Thinking Together: Making Communities of Practice Work

Igor Pyrko

Department of Management Science

University of Strathclyde

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Abstract

This thesis develops the founding elements of the concept of Communities of Practice (CoPs) by elaborating on the learning processes happening at the heart of such communities. In particular, it provides a consistent perspective on the notions of knowledge and of knowledge sharing that is compatible with the 'DNA' of this concept, i.e. learning entailing an investment of identity and a social formation of a person. It does so by drawing richly from the work of Michael Polanyi and his conception of Personal Knowledge, and thereby it clarifies the scope of CoP, it 'brings knowledge back' into CoPs as a technical term, and it offers a number of new insights into how to make such social structures 'work' in professional settings.

The first part of the research design is a review of literature in the broadly understood area of organisational knowledge and learning, followed by a synthesis, which yields conceptual results. The empirical part is a qualitative study in NHS Scotland that is structured around three cases: in the areas of dementia, formal networks, and sepsis. The empirical material is directly analysed and presented using cognitive mapping, following a SODA protocol, which is so far utilised primarily in management consultancy with executive teams, and thereby this methodological approach contributes to the pool of available academic research methods.

There are two main contributions of this thesis; each of these has implications both for scholarly knowledge as well as practice. The first one stems from an idea of the process of thinking together which is conceptualised as people mutually guiding each other through their understandings of the same problems in their mutual area of interest, and this way indirectly sharing tacit knowledge. It is argued that it is this process that essentially brings CoPs to life, rather than for example trying to 'set up' a community first. Thinking together can therefore be used as a simple yet conceptually in-depth point of focus which shows that the central aspect of fostering CoPs is to build fertile avenues for people to engage regularly in that trans-personal and often trans-organisational process, and therefore it emphasises the dynamic and process-driven nature of such communities.

The second main contribution is a further elaboration of the thinking together process, which leads to a sharper view of trans-organisational knowledge where organisations learn as people engage in organic learning partnerships and thereby they share and preserve tacit knowledge that can never be fully converted into an explicit form. As such trans-organisational thinking together can be more intensive and more demanding in time or knowledge than for example a casual exchange of facts or a transfer of written documentation, cultivating CoP can be an expensive endeavour which may require careful planning and triple-legitimisation at multiple levels that needs to be looked at holistically and beyond official organisational structures.

1. Introduction

> *"The field of science, indeed, the whole world of human society, is a cooperative one. At each moment, we are competing, whether for academic honours or business success. But the background and what makes society an engine of progress, is a whole set of successes and even failures from which we all have learned".*
>
> *Kenneth J. Arrow*
>
> (Breit and Hirsch, 2009: 46)

1.1. How it started

My interest in studying knowledge and learning in organisational setting can be traced back to the third year of my undergraduate studies when I took a module in Knowledge Management (KM) taught by Dr Viktor Dörfler - my future supervisor and master (as in master-apprentice). In that class I became fascinated by the complex nature of knowledge and I realised that many organisations were still learning what it meant to learn in an organisation and as an organisation. I also discovered that knowledge was not necessarily universal, factual, detached, objective, nor always true. Instead, I started to view knowledge as an inherently personal potential to act; as a 'some sort of mental content' that was fluid, developed rather than acquired, dependent on situation and context, and constituting an important ingredient of who we were as human beings. Those lessons made me think a lot and it was indeed a great feeling to rediscover that human knowledge was beautiful and that learning was fun – and I was getting ever hungrier for it. While sitting in the classroom and listening to Dr Dörfler's fascinating talks I knew that I would hang around in that field for some longer time. Wishing myself good luck I soon began to read more and more about those topics. The hereby work is the outcome of what was yet to follow in this story.

During the summer before my final year of undergraduate studies I engaged in a project helping Dr Dörfler with his research on Nobel Laureates and their professional workshops. For three months I spent long evenings preparing over twenty profiles of Nobel Prize winners whom Dr Dörfler had either interviewed or he was planning on talking to. One thought which particularly occupied my mind back then was that all of those prominent individuals at some point had either been apprentices of great thinkers from previous generations, or for years they had been members of very successful scientific workshops where they had been mastering their craft (or rather art?) in closely knit communities of researchers. My feeling

was that it might be potentially helpful to explore how people developed their knowledge in such communities, and therefore Dr Dörfler gave me a piece of advice to address my interest by venturing into the literature on Communities of Practice (CoPs), i.e. groups of people who learn together and from each other because they care about the same problems and on that basis develop their shared practice - and that eventually became the topic for my honours dissertation.

Around that time I also had to select an empirical setting for my honours project. After considering higher education for a while I finally decided to choose healthcare. There were three main reasons behind my decision: firstly, my perception of National Health Service Scotland (NHS Scotland - my local healthcare service) was that of a place rich in various types of complex social practices which could potentially be an interesting place for inquiring about CoPs. Secondly, I regarded healthcare as a very time-relevant setting where my work perhaps might prove useful to the public. Thirdly, in my understanding NHS Scotland was subject to very strong demographic and financial pressures and hence it could serve as a good case for investigating how fostering knowledge might be a way of addressing similar contemporary challenges.

When doing the field work for my honours dissertation I established a valuable contact in the person of Annette Thain, Knowledge Management Coordinator at NHS Education for Scotland who helped me to realise that the concept of CoPs could become increasingly useful in healthcare as an approach for improving professional practices. Consequently upon the completion of my undergraduate degree, and firmly supported by both Viktor and Annette, I applied to do a PhD project in which I could further explore this topic. What came as a surprise I did not have to wait too long until that vision came into life.

1.2. Research question

In the later chapters I write more about the philosophical assumptions that this thesis is based on. For this moment it is worth mentioning that this project is positioned within a perspective where instead of searching for clearly identified gaps in knowledge, the main interest is in building on the earlier contributions to make a better contact with the social world(s) – in such sense following Weick (1989) I call my approach *disciplined imagination*. Thus rather than navigating through 'the knowledge library of academic inquiry' seen as an objective and

fairly stable body where the role of researchers is to identify and bring back 'home' the missing elements, I am wayfinding through the territory of the researched phenomena, using what I have read about it as a compass for identifying a rough place from where the further empirical and conceptual explorations can be continued.

Following this way of thinking I try to imagine a worthwhile inquiry into Communities of Practice (CoPs), and this deliberation is essentially rooted in the appreciation of the existing contributions around this topic. In my view what may be worth of inquiring cannot be predicted at the outset, but such understanding inevitably emerges along the life of the project. Nonetheless the scope of this study and its direction are shaped by the initial insights which attract me into the further investigation.

My starting point is that I have a genuine interest in CoPs and that I believe that they can potentially play a powerful role in helping organisations (in this case in particular in healthcare) to become better in the areas of expertise that are essential to their wellbeing. Furthermore, I believe that by better elaborating the conceptual foundation of CoPs it may be possible to improve the various initiatives aimed at cultivating such communities in professional settings.

Going deeper along this line of thought, today CoPs are often discussed in relation to the notions of knowledge and knowledge sharing. However, the original conceptualisation of CoPs (Lave and Wenger, 1991) was founded within postmodern paradigm that tends to be sceptical about knowledge as a term, associating it with experts who 'monopolise' the possession and creation of knowledge as their source of power. This explains why knowledge is in fact silent in CoPs, being replaced with learning, meaning, and identity.

At the same time knowledge sharing is a term often used inconsistently in the area of organisation studies (Wang and Noe, 2010) and it is not always clear what it means: for example some authors write that knowledge sharing can signify one-directional knowledge transfers and casual exchanges of facts, while others emphasise bi-directional and intensive 'meetings of the minds'. Meanwhile Wenger (1998b) in his original conceptualisation of CoPs uses the term 'mutual engagement' to describe the committed learning interactions which happen in such communities, however that may require further elaboration (as Wenger admitted in personal communication).

What follows from these inconsistencies is that it is not clear whether it is the learning processes that lead to a CoP, or if it is a sense of community that needs to be instilled first which only then may provide the ground for engaged learning partnerships. This causes difficulties in drawing a scope of CoPs and in planning the initiatives of developing such communities. For this reason I aim to go back to the original formulation of CoPs as situated learning in order to explore this concept from a process perspective, trying to better understand what makes a CoP, and what makes CoPs work well.

The relationship between CoPs and Organisational Learning (OL) is also not entirely clear. Some authors suggest the positive influence of CoPs on OL (Gherardi and Nicolini, 2000), while others argue for the opposite (Huysman, 2004). Moreover the CoP literature seems to be going in the direction of taking a more holistic view on cultivating such communities in professional settings (Wenger-Trayner et al., 2014). Accordingly, in this work I aim to build on the exploration of the learning processes happening at the core of CoPs in order to inquire into the suitable conditions for fostering CoPs in organisations, and to contribute to the discussion on the role of CoPs in the context of OL.

Consequently my research question is *to explore how CoPs affect OL by elaborating on the learning processes happening in such communities, and by doing so to gain new insights into good ways of developing such communities in professional settings*.

This question gradually develops in the main argument that *CoPs come to life from peoples' transpersonal process of thinking together, and these communities can play an important role in developing OL.* I build this argument by synthesising the different areas in the literature, and I then substantiate it with empirical material resulting from the study in NHS Scotland.

1.3. Planning the research

In the conceptual part of this study I review five overlapping areas in the literature, namely: Personal Knowledge, Communities of Practice, Organisational Sensemaking, Organisational Knowledge, and Organisational Learning. I see the area of Personal Knowledge as an important starting point because it informs how I understand human knowledge in the context of Communities of Practice (CoPs), and it underpins my epistemological and ontological stance. The choice of the CoPs area seems natural for I need to follow how this concept has evolved since it was introduced in the early 90's. The area of Organisational Sensemaking

helps me to better understand how people socially construct their worlds out of raw practice, and how they make sense of those worlds. And lastly the areas of Organisational Knowledge and Organisational Learning allow me to position my discussion in the broader organisational context.

I assume that the synthesis of these areas may enable me to construct a conceptual framework which can serve as the foundation for building my argument. Such approach is line with action research which I conduct in this project, and where an applied 'interlocking' of a set of theories can make them potentially powerful while operationalised and thereby tested in practice (Eden and Huxham, 2002: 259).

The empirical part of this study is based on a longitudinal qualitative research performed in NHS Scotland over a period of two years. It is structured around three cases: in the areas of dementia, sepsis, and formal networks. The interviews were conducted across various locations in Scotland. The aim of the empirical part of this study is to test the suggested conceptual framework, to substantiate my argument with empirical material, and to simultaneously help practitioners in NHS Scotland to operationalise the recommendation stemming from this work.

I anticipate that the results of this study will be useful in policy making as well as in day-to-day management practices aimed at fostering sharing of knowledge and developing sustainable learning partnerships in organisations. It will also inform managers how to make most of CoPs for their organisations' wellbeing. Furthermore I expect that it will contribute to the founding elements of the CoPs concept, clarifying its various misconceptions and making it easier to understand for the general audience.

1.4. The structure of this thesis

In Chapter 2: *Reviewing Literature* I review five overlapping areas informing my argument, namely: Personal Knowledge, Communities of Practice, Organisational Sensemaking, Organisational Knowledge, and Organisational Leaning. By synthesising these areas I argue that it is thinking together than brings CoPs to life and not the other way round, and that CoPs can be important drivers of Organisational Learning (OL).

In Chapter 3: *Methodological approach* I explain the philosophical assumptions underpinning this study, and I write about their implications on the research design. I then talk about the methodological considerations such as choice of research methods and ethical issues. I also describe the action research approach followed in this project, and I explain how I analyse the empirical material using SODA-style cognitive mapping.

In Chapter 4: *Findings and Analysis* I present the key issues stemming from my empirical research in NHS Scotland, structured around three cases: dementia, sepsis, and formal networks – which take the form of separate yet overlapping stories.

In Chapter 5: *Discussing the findings* I bring together the key issues from the three cases in chapter 4 around the main learning points that contribute to our better understanding of cultivating CoPs and their role in OL. These include taking a process perspective on CoPs, clarifying their scope, and portraying developing CoPs as a considerable investment requiring well-orchestrated coordinating, facilitating, and legitimising efforts.

In Chapter 6: *Concluding the thesis* I write about the implications for practice and research, I reflect on this project and on its limitations, and I wrap up my main argument about the role of thinking together in CoPs and its role in OL.

2. Reviewing the literature

In this chapter I review five overlapping areas in the literature, namely: Personal Knowledge, Communities of Practice, Organisational Sensemaking, Organisational Knowledge, and Organisational Leaning. In my understanding I offer a broad review of literature comprising of areas that have not been explicitly discussed together before all at once. My aspiration is to maintain a reasonable balance between providing a sufficient overview of these areas, and dedicating more space to those selected sources which appear to be the most relevant for sharpening my story.

I also synthesise these five areas which results in two conceptual ideas: 1) I conceptualise the trans-personal process of thinking together which brings Communities of Practice (CoPs) to life, and 2) I position thinking together in CoPs from a holistic (trans-organisational) view. This synthesis then forms the basis for building my argument which I then substantiate empirically.

2.1. Personal Knowledge

Trying to define knowledge

The first attempts at defining knowledge can be traced back to Plato's dialogue 'Theaetetus' in which Plato's master Socrates rejects the definition of knowledge as a discipline of thought, as a perception (as in Protagoras' sentence "man is measure of all things"), and as a true opinion supported by a reasoned explanation (justified true belief, JTB). Surprisingly, Plato ends the dialogue without establishing a definite answer about what knowledge is, leaving the search for its definition open to the following generations (Giannopoulou, 2005, Plato, 2012).

Today the literature describing knowledge of an individual is by large influenced by such original contributions as that of Russell (1948) and his attempt to describe the nature of knowledge, Ryle (1949) and his distinction between 'know-that' and 'know-how', or the description of how people advance through different stages of expertise offered by brothers Dreyfus and Dreyfus (1986). In the area of organisation studies Simon (1991) emphasises that knowledge can exist exclusively at the level of an individual's mind, and Spender (1996:

64) adds that knowledge is more about the meaningful participation in the world than about discovering 'truth and reason'. Along similar lines Sveiby (1997) notes that knowledge is one's ability to use what one knows within a specific context, while McDermott (1999b: 106) conceptualises knowledge as the potential for thinking developed through meaningful experience:

> "Knowledge is the residue of thinking. Knowledge comes from experience. However, it is not just raw experience. It comes from experience that we have reflected on, made sense of, tested against other's experience. It is experience that is informed by theory, facts, and understanding. It is experience we make sense of in relationship to a field or discipline."

Furthermore, Dörfler (2010) describes knowledge as a system of cognitive schemata in his argument that becoming competent is not only about how many schemata one learns, but more importantly about how complex meta-schemata one is able to develop – in other words acquiring too many simple and at the same time loosely connected mental structures can in fact be counterproductive, which resonates with McDermott's description of knowledge as a potential to think and act.

Following Ryle, various authors have tried to distinguish between different types of knowledge. Blackler (1995) has introduced a popular typology of knowledge, i.e. embodied, embedded, embrained, encultured, and encoded knowledge. More recently Dörfler and Ackermann (2012) have conceptualised intuition as a type of knowledge associated with high level of competence. Other authors (Ackoff, 1999, Bell, 1976, Davenport and Prusak, 2000) focus on distinguishing knowledge from data and information. However this distinction is problematic because it is unclear whether all data eventually progresses to the top levels in the model (knowledge, wisdom), or how information can independently exist without being comprehended through the lenses of a person's knowledge. For this reason this distinction is rejected in this project, or at least not used as a technical term as part of the main argument.

