourses on coping with long term illness. Despite having a common focus on discourse and combining Grounded Theory with the Arenas/Social Worlds Theory, these three studies represent different elaborations of Grounded Theory. The structure of the analytical processes adopted range from a looser application of the constant comparative method to a much more structured analytical approach informed by Situational Analysis. The theoretical implications of the studies are explored. It is concluded that the Arenas/Social Worlds theoretical approach and the use of discourse and situational analysis are particularly appropriate for library and information research and provide a flexible and adaptable research approach for explaining and mapping complex and dynamic domains.

Authors

Ana Vasconcelos is a Senior Lecturer at the Information School, University of Sheffield.

Barbara Sen is a Lecturer at the Information School, University of Sheffield.

Ana Rosa is a PhD student at the Information School, University of Sheffield.

David Ellis is Professor at Department of Information Studies, Aberystwyth University. Email: dpe@aber.ac.uk

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1 Introduction

Grounded Theory is a methodological approach founded on empirical observation and derives its explanatory categories from such observation (Glaser and Strauss, 1967). It collects and analyses data inductively, so that categories and properties (and the relations between them) are derived from the data. Comparison is significant in the development of Grounded Theory in that instances or exemplifications of data are constantly compared to one another both in the analytical phase and in guiding data collection. A feature of the Grounded Theory approach is that constant comparison should be used to guide ongoing data collection, as well as data analysis, and be driven by the needs of the developing theory. This is what differentiates the approach from that of simple induction. Finally, issues of validity are addressed by closely linking the categories and properties to the data collected and providing multiple examples of categories, properties and their relationships from the data. The methodological approach has been described in some detail, in particular in relation to conceptual issues in analysis, comparison and validity and practical issues of data recording, data coding and data selection (Ellis, 1993). However, as noted by Bryman (2001, 391), although Grounded Theory is by far the most cited methodological approach to qualitative research, it “may have been honoured more in breach than in observance” and has been used in many different ways. Partington agrees: “grounded theory is much cited but little understood” (2009, 93). In part this may be because Grounded Theory is capable of different adaptations or elaborations and so its results may be manifested in different ways. This is particularly true in relation to the degree of structure that is utilised in the coding process and in Strauss’s own elaboration of Grounded Theory in relation to the development of Arenas/Social Worlds Theory.

This paper explores the theoretical foundations of Arenas/Social Worlds Theory and the empirical applications of Discourse Analysis and Situational Analysis, in versions of the Grounded Theory approach, in relation to research carried out in information studies. The following sections discuss the theoretical foundations of the Arenas/Social World Theory and its relationship with discourse studies. Then, three different studies in information research that combine Grounded Theory, Arenas/Social Worlds Theory and Discourse Analysis representing different elaborations of this approach are described and discussed. Finally, the flexibility and the novel contributions of this approach, *vis-à-vis* classical applications of Grounded Theory, are discussed in relation to the study of situations and phenomena in the field of library and information studies.

In relation to research in library and information studies, Selden has asserted that:

The field for GT (Grounded Theory) is prepared by the introduction in 1980 of the journal Social Science Information Studies. In its first issue, studies using qualitative methods and having a phenomenological foundation were invited.

(Selden, 2005, 120)

In an early special issue of the journal, comprising papers from a symposium on qualitative methods in information studies, Hammersley (1981) had examined the use of Grounded Theory as an approach to generating and developing theory in ethnography. The editor of the journal, Tom Wilson, did not apply Grounded Theory in his own research; however, he encouraged its early use in information studies by Ph.D. students at Sheffield, such as Ellis (1987) and Vedi (1986). This led to something of a tradition of Grounded Theory based, or influenced, studies at Sheffield (Selden, 2005).

Vedi (1986) had employed the Grounded Theory approach in a study of information and awareness of the leaching of plant nutrients into Lake Ringsjon in Denmark. Although his study did not explicitly deploy either Arenas/Social Worlds Theory or Discourse and Situational Analysis, it was significant for future research using these approaches. It identified a number of different actors who were interacting in Arenas/Social Worlds and implicitly employed Discourse Analysis and Situational Analysis, exploring the conflicting discourses which were being used both to explain, and to apportion blame for, the problems being experienced. Recent research in information studies which has explicitly employed Grounded Theory together with Arenas/Social Worlds Theory and Discourse and Situational Analysis represents different elaborations of the Grounded Theory approach in a way which emphasises its flexibility of application. This has included studies of:

1. the organisational adaptation of information systems in higher education (Vasconcelos, 2005; 2007a; 2007b);
2. the notions of organisational interoperability in e-government (Rosa, 2010);
3. the discourses of coping with long term illness in health information (Sen and Spring, 2011).

The use of Grounded Theory and Arenas/Social Worlds Theory in a study on the discursive adaptation of information systems (Vasconcelos, 2005; 2007a; 2007b) highlighted the role of Arenas/Social Worlds Theory and Discourse Analysis in the application of the Grounded Theory approach. The concepts of arenas and social worlds are interlinked in Arenas/Social Worlds Theory: “intrinsic to the sociological concept of arenas is the idea that they are composed of social worlds” (Weiner, 1991, 176). Social Worlds can vary in:

size, types, numbers and varieties of central activities, organizational complexity, technological sophistication, ideological elaboration and geographical dispersion.

(Weiner, 1991, 176)

However:

In arenas, all the social worlds that focus on a given issue and are prepared to act in some way come together.

(Strauss *et al.*, 1964, 377).

This provides a framework that is particularly useful to the study of dynamic situations that are characterised by multiple and divergent viewpoints and offers an approach and tools that allow the creation of dynamic maps that capture the changing nature of social and organisational relations. These methods are therefore applicable to library and information studies research, and a discussion of them may be valuable to present and future researchers in this field.

2 Arenas/Social Worlds Theory and Discourse Analysis

Arenas/Social Worlds Theory has its roots in the Chicago Symbolic Interactionism school of sociology (Rogers, 1994) and is influenced by some of its foundations:

1. humans construct meanings through social interaction;
2. theory should be clearly grounded in empirical research;
3. deviant cultures and silenced actors are important objects of study:

the Chicago school was a close network of scholars carrying out research in one city about its social problems [...] and there were plenty of such problems to choose from in Chicago, with its huge slums and stockyards within walking distance of the University.