Having said that, based on the typology data-information-knowledge Davenport and Prusak (2000: 5) provide a fairly popular description of knowledge understood as something richer and more personal than both data and information:

> “Knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organisations, it often becomes embedded not only in documents or repositories but also in organisational routines, processes, practices, and norms.”

Tsoukas and Vladimirou (2001: 976) appreciate this description for highlighting the vibrant nature of knowledge, yet they also criticise it for including too many concepts (e.g. values, experiences, insights) which relationships are not explained. As a result they have developed their own description of knowledge as an ability to make distinctions in practice:

> “Knowledge is the individual capability to draw distinctions, within a domain of action, based on an appreciation of context or theory, or both”.

After reviewing a number of accounts of what knowledge is (or what it is not), let us now briefly summarise them. Human knowledge can be seen as a system of cognitive schemata existing exclusively at the level of an individual, whereas different people can be at various levels of expertise in a given discipline. Not only does knowledge include facts (know-that), but also skills (know-how) and intuition. Also, knowledge is a context-dependant potential to act and to draw distinctions, and it is different from ‘the truth’; neither does it have to be true.

Whilst I agree with these accounts and I see them as valuable and informative, I have started this overview this way to demonstrate that there is something missing here – a foundation that can underpin and integrate all of these accounts together. I specifically refer here to the work of Polanyi, as Tsoukas and Vladimirou (2001: 975) admit that “… no self-respecting researchers have so far failed to acknowledge their debt to Polanyi … [even though] Polanyi’s work, for the most part, has not been really engaged with”. Let us now look in more detail into this apparently essential contribution.

The tacit foundation of knowledge

The most significant of Polanyi’s work is the conception of Personal Knowledge. It is not a discovery of a new type of knowledge, but an attempt to change the way of how we think about knowledge, science, and the role of human in the context of their intellectual heritage. In simple words it asserts that all knowledge is inherently personal and rooted in identity

rather than objective and decontextualized. It opposes the view of knowledge as a detached body of knowledge or 'a library' with the portrayal of knowledge that cannot be divorced from individual human being (Polanyi, 1962a, Polanyi, 1966b, Polanyi, 1966a). This has very profound and powerful implications which are not free from controversy and misunderstandings.

Central to the conception of Personal Knowledge is the idea of tacit component which is a necessary ingredient of all knowledge. It implies that knowledge can only exist within human and that it is grounded in the tacit dimension of things that we cannot easily say, as in Polanyi's (1966b: 4) famous "we can know more than we can tell". To put it differently, the tacit dimension can be thought of as a bottom of an iceberg which stands for the chief part of what we know and which underpins absolutely everything that we know, and hence "a wholly explicit knowledge is unthinkable" (Polanyi, 1966a: 7).

For example it might be very difficult for anyone to specifically describe how one maintains the balance whilst riding a bicycle or how one manages to swim in the water – and even if one managed to do this then such an explanation would inevitably miss a major part of what one knows with respect to those skills. From this perspective the codified rules of art (say in the form of professional books) are merely representations and products of the living knowledge which can potentially serve as points of focus for developing one's knowledge or for discovering new knowledge, but which are not as rich as the tacit dimension inevitably underpinning them (Polanyi, 1962a).

Polanyi (1962a, 1962b, 1966b, 1966a) dedicates much of his work to explaining the role of the tacit component in the context of using what we know, i.e. in acts of tacit knowing. The functional structure of tacit knowing comprises of two terms – a proximal term and a distal term. Let us imagine a person hammering a nail. One is *attending from* their knowledge of how to hammer a nail which they cannot say during that very moment because they are occupied with their performance – that is the *proximal term*. Simultaneously one is *attending to* the actual performance of hammering a nail which in contrast they can describe in words because they are focusing on it – that is the *distal term*. This way one is bearing on the tacit knowledge of for example how to yield a hammer or how much strength is required to hammer a nail as they integrate that knowledge into an explicit performance: 'I am hammering a nail'. This means that when one is attending to the actions that one is

performing, one is bearing on various things that one knows which they are not focusing on explicitly.

Additionally, Polanyi (1962a, 1962b, 1966b, 1966a) emphasises that the two terms of tacit knowing are exclusive, meaning that if one switches their attention from one thing to any other thing then the performance is lost altogether – as when a pianist becomes distracted when they switch their attention from the performance of playing the piano 'as a whole' to one of the more detailed elements of that performance. Furthermore, tacit knowing is not unconscious because people bear on things that they know in a conscious way, only not in the focal part of their attention. Some of those things that people know which they attend from could in fact be articulated if one switched their attention to them, but again this would inevitably lead to disrupting the previous performance.

Thus the tacit dimension shows us that the personal coefficient is present in all knowing (i.e. using what one knows). Knowledge is developed through indwelling, which is an aspect of knowing accounting for learning. Indwelling means that as people engage in knowing with uncritical commitment, they increasingly dwell on things (e.g. tools, theories, rules) that they attend from to the focal part of performance as if they were parts of their body. So the more they use mathematical theory for solving mathematical problems in a meaningful way, to the bigger extent their command of mathematical theory becomes a part of who they are. This kind of acceptance resulting from indwelling is called interiorisation and it can only be achieved by investing one's identity in practice, i.e. in the issue of 'this is how we do things around here' (Polanyi, 1962a, Polanyi, 1966b, Polanyi, 1962b, Polanyi, 1966a).

Importantly, learning seen this way emphasises the formation of a person and it shows that *knowledge is not acquired but developed* – people do not simply place explicit rules in their heads, but they rather grow their capacity to use what they know as they support themselves with those rules. This is a very important aspect of Polanyi's work for this thesis, as I later demonstrate that it is compatible with how learning is understood in the Communities of Practice (CoP) concept.

Sharing tacit knowledge in knowledge traditions

Indwelling can also be shared but this requires putting trust in another person, as stated by Polanyi (1966b: 61):

> "In order to share this indwelling, the pupil must presume that a teaching which appears meaningless to start with has in fact a meaning which can be discovered by hitting on the same kind of indwelling as the teacher is practicing. Such an effort is based on accepting the teacher's authority."

Due to the personal character of tacit knowing involving 'the whole person', tacit knowledge in its rich form can only be shared as part of the ongoing practice, within the multigenerational tradition of knowledge, and from master to apprentice (or from more seasoned practitioners to newcomers). Polanyi (1962a) illustrates this with an example of the Renaissance Western Europe where the diffusion of knowledge depended on migrations of craftsmen such as when the Huguenots had been banished from France as a result of the Edict of Nantes enacted by Louis XIV, and they irrevocably took the secrets of their crafts away with them. In a more modern story an electric machine for blowing electric bulbs had been imported to Hungary from Germany and it failed to produce even a single bulb during the whole first year of its use because its new operators had not been taught the practice of its application – the user's manual simply proved to be insufficient.

These stories tell us that if a tradition of knowledge is not sustained for even one generation, it is irreversibly lost, which explains why we still are unable to copy the finest violins of the Stradivarius from the 18th century despite our access to the most sophisticated tools and techniques of today. People, as knowers, must then continuously try to find ways of accessing the realms of knowledge traditions in order to sustain their paths for indwelling and to simultaneously help in preserving those traditions. The tradition in this sense does not only entail the knowledge that is developed and shared, but also the sense of conviviality which is inherent in those learning relationships. Importantly, knowledge traditions are lost when people forget the ways of indwelling cultivated by their predecessors (Polanyi, 1962a). As Polanyi (1962a: 207-208) writes:

> "[The] assimilation of great systems of articulate lore by novices of various grades is made possible only by a previous act of affiliation, by which the novice accepts

> apprenticeship to a community which cultivates this lore, appreciates its values and strives to act by its standards … Just as children learn to speak by assuming that the words used in their presence mean something, so throughout the whole range of cultural apprenticeship the intellectual junior's craving to understand the doings and sayings of his intellectual superiors assumes that what they are doing and saying has a hidden meaning which, when discovered, will be found satisfying to some extent … The continued transmission of articulate systems, which lends public and enduring quality to our intellectual gratifications, depends throughout on these acts of submission."

While the large part of knowledge traditions is tacit because the art of indwelling needs to be experienced personally in order to be developed, according to Polanyi (1962a: 106) the language and the codified representations are also essential to the sustainability of knowledge over time:

> "So that even while our thoughts are of things and not of language, we are aware of language in all thinking … and can neither have these thoughts without language, nor understand language without understanding the things to which we attend in such thoughts …"

However, whereas articulated and codified knowledge guide and direct people to the current experience of which they thus can make sense of following similar logic as others participating in that practice before and now (as when giving to someone the useful tips how to perform a given skill), there is no way to verbalise the entire richness of the experience which they attempt to grasp – it unavoidably remains within the tacit dimension of their knowledge.

As earlier mentioned, Tsoukas (2005b, 2005d: 157) and Tsoukas and Vladimirou (2001) observe that Polanyi's work is often misunderstood and not really dealt with in the literature. They point to the popular distinction of tacit-explicit knowledge which is commonly talked about in the context of Polanyi. They argue that these are two dimensions of Personal Knowledge that are 'two sides of the same coin' rather than separate types of knowledge - and hence this distinction does not even exist in Polanyi's publications. To further illustrate this point I can add that my supervisor once had his paper rejected from review for citing

Polanyi's publication without mentioning the tacit-explicit knowledge distinction, as if it was the only thing which Polanyi had written about (and in fact this actually is the one thing that he *had not* written about).

Thus in this thesis I intend to draw richly from Polanyi, and I wish to demonstrate that there is still a large part of Polanyi's work that is waiting to be applied in the area of organisation studies. Whilst I have been able to only review here a fraction of the gigantic Polanyian contribution (for indeed Polanyi was an intellectual giant), the hereby reviewed part provides an essential foundation for how I understand knowledge and how I see it as being shared by people.

2.2. Communities of Practice

The idea of Communities of Practice (CoPs) has been around for a longer time now and it seems to naturally find its way into people's professional and even everyday language (Wenger, 2010). Especially in today's world where success in many ways depends on whether individuals and organisations manage to make most of their knowledge and learning (Davenport and Prusak, 2000), CoPs are often seen as a useful idea or even an opportunity (Saint-Onge and Wallace, 2003, McDermott and Archibald, 2010, Liedtka, 1999).

To put it simply, CoPs refer to *groups of people* who *genuinely care* about 'the same things' and who on that basis *interact regularly* to *learn together* and *from each other* (Wenger-Trayner and Wenger-Trayner, 2011). The 'same things' that the CoP members care about is the *practice*, which roughly signifies that 'this is how we do things around here', and the community stands for the evolving learning partnerships which can be both positive and conflictual even at the same time (Wenger, 1998b, Wenger et al., 2002). To be a member of a CoP is not necessarily something that people are always aware of, at least they would usually not label themselves this way. However, they still do experience a sense of togetherness when, often due to facing similar real-life problems and not necessarily because of liking each other, they organise themselves around negotiating a practice that they all share (Wenger, 1998b).

Over the years many people have been inspired by the idea of CoPs and they have tried to use it in their work. A typical reason is an expectation that by fostering such communities an organisation may perhaps become better at what it does in the respective knowledge fields

(Lesser et al., 2000, Davenport and Prusak, 2000, Davenport, 2005, Wenger, 2004). And thus we have seen practitioners and managers in different countries cultivating existing CoPs (Probst and Borzillo, 2008), or trying to aid them in crossing their boundaries and engaging them in interdisciplinary work (McDermott and Archibald, 2010), and even developing new communities in order to address some emerging problems or hot topics (Swan et al., 2002). Those endeavors had various outcomes: for some the growing communities made a positive impact on organisation's performance, while for others their efforts led to discussion groups lacking energy or to online chat rooms which never became populated with life (Probst and Borzillo, 2008, McDermott and Archibald, 2010).

To understand CoPs I adopt a dual perspective: I distinguish between CoPs as a way of looking at the world of a particular field of knowledge (which is the original form of the CoP idea), which I call a *conceptual perspective on CoPs*; and CoPs as a practical approach that is used in organisations for fostering knowledge and learning, which I call an *instrumental perspective on CoPs*. I do so because I believe that many failures in operationalising CoPs are caused by confusing these two overlapping perspectives or by ignoring one perspective at the expense of the other – this will be an important element of my argument as it unfolds in the following chapters.

Communities of Practice as a way of looking at the world

When the CoP idea was first introduced by Jean Lave and Etienne Wenger (1991), it was intended more as a way of looking at the world rather than as a practical approach. It was only later, when various organisations expressed their interest in using this idea that more instrumental perspectives began to emerge (Wenger et al., 2002). In CoPs learning is essentially understood as a social formation of a person rather than acquisition of factual knowledge. Learning entails change in one's identity, as well as the negotiation of meaning of the everyday experience (Lave and Wenger, 1991). At least in the original formulation of CoPs the main focus is on the person becoming more competent in the context of idiosyncratic social practice. It therefore can be seen as an example of non-traditional view on learning (Weick, 1991), going beyond information processing and the stimuli-response relationships.

From the CoP perspective learning is becoming: it changes people because when they learn they invest their identity in things that they care about and in relationships that matter to

them. For this reason it is called *situated learning*, however only in the sense of being situated in an actively negotiated practice even by people who have never met face-to-face (Lave and Wenger, 1991), and not implying limitation to a physical or geographic location as some authors seem to argue (Sole and Edmondson, 2002). Situated learning does not suggest a special style or a technique of learning, but an observation of its fundamental nature – learning that is both inherently personal and fundamentally social. Learning seen this way is not merely about memorising and processing facts, and it is not something that occurs only (or even mainly) in a classroom or when doing homework (Lave and Wenger, 1991, Gherardi and Nicolini, 2000: 11).

It is exactly due to the engaged presence of a whole person that a sense of community can evolve around learning. A junior medical doctor may start their first day on the job only to realise that there are other people who share passion or concern for similar problems, just like in a realisation: 'oh, so you too!'. Along these lines competence is not acquired simply by memorising rules and procedures, but developed when people are mutually guided and guide others how to use what they know (Lave and Wenger, 1991, Taylor et al., 2002).

In turn practice understood this way "(…) emphasises the relational interdependency of agent and world, activity, meaning, cognition, learning, and knowing" (Lave and Wenger, 1991: 50) - in other words learning those things that people do are acts of discovery to which they contribute together. This type of cultural, historical, engaged, and broad view on practice is compatible with Bourdieu (1977) and Lave's (1988) former workings, but the CoP view brings a new focus on the mutual, conflicting and changing relations between old-timers and newcomers as they mutually engage (Figure 1).

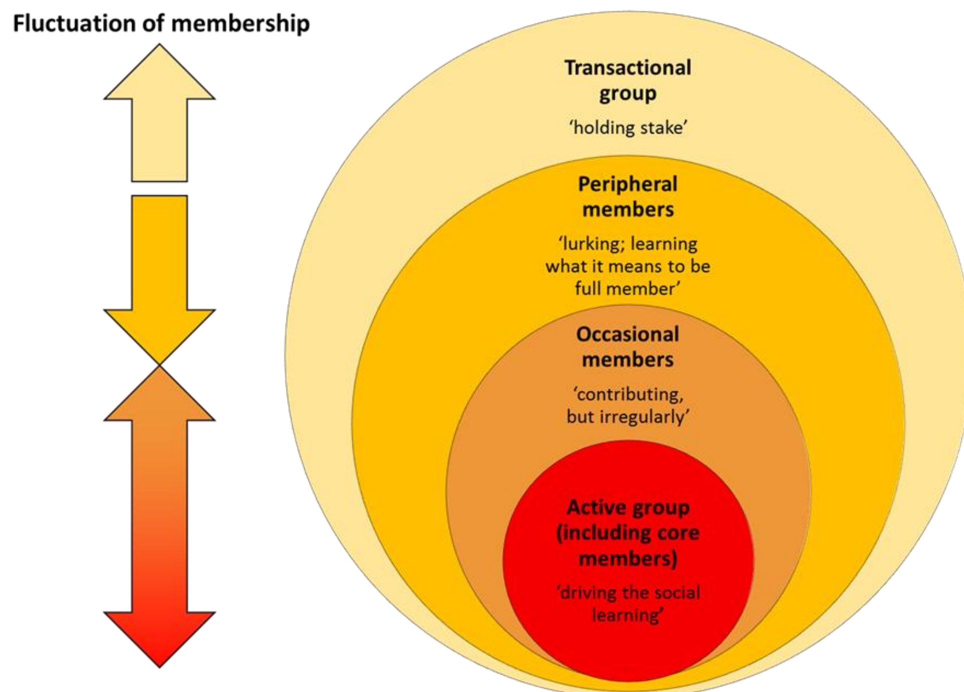


Figure 1: Types of membership in communities of practice

Based on: (Wenger et al., 2002)

Another original contribution to our understanding of social learning is Orr's (1996) ethnography of service repair technicians in Xerox. In his work, Orr argues that the ability to perform a technician's work is developed on the job rather than during formal training because the day-to-day repairs require them to deal with often novel and unpredictable problems which cannot be described using an official manual. Instead of strictly following abstract directives, the 'real work' is learned by engaging in practice with other technicians and telling each other 'war stories' about their professional lives. A technician facing a real-life problem on the job will use such stories as a resource for making sense of the problem, and this improvisation will happen *in the moment* and *in-practice*. In such sense the curriculum of working as a technician is a *situated curriculum* (Gherardi et al., 1998).

Orr's work has been synthesised with the work of Lave and Wenger in the influential article by Brown and Duguid (1991) who introduce the community-based view of organisations with CoPs as important locus for Organisational Learning (OL) and innovation. This view for example reflects in Mintzberg's (2009) idea of communityship (i.e. leadership distributed among members of organisational communities), and Adler et al.'s (2011) idea of collaborative enterprise where different types of specialists work together on the regular basis.

Since CoP is a way of looking at the world, we may imagine it as an additional 'social learning layer' that we can apply to the more traditional, functional picture of organisations (Figure 2). So in that picture we may have teams and departments, each with their own tasks and roles. Now, let us think about this picture in terms of learning and competence: where are the spaces and intersections where work gets done? What types of practitioners tend to work and develop their competence together? If you ask yourself such questions in your organisation, you may well figure out that the social learning layer does not exactly match the official team structure - although it occasionally may (Wenger and Snyder, 2000, McDermott and Archibald, 2010).

Since CoP boundaries are about learning and identity and not about official job descriptions, their knowledge can leak across teams and even beyond organisations (Brown and Duguid, 2002a). Contrary to some authors (Amin and Roberts, 2008) these boundaries do not have to be co-located, and they also do not necessarily have negative or limiting connotations for they can be a sign that "serious learning is taking place" (Wenger, 1998b: 253-254).

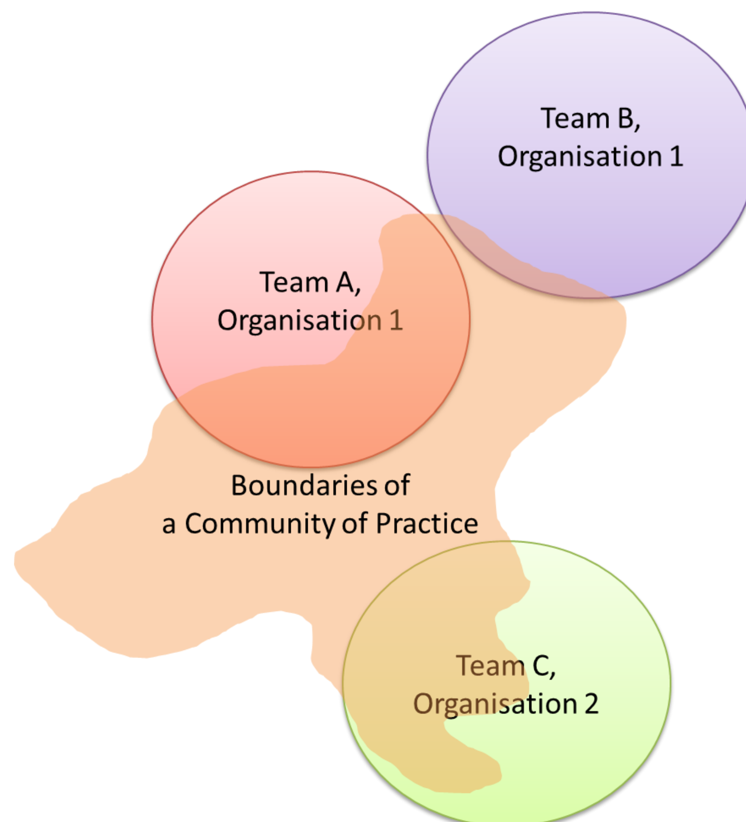


Figure 2: Boundaries of Communities of Practice

Of course CoP members do not need to see themselves as a CoP, but a typical sign that a CoP has formed is the presence of established learning partnerships which people identify with, and which seem to sustain over time (Figure 3). So a CoP is broader that a single action in time (e.g. collectively performing a task) or a one-off team meeting that does not have continuity. It is also narrower that a whole profession: it is a community *of* practice (i.e. organised around practice that is about direct and sustainable mutual engagement) and *not* a loose community of practitioners (Wenger, 1998b) - this is an important distinction which can be easily misunderstood.

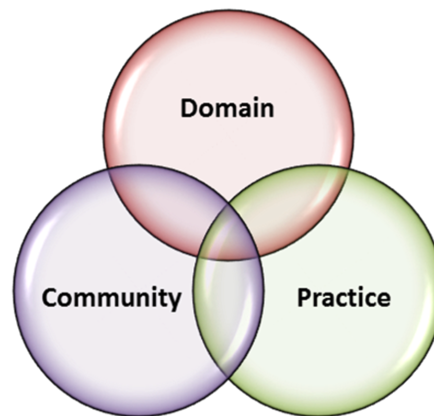
Indicators that a community of practice has formed
1. Sustained mutual relationships – harmonious or conflictual
2. Shared ways of engaging in doing things together
3. The rapid flow of information and propagation of innovation
4. Absence of introductory preambles, as if conversations and interactions were merely the continuation of an ongoing process
5. Very quick setup of a problem to be discussed
6. Substantial overlap in participants' descriptions of who belongs
7. Knowing what others know, what they can do, and how they can contribute to an enterprise
8. Mutually defining identities
9. The ability to assess the appropriateness of actions and products
10. Specific tools, representations, and other artifacts
11. Local lore, shared stories, inside jokes, knowing laughter
12. Jargon and shortcuts to communications as well as the ease of producing new ones

Figure 3: Indicators that a community of practice has formed

Based on (Wenger, 1998: 125)

CoPs are also often named under different labels signifying roughly the same phenomena, e.g. communities of knowing (Boland and Tenkasi, 1995), or epistemic communities (Amin and Roberts, 2008) – these labels arguably only further complicate rather than sharpen the theorising in the field. A common characteristic of all CoPs is that they cannot exist without learning and doing things together over time. They engage in the same practice and they develop their relationships around it. One might then say that a team can also be a CoP at the

same time: yes it can, as long as its members are mutually engaged around the same problem domain (Figure 4). Such an engagement must be sustainable enough because practice is a history of learning in the social context, whilst learning is the driver of that history (Wenger, 1998b).



Domain	Community	Practice
• "(...) defines a set of issues" • "A domain is not a fixed set of problems. It evolves along with the world and the community" • "(...) creates common ground and a sense of common identity" • "(...) guides the questions they ask and the way they organize their knowledge"	• "people who care about the domain" • "a group of people who interact, learn together, build relationships, and in the process develop a sense of belonging and mutual commitment" • "(...) to build a community of practice, members must interact regularly on issues important to their domain"	• "(...) a set of frameworks, ideas, tools, information, styles, language, stories, and documents that community members share" • "whereas the domain denotes the topic the community focuses on, the practice is the specific knowledge the community develops, shares, and maintains"

Figure 4: Structural elements of communities of practice

Based on (Wenger et al., 2002: 27-40)

Instrumental perspectives on Communities of Practice

A key thing to remember when taking an instrumental perspective on CoPs is that even then we are always dealing with a way of looking at the world. This means that while intending to nurture a new or an existing community, the (potential) community that is attended to is a dynamic social group driven by people's genuine interests (Wenger and Snyder, 2000). One may have a carefully designed vision of that community or of what that community should be doing and achieving, but it does not mean that that vision is going to serve the needs of its

members (McDermott and Archibald, 2010). It is very easy to fall into a trap of a grand dream that is so much detached from reality that it never becomes true – and we end up with a community that is a mere abstraction. On the other extreme, it is possible to end up with a very loose and unfocused community that does not demonstrate the above mentioned CoP indicators: a company picnic or a cocktail party lacking any sense of learning partnership or purpose (Wenger et al., 2002).

A tricky aspect of instrumentalising the CoP concept is the paradoxical nature of such communities: on the one hand they are spontaneous and they grow organically, but on the other hand they often cannot reach their potential or even come to existence without managerial support or exposure to the rest of the organisation and connection to broader professional networks (Thompson, 2005, Wenger and Snyder, 2000, Swan et al., 2002, Probst and Borzillo, 2008, Borzillo et al., 2012). A manager cannot just set up a community according to their vision and then be running it or simply waiting until things start happening by themselves (Wenger et al., 2002).

Moreover, establishing a Website or a Twitter page can be useful if not necessary in enabling conversations (Wenger et al., 2010, Kirkman et al., 2013, McDermott and Archibald, 2010), but a tool is never the community in itself (McDermott, 1999b). A CoP needs a group of people who will drive the learning: that group may already exist, it may emerge naturally, or a manager may aid in forming it if it is possible in that particular area of interest and in that particular context (Wenger and Snyder, 2000, Probst and Borzillo, 2008, Borzillo et al., 2011, McDermott, 2000a, Adler et al., 2011).

A manager may want to look into some knowledge areas of critical value to the organisation to see if there are already people in those areas who are mutually engaged in their learning (Swan et al., 2002, Wenger, 2004, Wenger, 2000, Saint-Onge and Wallace, 2003, McDermott, 2000b). The questions for managers can be: since this area is so important, are we doing enough to support those people? Can we give them more time or space for cultivating their shared practice? Perhaps we can help them in inviting new participants or in getting in touch with key experts? Can we help improving their reputation so that they more easily attract further members and increase their activity? A manager should be careful when trying to influence a community's domain – certain compromises can probably be made, but

we need to remember that the addressed set of issues needs to sustain peoples' genuine interests (Wenger and Snyder, 2000).

Typically too idealistic visions can lead to too broad and too general domains in which people find it difficult to find value – this is something that we may want to avoid. Moreover too powerful individuals may want to be alert not to take too much ownership of that social space (intentionally or unintentionally) because situations when other people feel that they do not have rights to their community can destroy that community altogether (McDermott and Archibald, 2010, Wenger et al., 2002). As Handy (Handy and Fisher, 2003: 1) says: "Nobody owns a village. You are a member and you have rights."

In the healthcare setting the CoP concept seems to be increasingly seen as a suitable approach for helping practitioners to mutually develop their expertise by sharing knowledge (Griffiths, 2011, Spilg et al., 2012, Bate and Robert, 2002, Meagher-Stewart et al., 2012) and to organise their work around problems which need to be addressed from across different knowledge domains (Soubhi et al., 2010). Nonetheless the operationalization of CoPs in healthcare is typically not easy because the top-down Knowledge Management (KM) interventions tend not to account for the existing power relations among professional groups (Currie and Suhomlinova, 2006) that are reluctant to share knowledge when they believe that it may threaten their position in the organisation (Waring and Currie, 2009). Moreover some interventions assume knowledge as being synonymous with explicit representations that can be smoothly adopted by the existing communities, but which inevitably turns out not to be the case (Waring et al., 2013).

For example Addicott et al. (2006: 92) describe a large project based in the English National Health Service (NHS) aimed at building knowledge sharing networks specializing in the area of Cancer, and which by large failed due to being over-managed and overly focused on following governmental guidance rather than on social learning activities:

> "Knowledge exchange about best practice was marginalized by the demands of structural configuration, achieving performance targets and conforming to protocols. Competition between the various acute hospital trusts in the networks to become the centre for cancer services undermined the socialization and trust necessary for knowledge sharing and the formation of a genuine CoP. Instead,

> there were time-consuming negotiations about which teaching hospital would lose – or share – what, with incremental bargaining between powerful interest groups."

Nonetheless Parboosingh (2002) argues that cultivating CoPs in healthcare is a good direction because in comparison with didactic class-room style professional development it allows for more natural, continuous, and reflexive learning. He also suggests that the continuous professional development programs for healthcare practitioners should account for the needs of existing CoPs and not just for the individual practitioner's needs. Parboosingh et al. (2011) add that by sharing knowledge CoP members are able to collectively interpret how to align policies and guidelines with their day-to-day work. The community development typically cannot be undertaken just based on common sense and therefore CoP facilitators need to be educated on how to perform such role.

Furthermore, Currie and White (2012) stress the importance of knowledge brokering (i.e. helping people to connect or to share knowledge) in cultivating CoPs in the healthcare setting. They note that in the English NHS various professions have different amounts of power and therefore knowledge brokers typically need to have good social skills and legitimacy in the organisation – especially if they do not belong to any of the groups which they broker knowledge between with. The authors add that it is useful to talk about knowledge brokering as an organisational knowledge which can be developed by fostering the atmosphere of trust, collaboration, and the readiness to listen to the silenced voices. Consequently, as suggested by Ferlie and Pettigrew (1996), fostering practitioners' networks in NHS may require long-term thinking since the results may not be immediate nor easy to evaluate.

Critique and recent developments in Communities of Practice

While the CoP concept has received a large amount of attention, it has also been target of an extensive critique. Perhaps the most frequent critique is that it does not account for relations of power (Contu and Willmott, 2003, Contu, 2013, Fahy et al., 2013). For example Mørk et al. (2010) state that old-timers in CoPs need to maintain their reputation for being competent as much their position of power in professional networks; albeit that notion is covered in the CoP literature by Wenger's (1998b) ideas of legitimacy (having the reputation for being able to perform well in practice) and competence (the actual ability to perform well in practice) respectively, which terms are also elaborated by such authors as Taylor et al. (2002).