(Rogers, 1994, 157)

While studying psychiatric institutions in the 1960s, Strauss *et al.* (1964) developed the notion of Arenas as organisational locales that embrace different mindsets or ideologies, and express them through different discourses; these discourses form the basis for the negotiation of power relationships. Clarke (1991, 128) defines an Arena as “a field of action and interaction among a potentially wide variety of collective entities”. Its analytic focus is on social processes such as “conflict, competition, cooperation, exchange, and negotiation” relating to a wider concern, such as the diagnosis and therapeutics of mental illness (Strauss *et al.*, 1964); debates in reproductive medicine (Clarke and Montini, 1993); or models of “sequence stratigraphy” (Miall and Miall, 2002). Action is central to much of the work of Strauss and is seen as constitutive of constructing and participating in Arenas and Social Worlds.

Arenas vary in scope and shape, but, as pointed by Soeffner (1991, 366), they are always difficult situations, characterised by dissension and the “means of battle” inherent to these situations (i.e. the tactics and manoeuvring of struggle and conflict). Clarke (1991) views the Arenas/Social Worlds framework as a theory of conflict. This is embedded in the interaction between the different Social Worlds that compose Arenas. Social Worlds are defined as “spaces of perception and action” (Soeffner, 1991, 363) and as:

groups with shared commitments to certain activities, sharing resources of many kinds to achieve their goals, and building shared ideologies about how to go about building their business.

(Clarke, 1991, 131)

Examples of different social worlds could be groups of psychiatrists, psychologists and psychoanalysts that coexist in a psychiatric institution, embracing different ideologies over the diagnosis and therapeutics of mental illness and expressing them through different professional discourses. Similarly, the different collective groups that have a stake in reproductive medicine, such as clinicians, pharmaceutical companies, anti-abortion groups, and women's health groups, are examples of Social Worlds that differ in view, interact, clash and negotiate in that particular arena. Social Worlds are composed of individual agents who also bring personal agendas and commitments to action, although, as Clarke (1991) notes, in the Arenas/Social Worlds framework, they are essentially seen as representatives of their Social Worlds and the focus of analysis is the social group, not the individual.

A key point made by Strauss *et al.* (1964) is that relationships within and across Social Worlds in an Arena are regulated through processes of negotiation, rather than being focused on explicit coercive, sanction backed management:

In this situation, power comes from the ability of one rhetoric (the expression of the mindset) to dominate another.

(Darwin, Johnson and McAuley, 2002, 75)

Thus, Arenas are in essence fluid, with fluid contexts of action, characterised by multiple membership, with fuzzy boundaries, and can be seen as a "dynamised map" (Soeffner, 1991, 365).

Clarke (1991, 2005) builds on the original framework of Strauss and his colleagues and extends it, drawing on the ideas of other members of the Chicago school (e.g. Shibutani, 1955; Becker, 1974; Clarke and Montini, 1993; Clarke and Casper, 1996; Fujimura, 1988). Clarke takes in "external perspectives" and "silenced actors"; follows Latour's acknowledgement of the constitutive role of non-human agents and of "boundary objects"; and links the Arenas framework and the work by Foucault on Discourses and Power (Foucault, 1980). Technology, for example, can be considered a non-human agent and can both be discursively constructed and physically present in particular Arenas. In turn, it is constitutive of the Situation and informs new understandings through the interplay between Discourses that refer to it and the action of social groups that use it. As a result, it can also act as a 'boundary object', mediating between different Social Worlds and areas of knowledge.

Clarke and Montini (1993) and Darwin, Johnson and McAuley (2002) have gone further, linking the seminal work of Strauss and his colleagues on the concept of Arenas to more recent work on "communities of practice" (Lave, 1988; Lave and Wenger, 1991). These authors suggest that organisational Arenas can also be understood as "learning locales" (Brown and Duguid, 1998), and that these learning locales exhibit different ideologies that regulate the practices of the various groups of professionals.

A key element in the Arenas/Social Worlds analytical framework are the different and conflicting Discourses that give meaning to their activities. Wetherell (2001, 27) suggests that we can consider three potential scopes when referring to discourse: discourse as ‘talk’, as ‘language in use’, and as ‘human meaning-making activities’, each increasingly broad in scope. The notion of discourse that is most congruent with the Arenas framework is that of representation and meaning-making. Discourse is therefore constructive and constitutive of social life (Candlin, 1997; Wetherell, 2001); it is productive and not a mere representation – it creates things (Wetherell, 2001).

Potter and Wetherell (2001, 198–199) propose that “people use language to *do* things” [emphasis theirs] and for a variety of purposes, since language:

construct[s] versions of the social world. The principal tenet of Discourse Analysis is that function involves construction of versions, and is demonstrated by language variation.

(Potter and Wetherell, 2001, 198–199)

Each situation can be described in several different ways, so Discourse Analysis explores how, why and for what purposes discursive constructs are used in specific situations, rather than distinguishing between accurate and rhetorical or misleading accounts. The view of discourse which emphasises its constructive and constitutive nature implies the abandonment of a realist perspective and requires a focus on discourse as a topic in its own right. The role of the discourse analyst is therefore to uncover how the discourse about situations, events, beliefs or attitudes is constructed:

Take the idea of attitudes. If someone espouses attitude x on one occasion and the contradictory attitude y on another, the analyst clearly cannot treat the existence of attitude x or y as an unproblematic guide to what the person actually believes. But it is possible to treat the account containing the expression of the attitude as the focus itself, asking: on what occasions is attitude x rather than attitude y espoused? How are these attitude-accounts constructed? And what functions or purposes do they achieve? It is questions of this kind that are at the heart of Discourse Analysis.

(Potter and Wetherell, 2001, 200)

This perspective is strongly influenced by the work of Foucault and his proposed shift from language *stricto sensu* to a system of meanings and representation. Hall (2002) notes that Foucault’s approach to discourse attempts to bridge the distinction between language and practice, between what is said and what is done, and notes Foucault’s novel propositions about the relationships between discourse, knowledge and power. A key proposition of the Arenas/Social Worlds approach is that power is a circulating phenomenon, involving all social agents, rather than something that is possessed or monopolised by a minority:

Power must be analyzed as something which circulates, or rather as something which only functions in the form of a chain. It is never localized here or there, never in anybody’s hands, never appropriated as a commodity or piece of wealth. Power is

employed and exercised through a net-like organization ... In other words, individuals are the vehicles of power, not its points of application

(Foucault, 1980, 98)

We can see the relation between the work of Foucault on discourse and power, and that of Strauss on action and the negotiated Arena: in both discourse is simultaneously constituted through interaction whilst also being constitutive of action (Clarke, 2005). The focus of these approaches is on why discourses are articulated; what identities they develop; and the broader contexts (social, political, cultural and historical) of the meanings that they construct. Wetherell's (2001) definition of "Discourse as meaning-making activities" is very broad and almost all-encompassing: it goes beyond the scope of language in use, whether written or spoken, to include other dimensions in situations where there may even be very limited use of spoken or written language. An extension of this perspective is suggested by Cohen, Duberley and McAuley (1999) who view Giddens's (1976) idea of "duality of structure" as constitutive of the reproduction and transformation of social structures, through the interplay between the structural and active dimensions of each "discursive regime", on the one side, and through the interplay between different discourses, on the other.