Additionally, Fox (2000) suggests that by placing a focus on the actor-network theory we can better understand the relational character of power in CoPs which can be even exercised by inanimate objects – with the latter claim further supported by McPherson and Clark (2009). This however arguably falls beyond the scope of this concept which is concerned in relations between *people* that involve the mutual investment of identity.

Besides, some authors (Hong and O, 2009, Antonacopoulou and Chiva, 2007) criticise the CoP concept for portraying learning as 'smooth' and conflict-free. Levina and Orlikowski (2009), on the other hand, observe that CoPs in organisations can in fact create barriers which can deny outsiders access to learning. However, the original conceptualisation of CoPs (Wenger, 1998b: 77) clearly emphasises that such communities should not be romanticized and that they can be a source of conflict and political struggles just as any other forms of organising:

> "A community of practice is neither a haven of togetherness nor an island of intimacy insulated from political and social relations. Disagreement, challenges, and competition can all be forms of participation. As a form of participation, rebellion often reveals a greater commitment than does passive conformity."

Wenger's (2010) reply to the critique about CoP concept failing to account for power is that while learning is indeed political, CoP is a learning theory and not a political theory and hence many of such issues raised by his critics may be beyond its scope. He adds that the CoP concept does cover the notion of power under such conceptions as 'the economy of meaning' (i.e. how influential different communities can potentially be) which not only deal with vertical (i.e. hierarchical) power, but also with horizontal power exercised among peers as they learn together.

Another major critique is that the overly instrumental perspectives on CoPs may sometimes lead to losing out of sight its original emphasis on identity and the learning context (Lave, 2008), and in result to turning the element of community into an abstraction (Gherardi et al., 1998). Roberts (2006: 633) notes that in a fast-paced business environment people in organisations do not have "the luxury of sustained engagement" and therefore CoPs as an instrumental approach may not always be a good option. I think that this is a fair point, however it makes more sense to say that some organisations are not particularly good at

cultivating sustained learning partnerships, while others organise their whole work around them (just think of sport teams, creative studios, theatres etc.).

Roberts also suggests that too much emphasis is being put in the CoP literature on ‘community’ instead of on ‘practice’; however I would argue for exactly the opposite – practice is discussed extensively in the literature (Gherardi, 2011, Gherardi, 2010, Amin and Roberts, 2008, Orlikowski, 2000), but not much is done to explain what the community *really* means as a lived experience of its members. To put it differently, when the community dimension of CoPs may seem problematic (Roberts, 2006, Brown and Duguid, 2001) what may be needed are better insights into the nature of this concept, i.e. "…the answer cannot be ‘drop the theory’, but "develop more and better theory" (Tsoukas and Vladimirou, 2001: 975).

Other authors comment on the extent to which the CoP concept accounts for the interactions between different communities. Thompson and Walsham (2004) note that the concept does not explain the portability of one’s competence between different CoPs. I think that this is true, and as I later argue this notion may require bringing back the concept of knowledge to CoPs (the Polanyian conceptualisation of Personal Knowledge appears compatible as it is also essentially social and rooted in identity). Moreover, Mutch (2003) suggests that Bourdieu’s notion of habitus can be useful in explaining the tensions between one’s previous social and educational background and the practices which they are engaging with – however it seems that this claim may require more refinement.

Additionally, Handley et al. (2006: 650) write that people tend to invest their identity "between multiple communities" rather than engage in a more profound way in one community. Along similar lines Linkvidst (2005) suggests talking about less intensive ‘collectives of practice’, and Brown and Duguid (2001) introduce ‘networks of practice’ - although Thompson (2011) criticises all of these authors for offering no more than compound abstractions which lose the original dynamism and process-orientation of CoPs. As already mentioned, we can also observe a body of literature concerned with knowing-in-practice (understood as developing and applying knowledge in practice), where CoPs are seen as merely one of the possible forms of organising within a broader practice-based view of organisations (Amin and Roberts, 2008, Orlikowski, 2002, Gherardi, 2000, Nicolini, 2011, Macpherson and Clark, 2009).

Wenger (2010) admits that he is sensitive to the critique that the CoP concept is often treated in an overly instrumental way, but he believes that he has no control over uninformed attempts of operationalising CoPs. He adds that in fact it is a combination of conceptual and instrumental perspectives which can be particularly productive with regards to cultivating CoPs. Furthermore, in his most recent work (Wenger, 2009, Wenger-Trayner et al., 2014) he and his co-authors describe CoPs from a more holistic view, positioning them in a whole landscape of practices where CoPs are only one example of social learning spaces (i.e. spaces where people learn from each other in an engaged way).

Meanwhile we can observe a turn in the literature to investigate the implications of organisational and even macro-environmental factors on the emergence and prosperity of CoPs (Hotho et al., 2014, Gherardi and Perrotta, 2011), to position CoPs in wider knowledge networks (Pugh and Prusak, 2013), to explore the notions of space and time in the context of CoPs (Fahy et al., 2013), or to examine the relationship between CoPs and Organisational Learning (OL) which is seen by some to be 'frustrating' (Huysman, 2004) and by others to be mostly fruitful (Gherardi and Nicolini, 2000). Another interesting direction is applying CoPs in relation to novel concepts such as moments of intensive innovation and collaboration labelled Hot Spots (Gratton, 2007). These attempts pave a direction for appreciating the broader context in the course of trying to understand what CoPs are and how we can foster them so that they can grow.

In the hereby work I aspire to elaborate 'the trunk' of the existing CoP concept instead of trying to add to it ever 'new branches', simultaneously keeping myself reminded of the discussed critique of the concept. In this respect I follow Wenger's argumentation that learning is indeed political, but the notion of power is not the one most important aspect of CoPs. I do accept that cultivating CoPs may not be possible without taking into consideration the inevitable hierarchies and politics in organisations, and for that reason I later focus on the issue of legitimising communities.

In this work I explore how the existing conceptualisation of CoPs can be made more robust, including its ability to account for power, rather than use its limitations as an excuse for devising ever new labels and competing ideas branching from CoPs. In other words I try to work within the original scope of CoP because I believe that this concept is not boundary-free and it cannot be stretched endlessly. I particularly aim to address the critique related to the

problems with operationalising CoPs, and I argue that the solution can be sought in taking a more process perspective on this concept that would help to re-establish the link between CoPs and situated learning.

2.3. Organisational Sensemaking

Based on the review of the Community of Practice (CoPs) literature I can bring to my argument that practices are socially constructed from meanings which people negotiate around their learning over time, i.e. they constitute for what people mean by what they do and what they learn. Wenger (1998b) explains this using the process called the 'negotiation of meanings', i.e. an interplay of participation (experiencing the world together) and reification (giving form to these experiences), which is an important element of the CoP concept pulling it away from the realist ontology and positioning it as a mid-range construct where the entity and the process play a roughly balanced role (Thompson, 2011).

At the same time I believe that the area of organisational sensemaking may perhaps lead to a better understanding of how CoP members socially construct their meanings, and how these meanings translate into the wider organisation (or organising). I therefore now review the organisational sensemaking process in order to get a better picture of its characteristics. Subsequently I discuss the role of stories in organisational sensemaking, and then I talk about the implications of organisations being socially constructed and how they can be made more meaningful to their members.

The process of Organisational Sensemaking

Sensemaking has been defined as:

> "a process, prompted by violated expectations, that involves attending to and bracketing cues in the environment, creating intersubjective meaning through cycles of interpretation and action, and thereby enacting a more ordered environment from which further cues can be drawn." (Maitlis and Christianson, 2013: 67)

People engage in sensemaking when their lived experience turns out somewhat different from what they have expected. In other words something 'does not fit' and therefore one is facing a problematic situation among multiple possible interpretations (Weick, 1995a: 2).

Sensemaking is an ongoing process which can include less eventful and smaller-scale 'ongoing updating' (Weick et al., 2005), but it can also happen under situations called 'cosmological events' where people completely lose sense of the situation and they struggle to figure out what to do next (Weick, 1993).

Moreover, sensemaking is more about plausibility than accuracy because by reducing equivocality (i.e. the number of possible meanings) one is shaping their sense of what *is* going on – even if that sense is not 'true' (Colville et al., 2012). One can then talk about sensemaking when from their actions emerges a question: 'what's the story' (Weick et al., 2005: 410), and they being to search for that missing story so that they can move on with their lives.

The initial stage of sensemaking process is called 'enactment' (Figure 5) because one acts upon what does not make sense and brackets an extracted cue (i.e. something to attend to) in the course of the present moment. Identity and the social context play here a central role for who people are and how they are seen by others affects what they do (enact) and how they interpret, and its results need to be consistent with one's image of themselves (Weick et al., 2005) – for example an ornithologist on foreign holiday is arguably much more likely to recognise a very rare species of bird than any other tourist.

Additionally, at the enactment stage the interpretation of the extracted cue is still open-ended: in order to create a meaningful story one needs to draw from known frames, e.g. in this example the categories of birds, which would allow for making sense of the situation (Weick et al., 2005). As Chia (2000: 513) puts it:

> "Social objects and phenomena such as 'the organization', 'the economy', 'the market', or even 'stakeholders' or 'the weather', do not have a straightforward and unproblematic existence independent of our discursively-shaped understandings. Instead, they have to be forcibly carved out of the undifferentiated flux of raw experience and conceptually fixed and labelled so that they can become the common currency for communication exchanges."

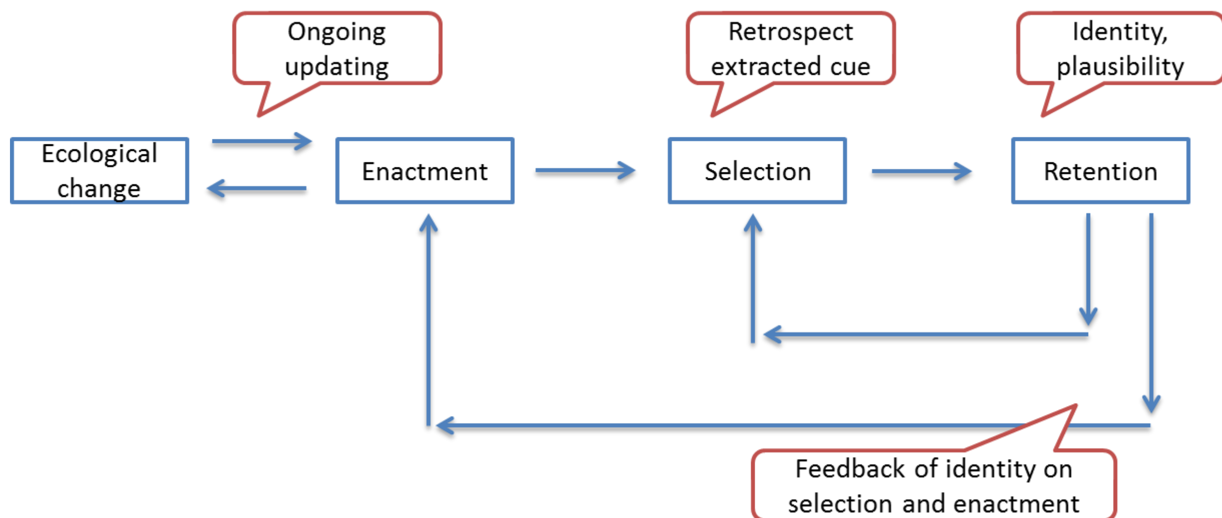


Figure 5: The organisational sensemaking process

Source: (Weick et al., 2005: 414; drawn from Jennings and Greenwood (2003) and adapted from Weick (1979, p. 132))

The number of possible interpretations is reduced at the selection stage when one retrospectively draws from the previously learnt frames (i.e. what they know already) in order to narrow down both what is bracketed (i.e. what they are paying attention to) and what can serve as a relevant frame (i.e. what part of their knowledge fits with what they are paying attention to). Thus a cue + a frame + a connection may lead to a plausible new story (Weick et al., 2005).

The constructed tentative meaning is retained when people accept it, start to use it, identify with it, and act upon it (Weick et al., 2005), and therefore "… meaning is … understood to be not just in the mind, in the way people think [but] … it is rather manifested in the way people act" (Tsoukas, 2005a: 98). To say it differently, the retained meaning influences people's mental models such as their understanding of how they should be performing tasks, actions, and roles - and thereby it affects the very process of organising (Weick et al., 2005, Weick, 1995a). Consequently what we call an organisation is being socially constructed in practice (Hatch and Cunliffe, 2006).

The role of stories in Organisational Sensemaking

The products of organisational sensemaking are stories which people narrate and share as their meanings of the world around them. Hatch and Cunliffe (2006: 197) describe an organisational narrative as "a story of real events with a plot and characters that, when

analysed, will tell us about the organisation's culture and distinctive practices". Boje (1991: 8) provides a bit broader definition of stories as "an exchange between two or more persons during which a past or anticipated experience was being referenced, recounted, interpreted or challenged".

Importantly, organisational narratives are the means of preserving and disseminating 'images of action' (Weick, 1995a), thereby they can be suitable for sharing tacit understandings (Brown et al., 2004), and therefore they may be seen as the 'currency of practice' (Tsoukas, 2005e). To share narratives is to articulate and organise the scattered stories witnessed in practice in a more coherent form (Weick and Roberts, 1993), even though they remain incomplete and they can be always retold in a different way (Abolafia, 2010). Thus narrated stories are "about everything that matters to those participating in the practice" (Tsoukas, 2005d: 82). Denning (2004: 5) notes that such knowledge sharing narratives have their specific characteristics:

> "Knowledge-sharing narratives are unusual in that they lack a hero or even a detectable plot. They are more about problems, and how and why they got - or, more likely, didn't get - resolved. They include a description of the problem, the setting, and the solution. Because they highlight a problem - say, the challenge employees face in learning to use a new system - they tend to have a negative tone. And because they often focus in detail on why a particular solution worked, they may be of little interest outside a defined group of people. Though unashamedly unentertaining and lacking most elements of a conventional story, they are nonetheless the uncelebrated workhorse of organizational narrative."

Not only are stories used for sharing images of action, but they also serve as 'noticing devices' (Patriotta, 2003b) in the form of frames to which people can connect their cues in the present moment when they try to make sense of the world (Colville et al., 2012). This allows for contingently creating new meanings in the face of changing circumstances (Orr, 1996). Furthermore, as suggested by Cunliffe and Coupland (2012), organisational narratives serving as a resource for sensemaking do not necessarily need to be verbalised because people's physiognomy, behaviour and emotions 'can speak for themselves' - in other words they can be thought of in the background of the ongoing action. It may also be worth noting that Holt and Cornellisse (2013) go even further in their argument that sensemaking can also

happen without intentional searching for meanings and by simply immersing oneself in the world, as for example when people sense moods they do not have to attend to anything in particular and they do not try to attribute new names to things.

From the management point of view sensemaking narratives can play significant role because managers can use them in their attempts to enact meaningful and coherent workplaces through socially constructing dominant stories (Weick, 2012, Abolafia, 2010), simultaneously serving the self-legitimisation of their leadership (Maclean et al., 2012). Indeed, in an organisational setting sensegiving (i.e. influencing the sensemaking of others) can be an essential site for leaders (Humphreys et al., 2012, Polanyi, 1967). Nevertheless dominant stories do not necessarily have to be the ones narrated by the senior management, but amongst the whole polyphony of different stories (Cunliffe et al., 2004) signifying alternative images of the organisation and its past (Boje, 1995), they can be those stories most widely retained and shared (Näslund and Pemer, 2012).

Thus dominant stories can be anti-stories opposing the official organisational narratives, and they may only be countered by reducing them to the absurd (*reductio ad absurdum*) or by helping people to see things differently for example based on skilful use of metaphors (Snowden, 2004). This however may not be easy because dominant stories, irrespectively of the source, tend to 'defend themselves' by fixing the meaning of other stories that could potentially become their substitute (Näslund and Pemer, 2012).

Socially constructing organisations that make sense

A problematic situation triggering sensemaking is deemed problematic because one has no meaning for it, and it is not defined as a problem for one has not named it yet. Problems are therefore not pre-given: one must first socially construct them out of problematic situations arising naturally in practice (Weick, 1995a, Anderson and Thorpe, 2004). At the same time one never knows if sensemaking is going to successfully guide them out of the problematic situation to a solution or at least to a plausible definition of a problem, or whether it will lead them to meandering in an even more problematic and equivocal situation (Munro and Huber, 2012). Importantly, this shows that problematic situations and problems do not arise 'out of the blue' but in the course of engaging in raw practice - and this is why sensemaking connotes social *construction* and not social *invention* (Weick, 1995a, Chia, 2000).

If one accepts that organisations are socially constructed, then people's (and perhaps in particular managers') beliefs, interpretations, and political coalitions play important role in shaping them (Abolafia and Kilduff, 1988). Moreover, sensemaking can be as much about challenging and exploring the existing institutionalisation than about reinforcing it and adhering to it (Weick et al., 2005). From this perspective one does not only distinguish organisations by their size or infrastructure, but also by how their members scan and learn about their environments, the degree to which they see those environments as analysable, and how they tend to make decisions based on the information they have (Daft and Weick, 1984). This is because people continuously enact and modify their environments which they simultaneously seek to understand (Maitlis and Christianson, 2013).

Porac et al. (1989) insightfully illustrate the socially enacted nature of organisations with an example of a group of managers working for different Scottish knitweaver companies whose actions and conversations influence each other's mental models of what their industry is essentially about. By mutually acting on those consensual (albeit not identical and not conflict-free) interpretations, they effectively enact their competitive environment. The resources for this enactment constitute of cues attended to in the immediate world and as experienced in practice, and hence the socially constructed environment makes sense because it allows that small cluster of organisations to carry on with their businesses.

In a different case Starbuck (1992, 1993) describes knowledge intensive firms as those which manage to make use of the distinctive knowledge of their employees to solve certain unique problems in the market. One of his examples is the law firm Watchell which never agrees to represent clients on the long term-basis and which specialises in non-routine, high-risk, and high-return cases. Starbuck argues that such knowledge intensive firms may work slower and be less efficient than others; however no one else can address those unique problems as well as them because it is specifically them who have enacted those problems in their environment, as in 'you really need this product at premium price and at the highest quality and clearly only we are able to deliver that'.

What follows from this, if sensemaking and organising are understood as going hand by hand, then organisations can be understood as continuously being brought to life by individuals through interplay of their small actions and contributing interpretations. The social construction of reality seen this way signifies a process-oriented ontology of becoming

(Tsoukas and Chia, 2002b, Chia, 1999) where change is not something which merely happens to organisations from time to time, but instead it is a constant potential resource for learning, sensemaking, and organising. Colville et al. (2014) illustrate this with their study of a soap manufacturing company in Norway which over the 175 years of its existence has not gone through much of directed and intentional 'big' *change*, but which has been *becoming* and *changing* mostly through episodic small steps that have been sufficient to survive and to perform well in the market.

Whilst one might think that such socially constructed environments must be less stable than more tangible entities, it is often exactly the inability to change that leads to many problems in modern organisations. For example the case of the Columbia space shuttle disaster is referred to as an illustration of an organisation's inability to see beyond its bureaucratic structure and the resulting failure to imagine risks which it was not prepared for (Weick, 2006) because the cue standing for those risks (i.e. a known technical problem) had been normalised and it had no longer been perceived as being worthwhile of special attention (Dunbar and Garud, 2009). The point is that organisations need to be prepared to actively address discrepant cues and to renegotiate their meanings because the world is not static but it is becoming, and hence so are organisations (Tsoukas and Chia, 2002a).

Consequently managers need to continuously 'think on their toes' not to allow themselves get lost in outdated and compounded abstractions that are detached from reality, i.e. meanings that once made sense, but which do not really fit any longer. In this apparently unpredictable 'Age of Unreason' (Handy, 1995) the role of managers is to help organisations 'complicate themselves' (Tsoukas and Dooley, 2011): to build meaningful workplaces where people can grow (Senge, 2006), feel free to constructively say what they think (Vogus et al., 2010), take more initiative and responsibility for their work (Weick, 1995a, Davenport, 2005), and mutually work on overcoming miscommunication and misunderstanding (Munro and Huber, 2012). All of these may be needed even at the risk of too much complexity and too much change happening at the same time which can sometimes be difficult to handle (Colville et al., 2013).

In the dynamically changing world, consistent but adoptable organisational identity is more important than stable identity (Gioia et al., 2000). Furthermore, people at deep organisational levels, where much of the work gets done, ought to have access to fresh and relevant cues for

their sensemaking (Weick, 1995a) through meaningful work, peer-mentoring and learning partnerships (Louis, 1980) and not by overreliance on codified scripts (Weick, 1995a). This tells us that modern organisations more than ever need to trust their employees and to allow them opportunities to grow (Davenport, 2005, Davenport and Prusak, 2000), to take responsibility for the broader spectrum of relevant tasks and roles, and to voice honest feedback so that they can hear themselves speak and so that they can be listened (Vogus et al., 2010). Thus from the strategic perspective those organisations may need to be increasingly wayfinding instead of navigating, i.e. "apprehending situations in terms of their potential" as lived in practice, rather than fixing themselves by measurements, controls, and risk reductions (Chia and Holt, 2009: 172) – we already know that 'map is not the territory', after all (Korzybski, 1958).

2.4. Organisational Knowledge

In the previous sections I have talked about Personal Knowledge, how it can be developed in Communities of Practice (CoPs), and how people socially construct organisations by participating in practices. All of these areas can lead us to the question whether there is something that we can actually call Organisational Knowledge - and if there is - then what should that be: is an organisation really capable of knowing and recording a memory of its past learnings, or whether Organisational Knowledge is more of a metaphor suggesting that knowledge of individuals is more, or rather different, than its parts.

The existing literature is already very strongly populated with the comparisons of different perspectives on Organisational Knowledge ranging from those based on seeing knowledge as someone's possession (i.e. the 'cognitivist' view), and the recently popularised approaches focusing on knowledge as manifested in action in social context, i.e. knowing-in-practice (Rowlinson et al., 2010). However contrary to some authors' (Cook and Brown, 1999, Gherardi, 2011) interpretations, in Polanyi's terms knowledge (as a potential) and knowing (as using what one knows) are two closely intertwined aspects of Personal Knowledge and not two competing perspectives that may or may not be bridged. Knowledge is the potential to act, but using what one knows can simultaneously augment and (or) complexify this potential (Tsoukas, 2000).

That is also not to be confused with the tacit-explicit distinction as separate types of knowledge which is a clear misinterpretation of Polanyi's work where 'the explicit' and 'the tacit' are 'two sides of the same coin' and not distinct categories of knowledge (Tsoukas, 2005b, Snowden, 2003, Thompson and Walsham, 2004, Alvesson et al., 2002, Dörfler, 2010).

In such sense, contrary to for example Chiva and Alegre (2005), the cognitivist view (i.e. seeing knowledge as a someone's possession) of knowledge must not necessarily be rooted in positivist epistemology. While I agree that it is important to stress that knowledge only makes sense in practice, I do not think that it is helpful for researchers favouring practice-based view of knowledge and learning (Gherardi, 2000) to altogether deny or neglect the earlier contributions such as those of Dreyfus and Dreyfus (1986) or Ryle (1949), or more recent publication such as those by Dörfler and Ackermann (2012), which are more concerned with explaining the various dimensions of the complexity of individuals' knowledge as someone's cognitive potential. In fact it seems to be one of the biggest challenges for researchers interested in Organisational Knowledge to bring knowledge and knowing back together.

Thus in this review I do not concentrate on the described distinctions or categories of knowledge, which may come as a surprise to some readers familiar with their pervasive presence in the literature. While I do include contributions from different traditions of Organisational Knowledge, I do not always point to those traditions explicitly because this has already been done extensively by numerous other authors. I rather narrate the development of the area of Organisational Knowledge through the lenses of the Polanyian contribution which in my regards remains the most important, even if somewhat overlooked, foundation for our understanding of knowledge.

What is Organisational Knowledge?

According to Easterby-Smith and Lyles (2011: 3), the area of Organisational Knowledge aims to "conceptualize the nature of knowledge that is contained within organizations". In the era of the Internet and the ubiquity of social networking tools, one popular view on Organisational Knowledge is to associate it with information (particularly of computerised type) that is made widely accessible (Brown and Duguid, 2002b). It is indeed tempting to regard information as an objective and independent entity which can make the world look more transparent, allowing individuals to exercise more control of their future. Nevertheless

it is a misleading belief to equate knowledge with information for the latter is merely an abstraction which can be used as a resource for *developing* knowledge rather than as the direct means of *acquiring* knowledge – if one has access to information it does not necessarily mean that they can understand it, use it, or evaluate if it is correct and suitable for one's needs (Tsoukas and Mylonopoulos, 2004). As Starbuck (1992: 733) puts it: "Knowledge is a stock of expertise, not a flow of information."

In his famous metaphor of the 'Tyranny of Light', Tsoukas (1997) warns us that information is always decontextualized and past-oriented, and while it may be regarded by some as knowledge, it may often overwhelm and confuse people rather than help them perform better and improve their understandings. Weick (1995a: 99) further enhances this argument by adding that information is useful to gain a broader overview of the topic of interest, but it is not helpful for deciding which available interpretation of the situation to follow:

> "To remove ignorance, more information is required. To remove confusion, a different kind of information is needed, namely, the information that is constructed in face-to-face interaction that provides more cues ... People who try to reduce confusion with lean formal media may compound their problems when they overlook promising integrations. And people who try to reduce ignorance with media that are too rich may raise new issues that prevent them from making sense."

With respect to the above it must be too limiting to look at Organisational Knowledge as the collection of information and abstract rules because it should also account for people's actions developed in social practices. Consequently Tsoukas and Vladimirou (2001: 983, 989, emphasis in the original) build on Polanyi in their attempt to define Organisational Knowledge as peoples' potential to engage in tacit knowing in situated context by interiorising general rules and by drawing from the historical learnings of practices in which they participate:

> "Organizational knowledge is the capability members of an organization have developed to *draw distinctions* in the process of carrying out their work, in particular *concrete contexts*, by enacting sets of generalizations (*propositional statements*) whose application depends on historically evolved *collective*

> *understandings* and experiences… What makes knowledge distinctly organizational is its codification in the form of propositional statements underlain by a set of collective understandings. Given, however, that individuals put organizational knowledge into action by acting inescapably within particular contexts, there is always room for individual judgement and for the emergence of novelty. It is the open-endedness of the world that gives rise to new experience and learning and gives knowledge its not-as-yet-formed character."

Similarly to Tsoukas and Vladimirou, other authors (Sveiby, 1997, Patriotta, 2003a) also view Organisational Knowledge as organisational potential to act which relies on peoples' socially developed competencies and their ability to make use of the existing formal representations and processes, as for example Pentland (1992: 531) writes:

> "Performances are the only indicators we have of organizational knowledge, defined as the capacity of an organization to perform knowledgeably."

Tsoukas (2005c) further elaborates his picture of Organisational Knowledge as he talks about the 'two-way street' between the official organisations and the more informal landscapes of social practices, i.e. 'forms of knowledge and forms of life' (Figure 6). The more formal institutions and propositional knowledge (e.g. explicit representations in the form of codified rules and categories) equip practitioners with a sense of regularity, consistency, and role-task structure that are necessary for coordinated actions and for binding together otherwise distributed practices. Concurrently the more informal side of organisations include social practices which preserve their histories of knowing. By participating in those practices people socially learn how to do their work and how to respond to changing circumstances and to novel problems.

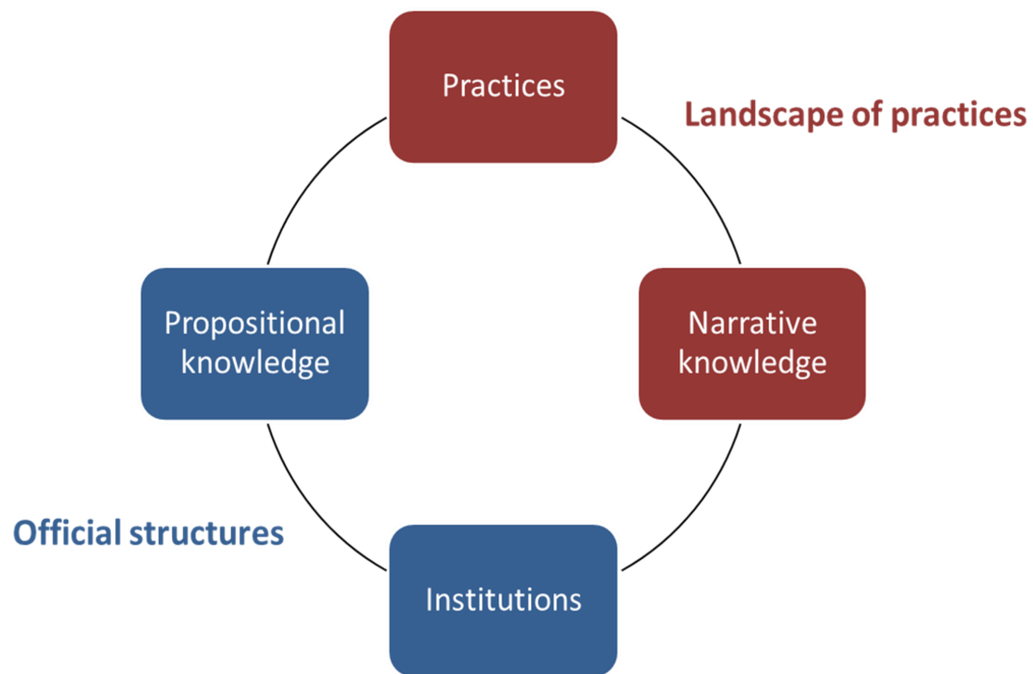


Figure 6: Organisational Knowledge - forms of knowledge, forms of life

Based on: (Tsoukas, 2005c: 87)

Such a social perspective on Organisational Knowledge explains why in the globalised and connected world knowledge is still local and it is often developed in relation to local real-life problems (Brown and Duguid, 2002a). Knowledge is essentially 'sticky and leaky': it sticks to the local (the locus being the knowledge domain) social practices, but it also leaks through the organisational boundaries, in search of synergies with alike/akin external practices (Brown and Duguid, 2001).