The following sections give three examples of the application of the Arenas/Social Worlds framework and Discourse Analysis in information research. These are studies of:

1. the organisational adaptation of information systems, looking at the role of Discourse and following the early Grounded Theory methods of Glaser and Strauss (1967);
2. organisational interoperability in an e-government project, using a more structured form of Discourse Analysis with a number of indexical categories;
3. coping with long-term illness in health information, using both Discourse Analysis and Situational Analysis, a more recent re-elaboration of Grounded Theory.

These three examples represent different combinations of Grounded Theory, Arenas/Social Worlds Theory and Discourse Analysis, each with an increasing degree of structure in its analytical approach.

3 Examples of Grounded Theory in information research work

3.1 The role of Discourse in the organisational adaptation of an information system in a Higher Education Institution

This section presents studies of the role of professional discourses in shaping the organisational adaptation of information systems (Vasconcelos, 2005; 2007a; 2007b). It represents a looser application of the constant comparative method of analysis than the studies covered over the following sections. It set out to explore what was then perceived as a relatively neglected theme in the information systems research

literature – the role of discourse in post-implementation adaptation of information systems. The study involved an exploratory case study conducted at a Higher Education Institution in the UK during the implementation and post-implementation periods of a University-wide management information system.

The study combined Grounded Theory, as a methodological approach, and the Arenas/Social Worlds theory as a theoretical framework, and presented an example of an interpretation of both approaches that is perhaps closer to their original formulation than other reformulations. The research design was influenced by three key principles of Grounded Theory:

1. theoretical sampling;
2. inductive derivation of the key findings through the constant comparison method;
3. paying attention to theoretical saturation to delimit the key categories of findings and the relationships between them.

These formed the basis for the explanatory framework that emerged from the study. It differed from more the structured applications of Grounded Theory that can be found in the two studies discussed in the following sections. Although interviews were initially marked with open concepts and constant comparison was used to define the characteristics of key categories of findings, the approach to data analysis was rather less structured and proceduralised, and did not use a more formal and detailed process of data-coding.

The principal finding of the study was that the discursive interaction amongst social agents plays a fundamental role in the organisational adaptation of information systems, through the exploration of tensions between different discursive resources and interpretive repertoires. It demonstrated how different professional discourses described tensions in the management of the information environment. These were articulated around two kinds of problem, which acted as interpretative repertoires and discursive resources:

1. representations of the information environment, expressed through the tension between information centripetalism and information centrifugalism;
2. models of information management, expressed through the tension between a focus on controlling process and a focus on controlling meanings.

The discourse of information centripetalism made appeal to efforts towards the codification and abstraction of administrative information, through its categorisation in the corporate data model and in the funding codes and model, to be applied across the entire University (“one repository, one piece of information, one meaning”). Its legitimating argument lay in the need to pursue a superordinate strategic imperative, in order to preserve collective interests, in the face of adverse conditions faced by Higher Education institutions across the country, which implied a need to compete for limited resources. The discourse of centrifugalism, on the other hand, emphasised local practices, often tacitly adopted and specific to concrete contexts. Its

argumentation lay in the notion that local contexts held the key to information accuracy and to its correct interpretation. Discourses around centrifugalism also emphasised issues related to professional authority, such as degrees of discretion, negotiation and validation of meaning through different instances, represented by the various academic committees. A striking example of how this tension was manifested is the continuous reinterpretation of the notion of “devolvement”. In the discursive sphere of centripetalism, “devolvement” equated to defining accountabilities over who was responsible for operating different aspects of the new systems. In the discourse of centrifugalism, “devolvement” was represented as a way of guaranteeing local autonomy and control over the operation of the system. Its reinterpretation corresponded to different perspectives over where the *locus* of control over the new information systems should lie.

Similarly, a key example of the tension between information management discourses focused upon process and those focused upon meaning could be found in the discussion around the “corporate data model” to be embedded in the new information systems and notions of “data accuracy”. Approaches focused on process fostered an assumption that processes and procedures were a means to ensure adequate meaning.

For the administrators that adopted this approach, a focus on standard processes and procedures, rather than on the variety and multiplicity of local information management processes, allowed the establishment of an orderly and disciplined way of making sense of the complexity of the world of the University. On the other hand, at central support services, such as the Postgraduate and Undergraduate Student Offices, and at local academic departments, where administrators were in charge of dealing with individual cases, establishing the accuracy of what was being presented through the information systems was vital, and the focus was on ensuring that the meaning of the content of the information systems was accurate. The simplification introduced by the funnel effect of centripetalism and standardisation of processes was seen to be to the detriment of information richness. For these administrators, process was not enough to guarantee accuracy, as individual pieces of information had to be checked against individual students and validated through different instances and decision-making processes, often through committee structures.

The new resourcing models and the new data structure, incorporated in the ‘*corporate data model*’, devised by the central administration at the University, were essentially a way to reorganise and redistribute financial resources at the University and were not considered neutral. Data structures and models could significantly alter the meaning of administrative information and hence of resourcing models. Administrators at the periphery responded through different attempts to change meaning: for example, in the area of student administration, which had an important impact in the allocation of funding to Universities, this was done by developing a rhetoric around notions of “accuracy” and of its importance and by establishing themselves key holders to information accuracy, in a context where “accuracy” was in many instances

established through negotiation (in exam boards and different academic committees, for example).

While simultaneously exploring these tensions and establishing contacts across them through activities of organisational translation, different organisational agents re-shaped and adapted the role of information systems from an initial centripetal agenda to a much more negotiated and distributed role. In order to achieve that, different administrators switched positions across different discursive regimes when needed. In effect, it was not unusual for local administrators to occasionally defend centripetal positions, when that allowed the reinforcement of their positions within their departments, while simultaneously adopting centrifugal positions, arguing with the Centre for the devolvement of ownership of their working practice. The University administration information arena can therefore be seen as a force field where tensions and contacts between discourses that are both informed by and informative of action and interaction (in the Straussian sense) or practice (in the Foucauldian sense), whether this is conflicting, collaborative or negotiating.

Conceptualising discursive resources and interactions as tensions and contacts (rather than as just antagonistic poles) was largely influenced by the process of analysis and the use of the constant comparative method (Glaser and Strauss, 1967). The initial phases of analysis yielded a large number of open concepts. Examples of these include: “resistance and buy-in [to the systems]”, “accuracy of local data”, “sensitive data”, “access”, “user participation”. Constant comparison between open concepts and data instances led to the definition of the more abstract categories of centrifugalism and centripetalism, process and content and of the underlying assumptions on the nature of the environment and its complexity – these form the key categories that were identified and relate to the part of the method that is referred to as axial coding. Delimiting categories is not enough to develop an explanatory framework, as proposed by Glaser and Strauss (1967), and as important as the key analytical categories, if not more, are the relations between them. The final stage of analysis, involving the discovery of relationships between the key categories, revealed that these were more complex and nuanced than would be expressed between the simple opposition of two antagonistic poles.

3.2 Discourses on organisational interoperability in an e-government project

This section discusses a study which exemplifies a more structured approach to Discourse Analysis, through the deployment of classic discourse analysis indexical categories within a Grounded Theory approach (Rosa, 2010). Classic Discourse Analysis comprehends four basic analysis dimensions: 1. Form; 2. Function; 3. Text structure; 4. Context. These encompass a number of indexical categories that are chosen by the reader to aid the interpretation of the text and guide the analysis towards the objectives of the study (Frohmann, 1994). In this study (Rosa, 2010) Discourse Analysis focused on institutional speakers and their discursive strategies (Frohmann, 1994, 121) and used six categories (Table 1) to analyse who was (or was

not) concerned with implementing Organisational Interoperability in an e-government project, how it was implemented, what implementation barriers could exist and why implementation was considered important, in this way making visible a collection of discursive identities (Frohmann, 1994; Potter, 2004).

<i>Definition of organisational Interoperability</i>	Exploring if and how the actors defined the concept of Organisational IoP.
<i>Register</i>	The variety of language used for a particular purpose or in a particular social setting. Because this variation is defined by use, it distinguished the formal conventions adopted at the local UK council and the model of discourse in the documents.
<i>Agency</i>	The active or implicated actors of the communication, as well as the strategies to create collective actors.
<i>Time</i>	The tense of the verbs and the time of the action. This offered insights into the practices of Organisational Interoperability throughout the e-service implementation.
<i>Modality</i>	The linguistic strategy that actors used to convey the meaning of their own knowledge. This was particularly useful in understanding stakeholders' mind-sets or arguments, while engaged in negotiation actions.
<i>Position</i>	The physical textual location of the discursive strategies pertaining Organisational Interoperability issues, in order to identify relations of dominance, priority or preference.

Table 1: Indexical categories used.

The limited amount of literature in the field of Organisational Interoperability in local e-government projects required the adoption of a methodology that was exploratory in nature, largely based on the principles of Grounded Theory. This approach allowed the research to be grounded on emergent theoretical frames (Gorman and Clayton, 1997) and facilitated an interpretive approach. Since the focus of the study was on the stakeholders' conceptions, tensions and negotiation practices, Discourse Analysis and the Arenas/Social Worlds Theory were used as a combined analysis method. On one hand, Discourse Analysis offered a set of pre-defined strategies based on the assumption that language is a relational construct of the stakeholders' agendas, uncovering the relations between discourse and social practice at local government level (Wodak and Meyer, 2009). On the other, the Arenas Theory acted as a framework to conceptualise findings and reveal the action strategies that allowed a new service to gain its e-government identity and prove successful or unsuccessful with its users.

The study investigated the Customer Feedback and Complaints service system (CFC) implemented by a local council in the north of the UK. The CFC aimed to integrate the different complaints services across the council and to re-design the existing

relationships between different legacy systems. The service development started in 2007, involved five different internal directorates and four external partner organisations and was implemented in 2010, with the establishment of a Corporate Complaints Team, an organisation-wide Complaints and Feedback Policy and Procedure, and a single online case management information system.

Because direct observation of Organisational Interoperability practices during the CFC implementation was not possible, two main data sources were used: *corpora* of local authority written documents that were officially produced to pitch, guide and evaluate the CFC Service Information System project development; and qualitative interviews. The written *corpora* were anonymised before being cleared for the research study and provided a formal record of the communication established between different stakeholders, ensuring the researcher access to the linguistic strategies and related social interactions. In the written format, the data allowed a prolonged access and the possibility of a full examination of the discourses in the text. Despite these benefits, and following Budd and Raber (1996, 218), particular attention was given to possible “capricious editing and change” and to the influence of dominating styles, or conventional forms, that permeate documents in public organisations (Manning, 1987). The qualitative interviews were open-ended to allow the themes to emerge and were performed with project team members that were situated at the centre of the arena of concern during the development of the CFC system. They were used in triangulation with the written *corpus* and offered the opportunity to capture a type of discourse that was, unlike the internal documentation, more natural and in real time (Schatzman and Strauss, 1973).

The six indexical categories of analysis that were used are shown in table 1. In the end, Discourse Analysis categories offered a clear analytical strength to the study, whilst the Grounded approach made it possible to perform a balanced iterative analysis between the form and function levels of the text, thus contributing to the validation of the findings (Jager and Maier, 2009).

In this study, the Arenas/Social Worlds Theory supported the consideration of the negotiated meanings and mind-sets that formed the Arena of organisational interoperability during the development of the CFC service system. Social Worlds/Arenas Theory was used in this study to look at the mediation practices expressed in the stakeholders’ discourses and then pinpoint the human and non-human agents in the interoperability arena, such as the project manager, the different complaints services managers or the CFC system itself. This last was able – as one scholar has put it – to “structurally condition the interactions within the situation” (Clarke, 1991, 139). From this emerged the different Social Worlds and their key discursive interactions regarding organisational interoperability (Figure 1).

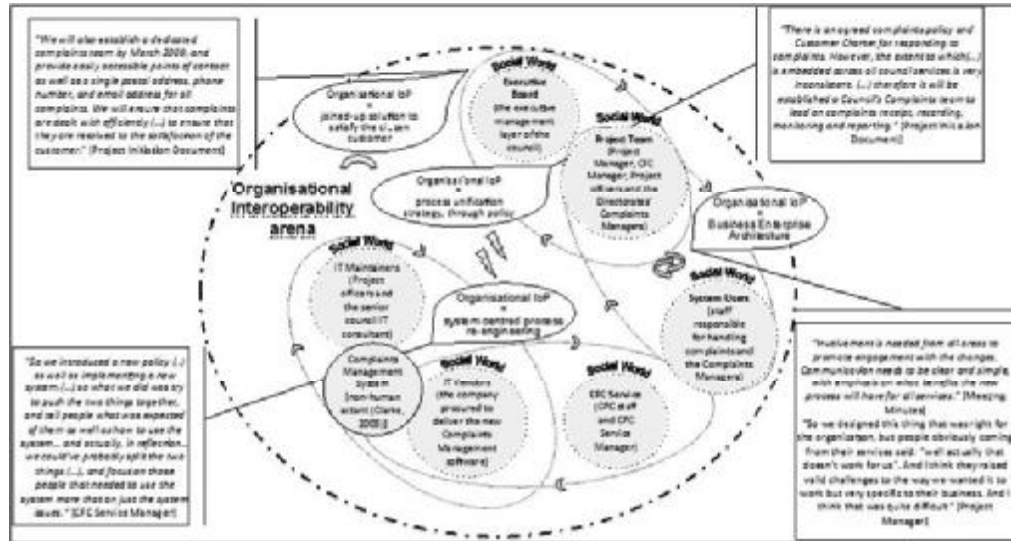


Figure 1: A map of the Social Worlds and Discourses of organisational interoperability at a local council.