However, while both the formal and the informal side of organisations have their role to play in Organisational Knowledge, the relationship between them may be imbalanced. The inevitable effect of the progressing institutionalisation is that it may lead to the expansion of propositional knowledge (e.g. by codification, formalisation, bureaucratisation) which is decontextualized from the respective social practices and which may then be imposed on individuals who are unaware of their original meaning. Such situations may be problematic because generalised categories, when not updated continuously, can often mismatch with the needs of the current moment and therefore they may be misleading if not interpreted by personal judgments of practitioners (Tsoukas, 2005c, Thorpe et al., 2005). It highlights the risk that the distributed knowledge system may become too distributed to be able to respond

to the emerging problems which an organisation is currently facing (Dunbar and Garud, 2009).

In this project I follow Tsoukas' view of Organisational Knowledge which is distributed only in the sense that "portions of it are known differentially to all" (Tsoukas, 1996: 16). I therefore do not agree with authors (Spender, 1996) who believe that knowledge can exist in a literal sense beyond individuals, and in particular I reject the attempts of distinguishing between individual and group knowledge along the explicit-tacit dimensions (Cook and Brown, 1999). We can then speak about the collective mind comprising of patterns of action, but we should not forget that "collective mind is distinct from an individual mind because it inheres in the pattern of interrelated activities among many people" (Weick and Roberts, 1993: 360).

As follows, contrary to Walsh and Ungson (1991), organisational memory is not a collection of information-processing storage bins comprising of people and organisational context (Rowlinson et al., 2010). Instead, as explained by Orlikowski (2002) who builds on Tsoukas (1996), Organisational Knowledge is continuously enacted by participants of social practices and thereby it is enrooted in their identities over time. To put it differently, following Polanyi (1962a), the reason why organisations still know what they do when employees 'come and go' is because social practices have historical continuity in the form of knowledge traditions which allow people use and interpret the explicit rules and abstractions which their predecessors had enacted or learned to apply over time.

Managing knowledge

Today we can arguably observe an increasing interest in developing techniques and approaches aimed at developing Organisational Knowledge. The call for the need to think more intentionally about the role of knowledge in organisations can be traced at least to the early manifesto of Drucker (1959) and to his, at this point probably legendary, prediction that the greatest challenge for managers would shift from improving the efficiency of labour work to making the knowledge work more productive. He (1969: 355) writes:

> "The shift to knowledge as the foundation of work and performance imposes responsibility on the man of knowledge. How he accepts this responsibility and how he discharges it will largely determine the future of knowledge."

As a result of these developments came an idea of 'the knowledge economy' where knowledge, as noted in probably more than half of the publications on the topic, has the potential of being "the greatest competitive advantage" (Davenport and Prusak, 2000: 12-13). Clearly, one might argue that the apparent knowledge economy is nothing new because knowledge has always been used in all types of work, and knowledgeable people have never been released from the responsibility for its skilful application. Nevertheless the pace of change which organisations have to cope with seems to have arguably accelerated (Handy, 1995), as amplified by the rise of computer technologies and the globalisation of markets (Grant, 2006). Drucker & Maciariello (2008: 37) write:

> "The new reality is that knowledge is the key resource in society and knowledge workers are the dominant group in the workforce."

Nonetheless, if the role of knowledge workers is supposed to be so significant, it calls for a question what this actually means. Alvesson (1993) notes that the term 'knowledge worker' may be problematic, especially if one understood knowledge as a product of formal education (which is not an uncommon perspective) because such knowledge is not something that people necessarily use in their work. Davenport (2005: 10-11) overcomes this alleged trap by switching the focus from *knowledge* to *thinking* and *knowing* in his definition of knowledge workers as people who 'think for their living':

> "Knowledge workers have high degrees of expertise, education, or experience, and the primary purpose of their jobs involves the creation, distribution, or application of knowledge (...). Knowledge workers think for a living. They live by their wits – any heavy lifting on the job is intellectual, not physical. They solve problems, they understand and meet the needs of customers, they make decisions, and they collaborate and communicate with other people in the course of doing their own work."

Thus managing knowledge work in today's world may require new approaches than those undertaken in the labour economy. Indeed, it appears that knowledge workers identify themselves more with (and hence are more loyal to) their professional expertise than with their institutions (Handy, 1995), and they need to continuously update their knowledge to the changing world because an organisation's wellbeing depends on their distinctive expertise

(Starbuck, 1992). Furthermore, they often need to be able to 'manage themselves' (Drucker and Maciariello, 2008) because it is them and not necessarily their managers who fully understand their typically complex work (Davenport, 2005).

Consequently the Knowledge Management (KM) area of interest has emerged in the second half of 90's as managers were coming to realise that managing information and managing knowledge were not the same (Davenport and Prusak, 2003, Bryan, 2006), and that they needed to think more intentionally about making value from the latter (Wiig, 1997). For example Starbuck (1992) observes that many organisations which make good use of knowledge are not necessarily more efficient or superior in processing information than their competitors. KM can then be seen as overlapping with the area of Organisational Knowledge, however it is more practice-oriented in that it attempts to "…adopt a technical approach aimed at creating ways of disseminating and leveraging knowledge in order to enhance organisational performance" (Easterby-Smith and Lyles, 2005: 3).

Having said that, the early KM approaches were in many ways unsuccessful (Prusak et al., 2008). That is attributed to overreliance on codifying knowledge and transferring it via computer networks at the expense of developing productive networks of people who can share knowledge in meaningful ways (Brown and Duguid, 2006, McDermott, 1999b, Blackler, 1995, Mylonopoulos and Tsoukas, 2003, Tsoukas and Vladimirou, 2001), and trying to align the KM approaches with the organisational culture (McDermott and O'Dell, 2001, Long and Fahey, 2000). As summarised by McDermott (1999b: 104):

> "If a group of people don't already share knowledge, don't already have plenty of contact, don't already understand what insights and information will be useful to each other, information technology is not likely to create it."

Currently KM is not a unified approach and it is treated as an umbrella term for different tools and techniques that are to do with supporting knowledge and learning activities (Alvesson et al., 2002), ranging from those concerned with incorporating knowledge into organisational strategy (Zack, 2006), identifying and promoting best practices (Derr, 2006), evaluating the value of intangible assets (Sveiby, 1997), enabling ICT (information and communication technologies) for knowledge work, community-building (Newell et al., 2002), or even exploring the role of attention in organisations (Davenport and Beck, 2002).

At the same time the KM initiatives continue to be challenging to be implemented successfully (Currie and Suhomlinova, 2006, Kamoche et al., 2014). On the one hand KM seems to make only sense if it is aligned with the organisational strategy (Vera and Crossan, 2004, Wenger, 2000), but on the other hand it is knowledge workers who 'manage their knowledge' and they may have their own priorities (Wenger, 2004). The role of KM is then not in telling knowledge workers what to do, but in supporting them in developing and sharing their expertise so that it remains distinctive, while helping the organisation to build on that expertise (Starbuck, 1992).

For instance one place where KM can come into play is in identifying, recognising, and supporting 'idea practitioners', i.e. people who scout the changing environment for new ideas that can potentially improve the organisation (Davenport et al., 2003), and then expose those ideas to experts who otherwise might not be willing to look beyond what they are used to doing (Starbuck, 1992). On this basis idea practitioners can drive the organisation's innovation and thereby they generate value, however without the 'licence' from senior management they may struggle to do what they do best (Davenport et al., 2003, Davenport and Prusak, 2003).

It then appears that if in the picture of Organisational Knowledge one cannot afford not to appreciate the Polanyian contribution (Tsoukas and Vladimirou, 2001), then similarly KM needs to account for Polanyi's work (Thompson and Walsham, 2004). By looking at knowledge as being personal rather than as a transferrable object, one can better understand why process reengineering (McNulty, 2002) and the top-down KM initiatives cannot be imposed on the existing networks in a straightforward way without being sensitive to how practitioners locally negotiate their meanings (Addicott et al., 2006), even if these managerial initiatives resort to voluntary collaboration and sophisticated peer pressure rather than compulsion to participate (Kamoche et al., 2014). This would suggest that managers should be interested in reducing hierarchical constraints which impede on employee's knowledge sharing as only this way they can develop the organisation's critical knowledge capabilities (Tsai, 2002). They may also need to carefully study the knowledge sharing dynamics of employees as they are happening in practice to better tune the KM approaches with respect to organisational and practitioners' needs (Kamoche et al., 2014).

Knowledge markets

In their seminal *Working Knowledge*, Davenport and Prusak (2000) discuss knowledge sharing in organisations using the idea of knowledge markets (I talk about knowledge sharing in detail in the synthesis of literature). As in any markets, in knowledge markets there are buyers and sellers who try to negotiate the price of the knowledge which they have or need, with the expectation that they will benefit from the transaction. A vital role in such markets is performed by knowledge brokers who help to bring buyers and sellers together (Currie and White, 2012), a role often performed by corporate librarians (Davenport and Prusak, 2000). Boulding (1968: 147) strongly stresses the importance of such intermediaries for knowledge work and for the society in general:

> "A society would be well advised to organise these professions of intellectual exchange in such a way that they have high prestige and that some of the best intellectual resources of the society are attracted into them. Otherwise, specialised intellectual resources may largely go to waste. The body of knowledge, instead of becoming a great organisation capable of serving the needs of the society, becomes a set of little pigeon-holes-a mere pile of intellectual accumulations instead of an organic and operating whole."

Knowledge brokers are essential for KM because, as Cross and Prusak (2005) write, knowledge markets are often inefficient, as for example the suitable seller of knowledge can be difficult to identify and to reach. Knowledge market inefficiencies include incompleteness of information (i.e. lack of maps to guide buyers and sellers), asymmetry of knowledge (i.e. richness of knowledge on a topic in one department and a scarcity somewhere else), and localness of knowledge (i.e. insufficient opportunities or incentives for getting knowledge from more distanced departments). Other factors inhibiting knowledge sharing, as noted by Kamoche, Kannan & Siebers (2014), include fears about the intellectual rights, hoarding of knowledge as a source of power, and reluctance to share 'unverified' knowledge – which highlight that reputation can play here a bigger role than material rewards.

Cross and Prusak (2005) talk about the factors governing knowledge market price system. These include reputation (e.g. being seen by others as competent), reciprocity (e.g. getting some help in return), and altruism (e.g. goodwill, mentorship). They also emphasise that the main currency of knowledge markets is trust, which helps to explain why much of the

knowledge sharing literature (Obembe, 2013, Wang and Noe, 2010, Mooradian et al., 2006) concentrates on this notion.

Levin et al. (2004) identifies two main types of trust: benevolence-based trust (i.e. trusting that one will not be intentionally harmed by another person) and competence-based trust (i.e. trusting that another person has enough expertise in a given area). Benevolence-based trust is a requirement for all types of learning interactions and it is sufficient for more casual exchanges of knowledge (such as telling someone the direction to the train station). Concurrently competence-based trust is necessary when learning interactions have to do with complex problems requiring deeper and more tacit understandings. The attributes influencing both types of trust include common language, common vision, and discretion; whilst receptivity (i.e. being a good listener) and strong ties affect mostly benevolence-based trust and not as much competence-based trust because one still can productively share knowledge with people whom they have weak ties as long as they trust that these ties are safe enough to disclose what they know (Figure 7).

Attribute	Description	Significant impact on competence-based trust	Significant impact on benevolence-based trust
Common language	The extent to which the knowledge source and seeker understand each other and use similar jargon or terminology	Yes	Yes
Common vision	The extent to which a knowledge source and seeker have shared goals, concerns, and purpose	Yes	Yes
Discretion	The extent to which a knowledge source is viewed as keeping sensitive information confidential	Yes	Yes
Receptivity	The extent to which a knowledge source is a good listener	No	Yes
Strong ties	The extent to which the knowledge seeker and knowledge source frequently converse with each other and have a close relationship	No	Yes

Figure 7: Attributes influencing a knowledge seeker's decision to trust a knowledge source

Based on: (Levin et al., 2004: 39)

Other possibilities of building trust in organisations include giving people a reason beyond their pay to come to work (Prusak, 2011), raising people's awareness of what others know and trying to explicitly identify barriers for learning (Cross et al., 2001), protecting intellectual rights and rewarding people for sharing (Bryan, 2006) - although evidence shows that monetary reward system does not work as well for peer-learning as recognition and appreciation (Bartol and Srivastava, 2002). Knowledge sharing can be further encouraged by providing rich technological media for conversations, enabling a safe environment (Kirkman et al., 2013, Sveiby, 1996), making visible how past knowledge sharing has proved useful in practice (Kauppila et al., 2011), increasing peoples' reputation by exposing their contributions to the wider organisation (Kamoche et al., 2014), and providing prompt feedback to those who contribute their knowledge (Cabrera and Cabrera, 2002).

To summarise the discussion so far, it is argued that we are living in the knowledge era where various accelerating global changes are apparent (e.g. technology, demographics, globalisation, or environment). Modern organisations try to build competitive advantage by using unique knowledge of their employees who have laboriously developed that expertise over long periods of time. One can try to subject their jobs to rigid control, standardisation, and division of labour the same way as it seemed to work well in Taylor's time. However one may need to be prepared that those knowledge workers may leave, or they will not be able to cope with complex problems arising from the changing world.

Complex problems need to be dealt with by knowledge workers who have enough freedom to develop their expertise by building learning partnerships with people from their area of interest and with professionals from other disciplines. Organisational Knowledge seems to thrive when practitioners are able to make good use of what they know in a way that it makes sense in their immediate social contexts. In contrast, when Organisational Knowledge is seen as the accumulation of information which is objective and easily transferrable provided that appropriate controls are in place, practitioners may find it difficult to speak with other types of specialists in their team at best, or lose sense of their job under the 'tyranny' of detached rules. While complex problems may have global reach, they need to be dealt with locally because social practices do not scale beyond the mutual engagement of people who care.

2.5. Organisational Learning

In the previous section I have concentrated on the nature of Organisational Knowledge, and on the possibilities of managing knowledge in today's world. I now review the area of Organisational Learning (OL) which should shed more light on how it is that an organisation learns that we can talk about knowledge at the organisational level in the first place.

Conceptualising Organisational Learning

Easterby-Smith and Lyles (2011: 3-4) write that "…organisational learning refers to the study of the learning processes of and within organizations, largely from an academic point of view". They also compare OL with Organisational Knowledge: "…knowledge being the stuff (or content) that the organization possesses, and learning being the process whereby it acquires this stuff". Crossan et al. (1995) observe that OL as a an area is very fractured in terms of its concepts and terminology. They note that there is no agreement about a number of important yet fuzzy considerations: whether learning requires change in behaviour or change in cognition; if there is a link between OL and organisational performance; and whether organisations *really* learn (i.e. it is an actual phenomenon and therefore change in organisational context is necessary for it to happen), or whether OL is just a metaphor for individual learning happening in organisational setting which nonetheless in a way allows the organisation to 'know' more.

Similarly Easterby-Smith (1997) writes that the area is multidisciplinary and it is grounded in different ontological traditions, and for that reason a theory of OL is rather unachievable. However, Easterby-Smith, Snell & Gherardi (1998) think that the divergence of the field can actually be enriching and there is no need for standardising or integrating it. I support this argument because I also do not see the pluralistic character of OL as a problem but rather as something unavoidable and what can allow looking at the discussed phenomena from the perspective of different philosophical stances. Having said that, I do agree with Crossan, Maurer & White (2011) that it may not be good for the field if the majority of the contributions add only 'new branches' to it rather than try to strengthen 'the trunk' of the existing conceptual constructs. This is something that I keep myself reminded of while writing this thesis.