Using the indexical categories it was possible to identify four distinct discourses that built the organisational interoperability identity of the Complaints Service System. Firstly, a discourse was adopted by the System Users social world and, initially, also by the Project Team, where Organisational Interoperability was seen as *unification of policies and processes*. Whilst this discourse is recognized in the literature (Tarabanis and Archmann, 2006, 9) as a stepping stone for the realization of interoperability, in this study the Social Worlds viewed the policy and procedures as ends in themselves, rather than as a strategy; this increased the risk of system failure because it created tension with the IT Vendors and Maintainers discourse, in which interoperability was dependent on the processes imposed by the new system.

A second discourse aligned organisational interoperability with *system centred process re-engineering*, and used a lot of commercial and technological jargon, focusing on performance; it used plural verbal persons to enable the construction of an ownership relation between the software buyers, users and the system itself and often made use of action verbs, passing the reader an image of trustworthy efficacy. Although this concept was of particular interest to IT vendors, the CFC service and the Board Worlds, it collided with the Users' Social World which resisted the non-consulted organisational change. As a result of the conflict, the software was delivered under-scope, forcing the construction of a new interoperability discourse based on business re-engineering.

A third discourse was *orientated towards the principles of the Business Enterprise Architecture and aligned with service needs*; this was mostly defended by the System Users and ultimately by the CFC service, the Board and the Project Team.

A fourth discourse, *generalist and politically marked* (mostly voiced by the Executive Board world), presented organisational interoperability as a joined-up solution to satisfy the citizen-customer; this was a strategic discourse, written in normative mode and in a formal register, usually placed at the top of the texts, with the verbs in the future tense. Despite its influential construction, this key discourse eventually enlarged the scope of organisational interoperability to a point where it became, as Kubicek puts it, only a “residual category” (Kubicek, 2008, 1) where all other visions were deposited.

Interestingly, in this study, the expression “Organisational Interoperability” was never observed in the documents, neither was it uttered by the interviewees. However, by using Discourse Analysis, it was possible to show that, unconsciously, actors were attempting to follow its principles:

The first time I've heard of it was when I spoke to yourself [the researcher] about the work you're doing really. That is not to say that the context of what you say that involves interoperability is what we dealt with through the project really, in terms of ahmm... yeah... we came across the concept often, not with the word.

(Project manager)

The Arenas/Social Worlds framework unveiled the discourses that influenced the e-government CFC service system conflict Arena (Clarke and Montini, 1993); it characterised the multiple perceptions of organisational interoperability in this study; and it demonstrated, on the one hand, that various stakeholders can share a particular view of organisational interoperability and, on the other hand, that one agent can, in different moments, hold different views of it. This movement of agents across the boundaries of social groups, also recognised by Vasconcelos (2005; 2007a; 2007b) and Rowley (2010), shows that actors' visions of organisational interoperability were, by themselves, insufficiently clear to support committed practices. Therefore, stakeholders opted to define their e-government interoperability identities by cross-action, where they could defend personal or collective interests, influence other actors' convictions and even achieve project management performance results.

3.3 Situational Analysis and Discourses of people using health information to cope with long term illness

This section presents a more structured elaboration of the Grounded Theory and of the Arenas/Social Worlds Theory than those discussed above; it is based on Situational Analysis. Situational Analysis is a more structured and proceduralised elaboration of the Straussian approach to Grounded Theory (Strauss and Corbin, 1990; Clarke, 2005). The approach was developed by Adele Clarke, in the domains of the history of medicine and life sciences. It has been used fairly widely in health studies and less in information studies, but does lend itself to a variety of domains because of its flexibility of application (Bone, 2002; Vasconcelos, 2007b). Situational Analysis is used as a “means of coherently elucidating and analyzing [*sic*] the complexities and instabilities of social life” (Clarke, 2003, 553) by examining

holistically the interactions between Social Worlds (Clarke, 2003, 556). It allows researchers to “draw together studies of discourse and agency, action and structure, image, text and context, history and the present moment”, and it analyses its data by ‘mapping’ the complexities that emerge from them (Clarke, 2003, 553).

The situational analysis approach seeks to identify differences, variations, conditionality, complexity, and silent voices. It can be used in a wide range of research projects gathering data in different ways. The analysis involves diagrammatical or “cartographic” approaches to encourage a deep analysis of the data content (Outhwaite and Turner, 2007). The data used in the mapping process is arrived at by open coding and memo writing in the initial stages of the analysis. The mapping of the coded data is designed to provide insights in the elements of situational complexity; it is not a reductionist method. It is also designed to highlight “sites of silence” in the data, those things that are “unarticulated” or possible absent voices (Clarke, 2003, 561).

There are three main data mapping techniques used to promote analytical thought and reflexivity in relation to the data (Clarke, 2005):

- Situational Maps – enabling the study of the Situation, considering the major human, non-human, discursive and other elements of concern, and the relationships amongst them;
- Social Worlds/Arenas Maps – plotting the actors, key non-human elements and the Arena(s) of commitment within which they are engaged in their negotiations and interpretations of the situation;
- Positional Maps – plot the major positions taken, and not taken, in the data, taking note of discursive variations, difference, conflict and controversy surrounding the complexities of the situation.

These maps elucidate complexities, and analyse the data by asking: Who and what are in this situation? Who and what matters in this situation? What is going on in this situation? What elements make a difference in this situation? What ideas, concepts, ideologies, discussion, symbols, sites of debates, cultural issues, discussions, symbols, sites of debate matter in this situation? What seems present but is unarticulated? (Clarke, 2003, 561; Clarke, 2005).

The study (Sen and Spring, 2011) examined the narratives of thirty young people coping with long term illness. The focus of the study is their use of information, knowledge and communication in learning to cope with their condition. The patient stories were gathered by the YouHealthTalk project of the charity DIPex, begun in 2001 to enable patients to learn from others who had experienced the same health problems. The stories were video-recorded and transcribed, and made available online. The project covers a range of illnesses (Ziebland and McPherson, 2006). The ages of the interviewees ranged from 16 to 29 years at the time of interviews. The illnesses they were coping with included epilepsy, asthma, sickle cell anaemia, cystic

fibrosis, juvenile chronic arthritis, diabetes, chronic pelvic pain, and celiac disease. The interviews were downloaded into data gathering sheets, open coded, and analysed to reveal the complex relationships between individual and collective agents within the situation, and to explore the major discursive issues within the situation through Situational Analysis (Clarke, 2005). During the coding, memos were made to capture thoughts and ideas during the analytical process.

In this method, the situation is the unit of analysis; in this case, young people coping with long term illness. The first situational map identifies the major elements of concern in the research (Figure 2). This initial map is exploratory in nature and aims to capture the messy complexity of the situation, and relationships between key human and non-human agents (Clarke, 2003, 539).

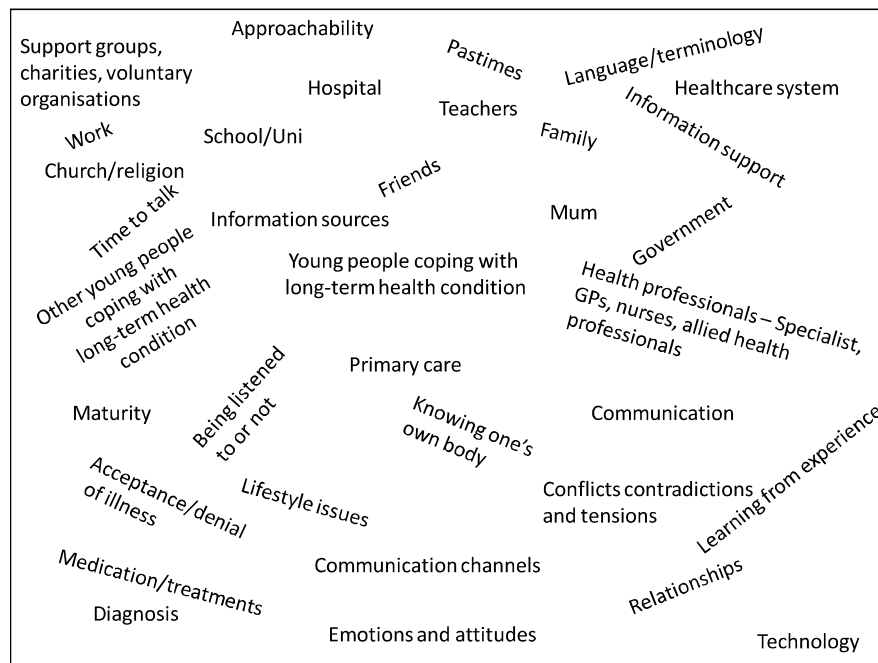


Figure 2: Initial situational map identifying key themes – initial messy maps undergo several iterations.

These key concepts are then ordered to help to understand the relationships between themes and to show the information, knowledge sharing and communication experiences of young people coping with a long term health condition (Table 2).

<p>Individual Human Elements/Actors The young person coping with a long term health condition. Other young people coping with same health condition. Friends Family – mum, dad, sister, brother Teacher Health professional: Doctors – specialist, GP, nurse, other health professional e.g. dietician, physiotherapist</p>	<p>Non Human Elements/Actants Information concepts, forms and resources Clear language/terminology Communication channels Technology The media Medication and treatments Pastimes e.g. drugs, drink, smoking, sex, clubbing,</p>
<p>Collectives Human Elements/Actors Other young people coping with the same long term health condition. Friends Family Teachers Health professionals: Doctors – specialists, GPs, nurses, other health professionals e.g. dieticians, physiotherapists Health service and hospitals Support Groups, voluntary organizations, charities School, university, work Church Government</p>	<p>Discursive Constructions of Individual and/or Collective Human Actors Young person being “invisible”. Everybody’s different /patient uniqueness Specialists as “scary” “unapproachable” Specialists see the condition not the person Nurses as helpful Mum as support Friends as a form of support Health professionals as support Support groups as support networks Young person as information provider</p>
<p>Key events in the situation Diagnosis Acceptance of the health condition</p>	<p>Implicated/Silent Actors/Actants Silent voices of young people Silent voices of family</p>
<p>Political/Economic Elements Not enough people Funding issues Need for research</p>	<p>Discursive Constructions of Non-Human Actants Information as a form of support Communication channels as enablers for accessing support Constructions of the health condition</p>
<p>Temporal Elements Time needed to talk Too much time taken to be given information Wasted time – through lost results Maturing of the young person</p>	<p>Socio-cultural /Symbolic Elements Young person needing to fit in – social acceptance Young people in society Illness</p>
<p>Major Issues/Debates (Usually Contested) Importance of communication Importance of being informed Importance of relationships and needing support Importance of healthy lifestyle</p>	<p>Related Discourses (Historical Narrative, and/or Visual) Discourses on individualism Discourses on health and illness Discourses on information, knowledge and communication Discourses on lifestyle Discourses about relationships and support</p>
<p>Other Kinds of Elements Personal attitudes and emotions Conflict</p>	<p>Spatial Elements</p>

Table 2: Ordered situational map.

The relational analysis can be done by circling elements identified in the situational map, drawing lines between the elements and specifying and describing the nature of the relationship (Figure 3).