The divergence of the field is quite evident when looking at the influential publications about OL. An example of an early contribution is by Cangelosi and Dill (1965) who see OL as the adaptation (roughly understood in this case as change in behaviour) happening as a result of interactions between different levels of analysis (i.e. individual, group, and organisational). The adaptation at each level is triggered by various types of stress, e.g. time and competence pressures, uncertainty, or divergences from goals and expectations. Organisational adaptation tries to limit the individual and group adaptation by influencing their goals and incentives, however when the individual and group adaptation (e.g. divergences from the expected norms) become too strong – then that can lead to OL. While OL seen this way is expected to be sporadic rather than continuous, it can leads to better performance as it may highlight the inconsistencies in peoples' actions at different levels of analysis.

Cangelosi and Dill's view on OL seems somewhat outdated in the light of Tsoukas and Chia's (2002b) argument that change is continuous and organisations are becoming because of change and not despite of it. Tsoukas and Chia's process approach to change is more compatible with Daft and Weick (1984) who portray organisations as interpreting systems which learn when individuals create meanings by continuously interpreting cues in their environment, and then they share them and act upon them. Moreover, Fiol and Lyles (1985: 811) stress that learning (i.e. "the development of insights, knowledge, and associations between past actions, the effectiveness of those actions, and future actions") is not the same as adaptation (i.e. "the ability to make incremental adjustments as a result of environmental changes, goal structure changes, or other changes"). In contrast to Cangelosi and Dill's model, OL can be local and routine (i.e. lower-level learning) as much as affecting general organisational norms and rules (i.e. higher-level learning).

Weick (1991) comments on the early contributions to the area of OL in his inquiry into the very nature of learning. He suggests that the traditional view of learning, i.e. 'same stimulus – different response' may perhaps be too limiting, and he calls for exploring non-traditional views of learning. An example of the latter would be learning understood as a change in one's knowledge which leads to new meanings but not necessarily to different performances. Weick notes that such a non-traditional view would be compatible with the emerging social learning literature where learning is associated with socially constructing peoples' meanings and identities (Brown and Duguid, 1991, Lave and Wenger, 1991).

Another original contributions in the area, and the one which tries to challenge the managerial standards with regards to learning (Easterby-Smith and Lyles, 2003), is that by Argyris and Schön (1978: 11) who argue that "organizations do not literally remember, think, or learn". Since my view on OL is closest to that presented by these authors and it very strongly informs my understanding, I particularly concentrate on this contribution. According to Argyris and Schön, OL occurs when people in organisations detect and correct 'errors' (i.e. misfits between actual and expected results of organisational actions) which they face as part of their day-to-day lives. From here the authors delineate their definition of OL:

> "Organizational learning occurs when members of the organisation act as learning agents for the organization, responding to changes in the internal and external environments of the organization by detecting and correcting errors in organizational theory-in-use, and embedding the results of their inquiry in private images and shared maps of organization" (Argyris and Schön, 1978: 29).

Following this definition Argyris and Schön (1978) differentiate between types of OL. *Single-loop learning* refers to situations where people deal with errors by modifying their actions within the existing organisational norms, policies, and goals. For example the managers in a mobile phone company decide to introduce a new product, but the employees can see that the product has little chances of becoming successful, e.g. it will be already out of fashion when it is released. However, the dominating organisational norms do not allow employees to voice negative feedback and to contradict the management therefore the employees go on developing and promoting the product in a way that it hopefully maximises its chances for success.

In contrast, *double-loop learning* entails openly inquiring into the existing norms, policies, and goals, and changing them by mutually arriving at the consensus. In the given example the employees would voice their concern about the viability of the proposed product, and they would do that against the organisational norms. Their feedback would be accepted by the managers who would then openly re-negotiate their priorities with respect to that product.

Furthermore, *deutero learning* connotes reflecting about single and double-loop learning but remaining within the context of that learning – and in such sense deutero learning is not a third type of learning but a possible property of the previous two. Deutero learning may

involve reflecting on how that learning occurred, whether that learning was productive or not, or whether new strategies for learning should be introduced. In our example, in the first case deutero learning might involve reflecting upon the very process of developing the new product, and how this can be done so that the product is not seen by future customers as unfashionable, which may involve changing ways of doings things within the existing organisational norms and policies. In the second case (i.e. double-loop), deutero learning may involve managers reflecting on what has caused them to meet and to talk honestly in first place, and what can be done so that they engage in similar process of rigorous inquiry into the organisational norms and policies more regularly (Argyris and Schön, 1978).

In the literature there also exists an idea of *triple-loop learning* which has been inspired by Argyris and Schön's work, but which contrary to a popular belief has not been explicitly conceptualised by them. There exist various interpretations of this concept: some equate it with deutero-learning, while for others, following Bateson's work, triple-loop learning is superordinate to single and double-loop learning (which understanding I follow in this work) and it entails learning about the broader context in which that learning is happening (Tosey et al., 2011), i.e. 'learning about learning' (Anderson and Thorpe, 2004) – and in such sense it goes beyond deutero learning. In our example triple-loop learning might occur if the company decided that it is no longer able to make good use of their peoples' expertise and of their resources while competing in the mobile phone market, and they would want to shift their focus to a different market altogether.

Importantly, Argyris and Schön (1978) argue that particularly double-loop learning and deutero learning (and thus triple-loop loop learning) may be necessary for ensuring productive OL. One might imagine, after all, that the mentioned product might have been unsuccessful anyway and only reflexive and productive inquiries might have enabled the company to change its usual ways of doing things in order to avoid a possible failure in the market.

What may be striking in this portrayal of OL is the central role of error (read: mistakes) as a resource for learning. Argyris and Schön (1978) observe that people in organisations are often reluctant to discuss errors, and this is the main factor diminishing OL. The authors give more texture to this argument by talking about *espoused theories* of action (i.e. what people say they do, job descriptions, what can be concluded about people's actions from official

representations), and *theories-in-use* of action (i.e. what can be concluded by observing peoples' actual performance).

It can be imagined that in many situations there can be strong discrepancies between espoused theories and theories-in-use. These situations are characteristic to organisations represented by the Model of Limited-Learning Systems (O-I). In such organisations individuals resort to unilateral decisions and control, conformity is preferred and hence threatening issues are avoided, and people preserve status quo by camouflaging the errors which correction would lead to double-loop learning, rather than invest effort in doing the latter.

The authors also introduce an O-II Model of Learning System which is roughly the opposite of the O-I model. Thus in the O-II model people are keen to openly engage in discussions and to negotiate meanings, they try to find the most competent person for taking the decision rather than take unilateral control, they are ready to deal with threatening issues, and they are eager to say what they think and to discuss it with others. The essence of the O-II model is the organisational ability to engage in good dialectic, i.e. in single-loop learning and double-loop learning which involve deutero-learning (i.e. reflecting about learning and its effect on the organisation; as explained above). This in turn means that effective OL entails readiness to embrace change and to give up on stability:

> "In good dialectic, new conditions for error typically emerge as a result of organizational learning, hence the quality of stability combined with continual change. This means that the good dialectic is not a steady state free from conditions for error, but an open-ended process in which cycles of organizational learning create new conditions for error to which members of the organization respond by transforming them so as to set in motion the next phase of inquiry" (Argyris and Schön, 1978: 144).

In the similar spirit March (1991) makes a distinction between exploitative learning (i.e. refinement of existing ways of doing things) and exploratory learning (i.e. discovering new ways of doing things) and concludes that organisations typically favour the former, which may be a good strategy on the short-term but dangerous on the long term because it may mean that organisation imposes its 'code' on people before it can learn from them what they

have to offer. This idea resonates with Nystrom and Starbuck's (1984) argument that managers need to be always 'standing on their toes', listen carefully to the feedback of their employees, and be prepared to unlearn old ways of doing things in order to make space for new approaches, because otherwise organisations may not be able to catch up with the changes in their environment.

Based on the reviewed sources, and as mentioned in the opening of this section, it may be seen that OL as an area in the literature is rather fragmented. In their attempt to address this, Crossan, Lane, & White (1999) have introduced a popular '4I framework' in which they integrate major publications in order to portray the strategic renewal of a firm through learning happening at different levels of analysis (I write more about this framework in section 2.6). The 4I framework emphasises that for OL to happen, then learning at the individual level and at the group level needs to be institutionalised in organisational context (e.g. systems, routines, processes).

This however arguably only further diverges the field rather than integrates it because such perspective on OL suggests that learning *must be embedded in the organisational context* (Levitt and March, 1988, Cangelosi and Dill, 1965, Shrivastava, 1983), as opposed to those who see OL merely as a metaphor for individuals who *learn within the organisational context* and who thereby act as agents of their organisations (Simon, 1991, Argyris and Schön, 1978, March and Olsen, 1976).

I must emphasise that in this work I assume the latter perspective. My opinion is informed by the following thinking process: if we assume that OL by definition must involve change in Organisational Knowledge (Argote, 2011), if we follow Tsoukas' (1996) view of Organisational Knowledge as a distributed knowledge system, and if we draw from the social learning literature (Brown and Duguid, 1991, Lave and Wenger, 1991), then we can see that OL can happen organically in interactions in communities of practitioners whose members mutually negotiate their shared meanings as they sustain the history of their learning over time. OL understood this way does not necessary require tangible reification of practitioners' experiences, i.e. it can occur without embedding learning in organisation context. This then leads us to an altogether different view of OL seen through the lenses of the concept of practice, labelled by some as 'the quiet revolution' (Easterby-Smith et al., 2000).

Practice-based view of learning in organisations

Many authors observe a turn in the studies of OL where it is seen as happening in social practices (Gherardi, 2011, Corradi et al., 2010), and where learning is not only about acquiring mental content but essentially about social formation of a person (Chiva and Alegre, 2005, Rowlinson et al., 2010, Argote, 2011). This view, labelled by Gherardi (2000) as the 'practice-based' view of learning in organisations, is influenced by such works as those of Lave and Wenger (1991) and Brown and Duguid (1991), with the foundation in the works of Bourdieu (1990), Lave (1988), or Polanyi (1962a). The rising popularity of the practice-based approach to OL (Rowlinson et al., 2010) is aligned with the shift in focus from the organisational level to the level of groups and individuals (Edmondson and Wooley Williams, 2005), and with paying increasing attention to the social context of learning (Inkpen and Crossan, 1995, Fahy et al., 2013, Gherardi, 2000). Furthermore, this view also entails learning as happening continuously as everyday experience (Gherardi, 2000) rather than as a fairly sporadic 'different response to the same stimulus' - and therefore it is an example of the non-traditional view of learning as discussed by Weick (1991).

Another characteristic feature of the practice-based view of OL is that the notion of individual knowledge (as possession, as potential) is silent, or at least typically it is not used as a technical term. Instead, researchers following this view talk about *knowing* (i.e. using what one knows) as part of practice roughly understood as 'this is how we do things around here'. The reason for doing so in to emphasise that knowledge is not transferrable and that it is not an objective commodity created exclusively by scientists or highly educated professionals. The ability to engage in knowing then cannot be acquired, but it is essentially developed and distributed among participants in the social context of their respective practice – to put it differently 'practice is the site of knowing' (Orlikowski, 2002, Gherardi, 2000, Nicolini, 2011).

Consequently there is a natural interest within the practice-based view of OL in the concept of Communities of Practice (CoPs). Gherardi and Nicolini (2000) write that CoPs are important drivers of OL because such learning is situated in social practices around which such communities form. In other words people learn how to do their job when they invest their identity in practice and when they participate in the practice of how this job is actually performed, rather than by only studying rules, guidelines, and attending formal education. This means that official training should be more sensitive to the actual needs and to the real-

life problems as experienced by members of CoPs. The authors (2000: 16-17) give an example of introducing safety culture in a workplace:

> "The abstract knowledge conveyed by educational texts and rules of behaviour is understood and assimilated according to the safety culture of the community, and this is difficult to change. Warnings, declarations, and insistence on formal compliance with the rules are likewise ineffective. This type of communication goes unheeded by communities of practice, which continue to behave according to their customary practices. At most, they update the vocabulary of excuses without substantially modifying the practices that determine safety and reliability levels. It follows that efforts to increase commitment to organizational safety should be oriented from within communities of practice by actions that personally involve their members and make safety part of their professionalism, not an obligation imposed from outside … Too often, general or specific rules are framed according to a perspective that reflects too narrowly the bureaucratic language and conceptual matrix of the community of practice that generates them. Consequently, rules are seen as constraints and not as opportunities, even if they are intended to protect rights."

Nonetheless it must be noted that while CoP is an important point of focus in the practice-based view of OL, it is seen only as one form of organising in practice rather than as the main unit of analysis (Gherardi et al., 1998), and therefore authors try to go beyond such communities in their theorising (Amin and Roberts, 2008). Similarly Wenger (2009) and Wenger-Trayner et al. (2014) position CoPs as one example of social learning spaces (i.e. spaces where people learn from each other in an engaged way) within the metaphorical 'landscape of practices'.

In this rich and informative metaphor people traverse the landscape of practices as the experiences of their day-to-day lives. A person walks across the valleys, discovers new paths, looks around, and observes countless hills which are already populated by people – those hills are social practices. They may prefer to look at those hills from the distance and try to see more or less what is happening up there only to move on, for their time is limited and they cannot afford to explore each and every hill. Or they may stop, look at the hill, and

think: ‘this is something for me: I can see my future in this community, as part of this practice’.

However, if they want to join a CoP, they first need to gradually climb the hill, which is not always easy. They need to learn the legacy of that community, and they also need to be legitimised by the members of the community as they climb the hill. Furthermore, some hills are steeper than other hills. Some hills are so narrow and so tall that only a few individuals in the world recognise each other as full members (e.g. note the various narrow branches of physics). Some hills have easier access and do not require that much time and effort to climb them (e.g. in certain low skilled jobs). Many hills have bridges and overlaps with other hills, and there are often possibilities of creating new bridges or demolishing the existing ones, as well as abandoning hills (i.e. gradually unlearning).

What is central to this metaphor is that (as in Polanyi’s work) in order to join and to be able to challenge the experts and the masters of the art who reside on the top of the hill, one first needs to learn the situated curriculum of the practice (Gherardi et al., 1998) by investing their identity in it, and this can only be achieved with direct or indirect aid of those masters of the art. Because the process of climbing a hill, or in other words ‘discovering a new world’, is inherently social and identity-based, it requires placing a degree of confidence in more experienced practitioners. I can then summarise the journey through the landscapes of practices with the words of Polanyi (1962a: 208):

> “The learner, like the discoverer, must believe before he can know. But while the problem-solver’s foreknowledge expresses confidence in himself, the intimations followed by the learner are based predominantly on his confidence in others; and this is an acceptance of authority (…). The continued transmission of articulate systems, which lends public and enduring quality to our intellectual gratifications, depends throughout on these acts of submission.”

In a Learning Organisation

The final strand of OL which I refer to is the notion of the Learning Organisation, i.e. "an organization which facilitates the learning of all of its members and continuously transforms itself" (Peler et al., 1989: 2). This concept has already been extensively explored in the literature (Senge, 2006, Coopey, 1995, Snell and Chak, 1998, Bell et al., 2002). I would like to take a somewhat fresh approach on this topic by narrating it through the lenses of the work of Charles Handy, who in my view is currently paid far too little attention in the broad area of organisational studies considering how much we all owe to his landmark contributions.