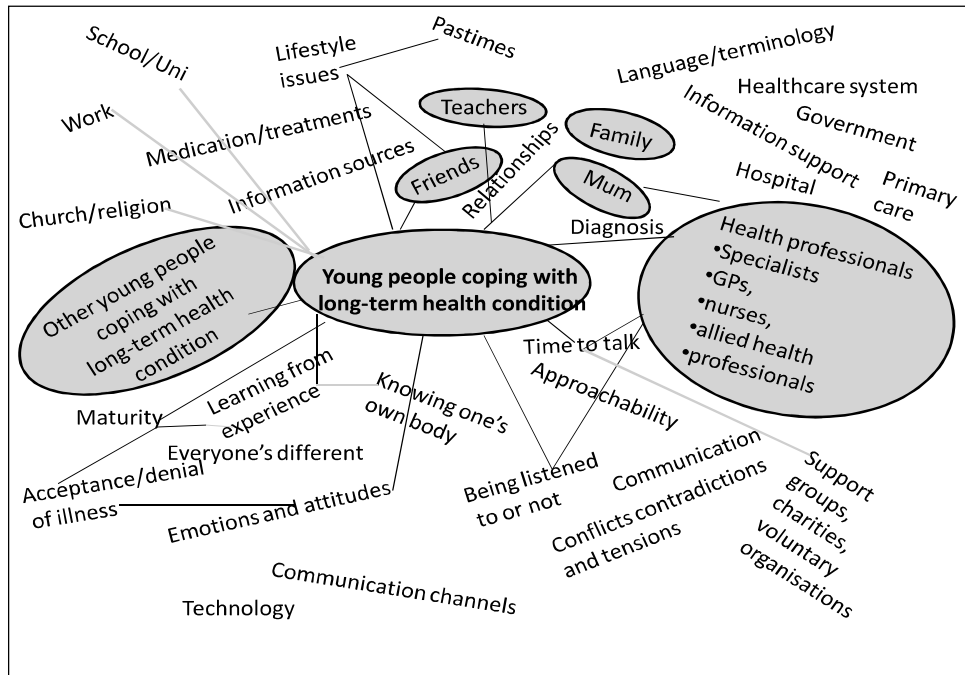


Figure 3: Relational analysis developed from the messy situational map.

The second main mapping exercise, a Social Worlds/Arenas Map lays out the collective agents and the Arena(s) of commitment where negotiations take place (Figure 4). A Positional Map (Figure 5) lays out major positions taken in the data regarding major issues (Clarke, 2005, 126), in this case showing the relationship between young people's levels of information and knowledge, their ability to cope with the long term health condition, and how their position changes as they mature along their patient journey.

The maps are not necessarily produced within the findings in the study, though they can be; they are analytical mapping exercises used in order to explore the data. It is useful to use both the "messy map" (Figure 2) and the "ordered map" (Table 2) simultaneously to avoid overlooking important issues in the data and to consider relationships. The maps are often modified in the analytical process. Sometimes not all the mapping processes are used, though in this study we found all the techniques valuable in gaining a better understanding of the data. For this particular project it was also useful to map relationships between the main actors to aid the understanding of information flows, knowledge sharing and communication issues.

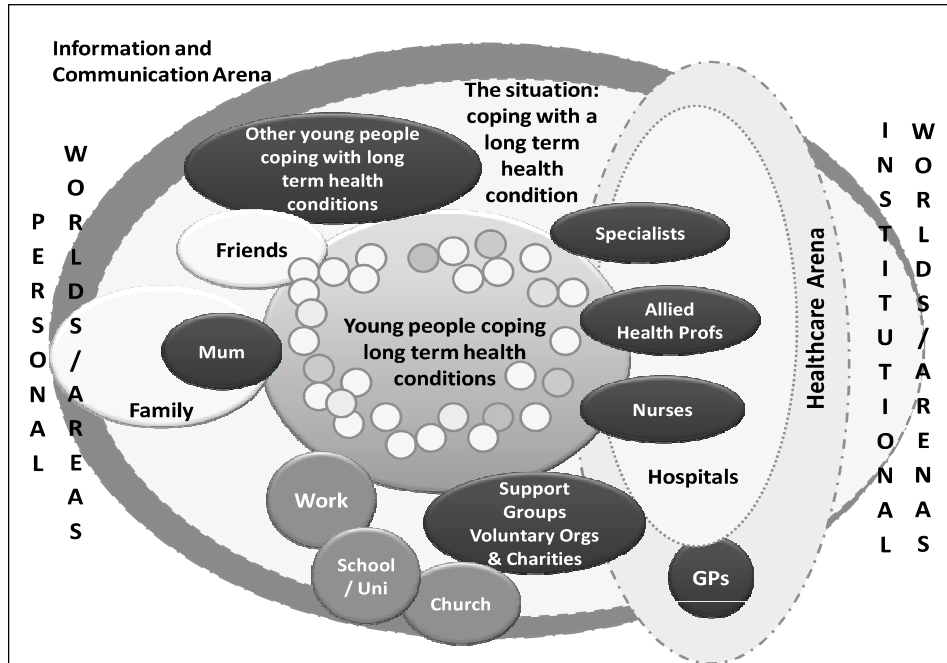


Figure 4: Social Worlds/Arenas map for young people coping with a long term health condition.

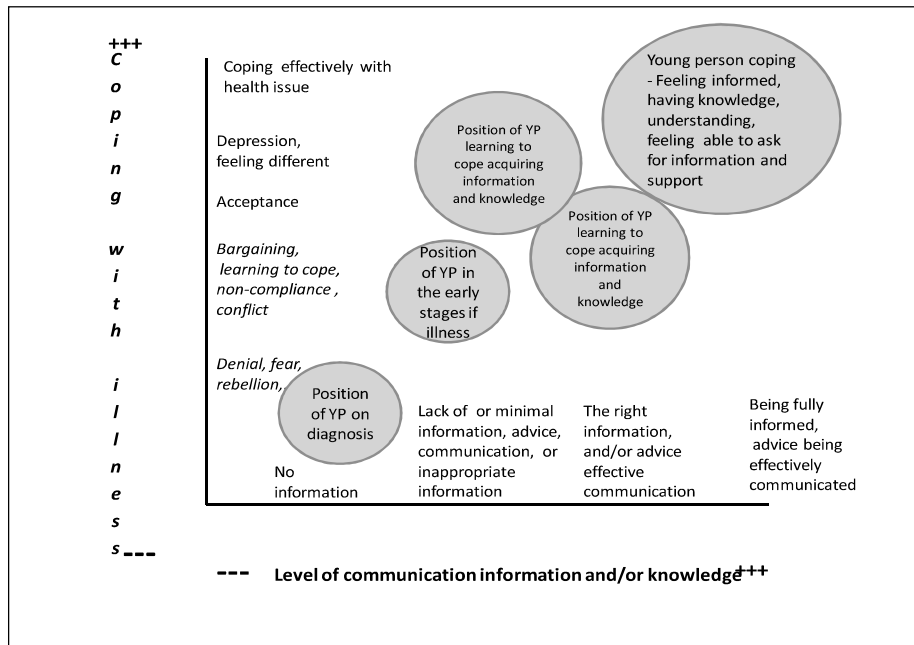


Figure 5: Positional map.

This method may seem formulaic for a qualitative approach to data analysis; however, it offers a systematic approach to “interrogating data analytically, demanding careful consideration and considerable reflexivity on the part of the researcher” (Clarke, 2005, 141). It involves constant reappraisal of the data (the Situation) through the analytical process to get a sense of what the problems are. At the centre of this situation of inquiry are the young people themselves, who usually cope as individuals and only occasionally form coping groups or collectives by accessing support groups. Support groups – often online – were highlighted as useful sources of information and were called upon when the NHS had failed.

Other important socially interactive support mechanisms are family networks, friends, and social institutions such as school, work or church, and the young people spoke of the importance of “letting friends know” and “needing the support of others” [Rollo, age 23]. It is important for the young people to feel accepted and to fit in. Yet also important was the sense of individualism commenting that “everyone’s different” [Donna, age 18]; and a need to be independent, “I hate relying on other people...” [David, age 18]. The mothers of the young people are usually at the centre their respective support networks; other family members were rarely mentioned: “I’ve always had my mum look after me and then encourage me...” [Helene, age 23].

Key discourses emerged from the analysis:

1. *Feeling “invisible”, not being listened to*, what Clarke (2005) refers to as “silences”; the young people often reported feeling invisible with doctors talking to parents rather than them:

When I was 15 my mum was going into the consultations with me, yes, most of the information was going to her rather than me. I didn’t really feel like I was part of the consultation or part of the decision-making process. You know I was the one who was having the seizures and taking the tablets, but I wasn’t really involved ... you’re the one who had it but ...don’t talk.

[Catherine, age 29]

2. The diagnosis of a long term illness changed many of the young peoples’ lives; there was a strong *need to fit in, yet needing to be an independent individual*; it is important for the young people to feel accepted, still to fit in, and to continue “smoking” [Sara, age 21], “drinking” [Sara, age 21], “go clubbing” [Helene, age 23], dancing, and not “feel completely isolated” [Joseph, age 17]

3. *Grief was felt for a way of life lost: denial, anger, bargaining, depression, and acceptance*; after diagnosis a range of feelings were identified that were linked to a grieving process

I’m coping with it quite well ... I tend instead of like fighting it like before ... I tend to work with it. I’ve stopped thinking ‘oh this is really a bad thing’, because it’s not. It’s something you live with. I don’t try to let it impact. I know it’s very difficult... but I try to make the best of it now.

[Elizabeth, age 22]

4. In learning to cope, *information, knowledge, wisdom as important:*

I know now that there was a lot of information that I should have received, but I didn't.

[Catherine, age 29]

I've looked around on the Internet and read different articles and in fact my GPs e-mailed me things ... I think it's really important ...

[Lynn, age 28]

At seventeen I was very naïve. I was very young, very believing and when I was lacking confidence it was because I just didn't have all the knowledge. I wasn't worldly enough.

[Clint, age 26]

The young people found they *learnt from experience:*

I've learnt from experience. ... Sometimes you don't want to listen to your mum, you don't want to listen to the doctors. So you experience it for yourself. So the doctors have never had to encourage me, I've learnt from experience.

[Helene, age 23]

5. The young people *became information providers themselves*, giving advice, sharing information, knowledge, and wisdom gained from their experiences of learning to cope:

You have to fight it. You never have to give up. You have to be, you have to have courage, never be scared and live your life happily.

[Hassan, age 18]

A principal finding that emerged from the analysis was that as the young people became more informed about their health conditions and gained knowledge and understanding both about their illnesses and their own bodies and boundaries, their confidence and capacity to cope with their long term health conditions increased. This is illustrated in Figure 5, the Positional Map. The information they needed was gathered from a variety of sources; from their interactions with health professionals, support groups and charities, the internet, other young people suffering with similar conditions, and their own experiences. They relied not just on their own capabilities, but those of their support networks. In their journey from initial diagnosis to accepting their conditions and coping with daily life, they went through a series of negative and positive emotions and experiences on which they reflected and from which they learnt. The young people themselves then wanted to share their knowledge with others and they became information providers passing on their tips, knowledge and advice to others.

The mapping techniques were particularly useful in identifying the individuals and collectives, their Social Worlds, the Arenas where they interact, and the positions they adopt on key issues within in this situation (Figures 2–5; Table 2). The young people had different experiences whilst coping with their illnesses. This became a recurring theme throughout the analysis which uncovered different experiences, and different opinions, sometimes complete opposites or extremes of opinions across a range of issues. David (age 18) epitomises why this research method is successful for this type of study. It is holistic as it strives to consider the wider situation and to give voices to those who have felt silenced: as David says for these young people “it is not just about illness”. This study presents situational analysis used in its more complete form taking a more structured approach to the mapping process. However, it should be emphasised that the maps are part of what Clarke (2005) describes as a “toolbox” to be taken and used as appropriate to each individual study.

4 Conclusion

Many classical Grounded Theory applications in information research, with a focus on the development of analytical categories and the determination of their properties, present a snapshot of situations. By moving away from a focus on coding and categorisation to a greater emphasis on explanation and interpretation, the Arenas/Social Worlds Theory focuses on the dynamics of situations and allows an exploration of its changing nature, by representing them as dynamic maps of tension in action and interaction. This framework combines structure and process perspectives in the analysis of social activities (Clarke, 1991). Whereas the notions of Arenas and Social Worlds draw attention to the context and spaces of action, “Trajectory”, as defined by Strauss, draws attention to the process of action and of acting (Soeffner, 1991).

The focus of analysis in this framework is therefore on the different dimensions that compose Arenas: the structural elements that influence them, the collective agents that inhabit them, including implicated and silenced agents, their action and interaction, and the discursive elaborations that frame them. As Clarke points out:

Focusing on the arena per se as a situation leads the analyst explicitly to specify the salient structural and processual conditions, that frame and pervade the arena ... In the Strauss approach, analytic focus is on specifying (1) the structural conditions that shape the arena itself as a whole (and which actions in the arena can modify), also considered organizational matrix dimensions; (2) the extant actors and power structures within the arena; (3) the current activities of arena participants (line of work dimensions); and (4) their interactive processes.

(Clarke, 1991, 141)

The focus on discourse and combined use of this theory with Discourse Analysis allows the development of a framework to identify how and why different actors change positions and viewpoints, establish different allegiances and may even adopt contradictory viewpoints within a changing Arena. It highlights complex power

relationships and situations where seemingly powerless actors can have a voice and influence situations even against powerful actors. It provides an understanding of situations ideally suited to exemplify the Foucauldian notion of “circularity of power” and of power as fluid, rather than an attribute of particular actors.

This paper presents different elaborations of Grounded Theory that are close to its original propositions and to the theoretical frameworks that informed it, but not often used in research in library and information studies. The elaborations of Grounded Theory using both Discourse Analysis and Situational Analysis in the general theoretical context of Arenas/Social Worlds Theory exemplify the flexibility of the approach and its applicability to a variety of empirical contexts. The dynamic complexity of the library and information research domain suggests that these approaches are both flexible and adaptable for use in very different contexts and are particularly effective in exploring and mapping dynamic situations as well as in focussing research on explaining complex interactions within the domain.

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