Handy (1995) writes in his 'Age of Unreason' that one of the main challenges behind modern organisations is to learn what it means to be a learning organisation. A learning organisation accepts change as a natural way of life and as an opportunity for learning, which is in line with Tsoukas and Chia's (2002b) argument for seeing change as a source of organising and not merely something that occurs to organisations from time to time. To put it differently, organisations exist *because of change* and not *despite of change,* but appreciating this fact may require a new attitude towards learning. Change seen this way needs to be addressed not only by those at the top of the organisational ladder but even more importantly by those at the deeper organisational levels who observe change in the day-to-day operations.

Handy (1995) suggests that the role of managers in a learning organisation is not about control, but about supporting and counselling employees – it is about facilitating working environments where people are engaged, care for each other, and feel trust with respect to each other. He summarises this line of thought with his famous metaphor of a doughnut as an employee's potential (Figure 8): the hole in the middle of the doughnut stands for the specified responsibilities as stated in the job description. The outer layer of the doughnut stands for the 'discretionary space' that is allowed to an employee: the freedom and the time to learn and to act based on their experience as a practitioner. If an organisation wants to become a learning organisation, it needs to work on increasing the employees' discretionary space so that they can take the responsibility for their learning and for their practice in their own hands. As quoted by Davenport and Prusak (2000: 50), this is exactly what Steve Jobs meant by saying: "It doesn't make sense to hire smart people and tell them what to do; we hired smart people so they could tell us what to do".

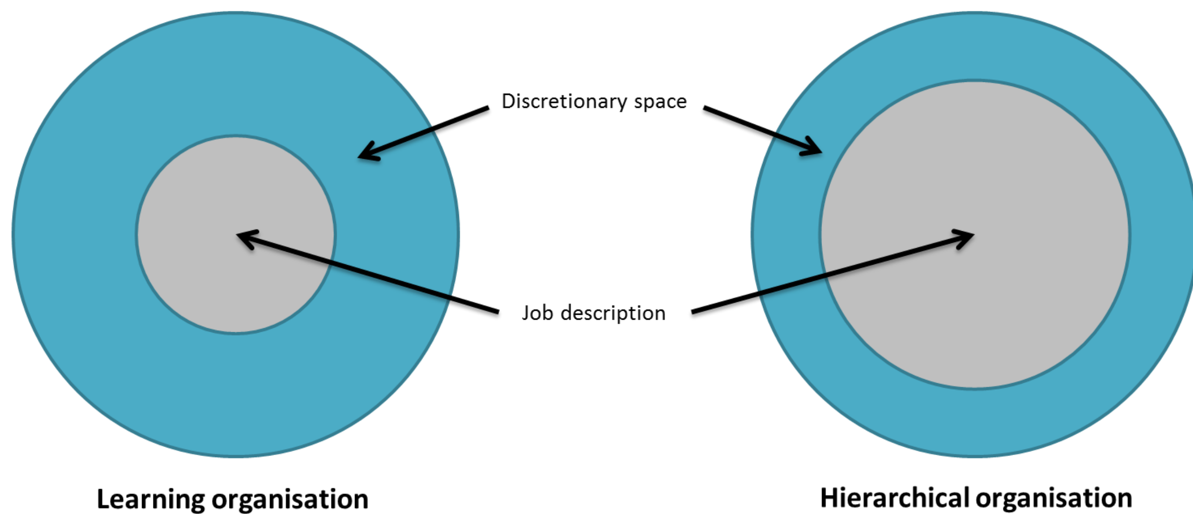


Figure 8: Handy's doughnut

Based on: (Handy, 1995)

As a consequence of increasing the discretionary space of employees, they have more opportunities for sensemaking and therefore they can collectively negotiate their meanings based on real-life problems as experienced in practice rather than have the meanings imposed on them in a top-down manner, making the whole process of organising more up-to-date (Weick, 1995a). The tricky part is however that certain amount of the increased discretionary space will be misused, or that it will lead to errors. A learning organisation needs to accept this as something unavoidable, and use the mistakes as a resource for learning and not as a "stick to beat" (Handy, 1995: 183). Easier said than done, especially in high reliability organisations, tuning the metaphorical 'doughnuts' for learning may be the necessary starting point for engaging people and for building between them a sense of togetherness. Following the spirit of Handy, a learning organisation with the culture of trust and commitment needs to be worked for at all levels (Handy, 1995).

2.6. Synthesising the literature

I have now reviewed five overlapping areas in the literature, namely: Personal Knowledge, Communities of Practice, Organisational Sensemaking, Organisational Knowledge, and Organisational Learning. In the final part of this chapter I synthesise these areas in order to build a conceptual framework for my argument. I first elaborate the process of knowledge sharing in CoPs by conceptualising it as *thinking together*. Subsequently, using the idea of thinking together I talk about *trans-organisational knowledge* which allows me to explain the role of CoPs in Organisational Learning (OL).

Thinking together in Communities of Practice

Communities of Practice (CoPs) are commonly associated with the notions of knowledge and knowledge sharing, i.e. it is often believed that sharing and creating knowledge is what members of CoPs principally do. However, if one took a closer look into this literature, one could see that in in the original formulation of CoPs knowledge is silent due the foundation of this concept in the postmodern philosophy. To wit, in CoP there is a much bigger emphasis on peoples' investment of identity in things that they care about (i.e. in the practice) rather than on the factual acquisition of knowledge:

> "Learning … implies becoming a different person with respect to the possibilities enabled by … systems of relations. To ignore this aspect of learning is to overlook the fact that learning involves the construction of identities… Viewing learning as legitimate peripheral participation means that learning is not merely a condition for membership, but is itself an evolving form of membership. We conceive of identities as long-term- living relations between persons and place and participation in communities of practice. Thus identity, knowing, and social membership entail one, another" (Lave and Wenger, 1991: 53).

In CoPs learning, meaning, and identity are therefore intertwined, and they lead to membership in practice. Knowledge is manifested as a form of identity in practice; and this is in line with the practice-based view of Organisational Learning (OL) which is concerned with *knowing* (i.e. using what one knows), rather than with *knowledge* understood as a possession of scientists or other professionals who create it (Gherardi, 2000, Nicolini, 2011). By learning, CoP members develop competence, i.e. the ability to engage in knowing in a social practice, as well as knowledgeability, i.e. the understanding of different practices one is not necessarily a member of (Wenger-Trayner et al., 2014) - however both of these forms are rather loosely connected to the theorising about knowledge.

There are a number of reasons why I think that 'brining knowledge back into CoPs' as a technical term can be useful. In Polanyi's (1962a) terms knowledge (as a potential) and knowing (as using what one knows) are two closely intertwined aspects of Personal Knowledge and not two competing perspectives that may or may not be bridged. This may entail that by focusing only on knowing and by neglecting knowledge one is arriving at a somewhat limited view of both. After all people are able to make use of their knowledge

because they own it, and it seems impossible to explain the portability of one's competence between different contexts if we undermine one's individual knowledge that can transcend the idiosyncratic social practice where it was originally developed.

Furthermore, one of the initial drivers behind the CoP concept was to oppose the back-then dominating view of learners as merely processors of information (Lave and Wenger, 1991). That aim in many ways has been met, just by looking at the example of the proliferating literature of practice-based learning in organisations (Corradi et al., 2010). It then appears that the CoP idea has matured enough after almost 25 years and it may be ready for talking more explicitly about the role of knowledge (which Etienne Wenger-Trayner agreed with in personal communication). One must however be sensitive to the fact that the 'DNA' of the CoP concept is its foundation in identity and therefore compatible epistemological assumptions must essentially share these roots. Such a condition is met by the work of Polanyi (1962a) and his conception of Personal Knowledge which, as Tsoukas and Vladimirou (2001) admit, is fundamental to the studies of knowledge in learning in organisations. Curiously, instead of bringing knowledge back to CoPs, it may then rather make more sense to bring CoPs back to Personal Knowledge.

Central to Personal Knowledge is the tacit component which is a necessary ingredient of all knowledge. It implies that knowledge can only exist within human and that it is always grounded in the tacit dimension of things that we cannot easily say, as in Polanyi's (1966b: 4) famous "we can know more than we can tell." Importantly, Personal Knowledge bears a number of implications for CoPs (Figure 9).

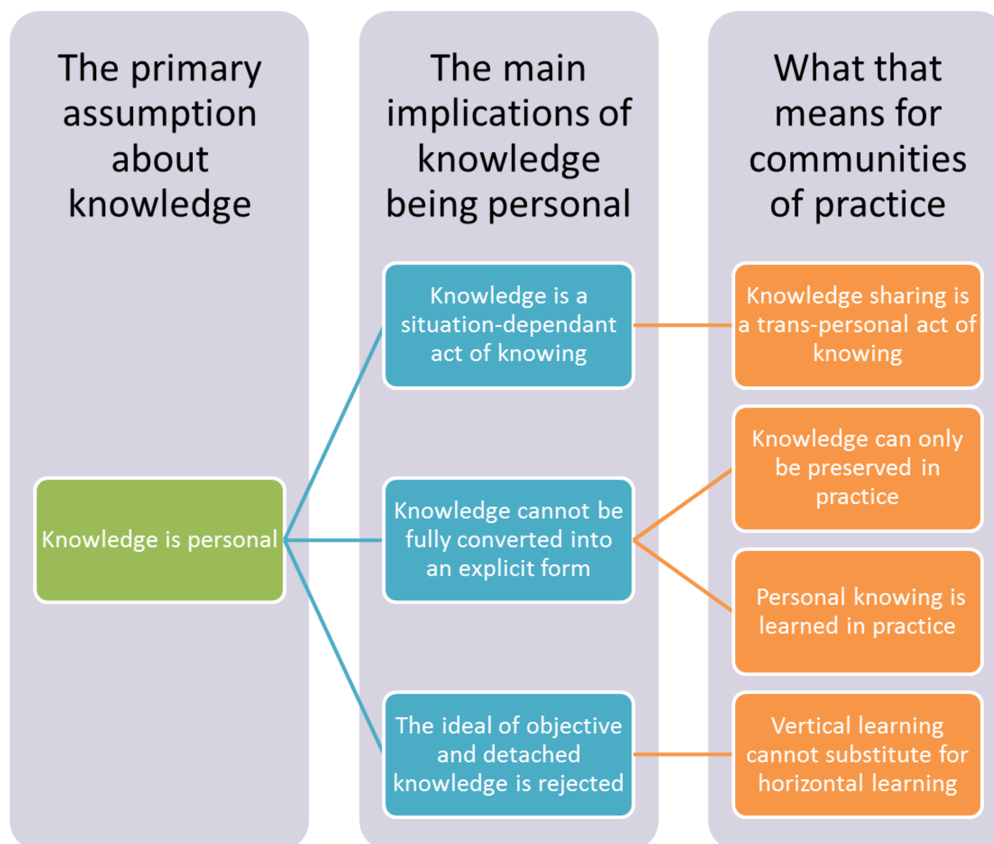


Figure 9: Implications of personal knowledge for communities of practice

Based on: (Polanyi, 1962a, Polanyi, 1966b)

If knowledge cannot be fully converted into an explicit form, then decontextualized abstractions are insufficient for the preservation of a knowledge tradition. As Polanyi (1962a, 1946) stresses, knowledge in its rich and highly tacit form can only be shared and embellished as part of the ongoing practice, and within the multigenerational tradition preserved by a community. He argues that if a tradition of knowledge is not sustained for even one generation, it is irreversibly lost. More specifically, according to Weick (1995a: 125-126) what becomes lost are the 'images of action', i.e. the practice-based stories which preserve the action over time:

> "[It requires] extended apprenticeship that shows what seasoned practitioners are unable to tell … Underdeveloped images lead to underdeveloped actions … [and therefore] cultures that have a well-developed folklore should survive longer than those that do not".

Knowledge is therefore not acquired or gained, but developed in practice (Orlikowski, 2002, Gherardi, 2000, Nicolini, 2011). The dissemination of highly tacit knowing is more laborious

and hence more costly than it is the case with decontextualized knowledge such as written articles and documents (Sveiby, 1996), but decontextualized knowledge needs to be first interpreted through personal acts of knowing (Tsoukas, 1997). This in turn shows that vertical learning (i.e. top-down learning by imposed prescription) cannot substitute for horizontal learning (i.e. peer learning or peer mentoring) that is natural for people who are mutually engaged in things that they all care about (Wenger, 2009). Because of that knowledge sharing appears central to cultivating CoPs, however the former seems to be a rather problematic concept.

Based on their review of literature Wang and Noe (2010) conclude that the term 'knowledge sharing' has a very broad scope involving making knowledge available to others which includes information, written documentation, ideas, more tacit knowledge such as 'know-how'; as well as solving problems together. It therefore can be seen as one of the 'diffuse terms' populating the area of knowledge and learning in organisations, i.e. a term that is used rather inconsistently (Thorpe et al., 2013). This is a somewhat too broad understanding of knowledge sharing to be useful for talking about members of CoPs who are *mutually engaged,* and who therefore can be characterised by intensive, committed, and mutual learning interactions (Wenger, 1998b).

Furthermore, in order to retain epistemological coherence the conceptualisation of knowledge sharing in CoPs needs to be faithful to Polanyi or to a different identity-based view of knowledge, and therefore it must be assumed that in CoPs knowledge is not transferred in a literal way like an object, but it is re-recreated by knowers during those very acts of knowing (Bechky, 2003, Von Krogh, 2011). This leads us to knowledge sharing understood as thinking together as explained by McDermott:

> "Sharing knowledge is an act of knowing who will use it and for what purpose. This often involves mutually discovering which insights from the past are relevant in the present. *To share tacit knowledge is to think together* (McDermott, 2000b: 20; emphasis not in the original) … Sharing knowledge involves guiding someone through our thinking or using our insights to help them see their own situation better. To do this we need to know something about those who will use our insights, the problems they are trying to solve, the level of detail they need, maybe even the style of thinking they use" (McDermott, 1999b: 107-108).

Knowledge sharing understood as thinking together is more demanding that just a ‘quick question’ where there is “no obligation to delve into the matter until an answer could be found” (Pentland, 1992: 537). It is more about situations where “…. rather than dump information … people first understand the problem as experienced by the seeker and then shape their knowledge to the problem at hand” (Cross et al., 2001: 105). Thinking together is also closer to how Von Krogh (2011: 406) sees knowledge sharing, i.e. it “entails self-observation, reflection, and immersion in the routines of the master, as much as it does observation and imitative learning by the apprentice” – albeit in the context of this work it is not limited to master-apprenticeship relations. Furthermore, similarly to Velencei et al. (2009) and contrary to the dominating state of the literature, Von Krogh (2011: 405-406) does not see knowledge sharing as “a simple process of communicating information”, and he stresses that it is essentially a trans-personal process which can lead to new knowledge:

> “Knowledge and best-practice transfer within and between organizations is not a one-way activity, but a process of sharing involving trial and error, feedback, and the mutual adjustment of both sender and receiver of knowledge … The receiver becomes a giver, who, by combining the new knowledge with gained experiences, rewards the giver with knowledge; and the giver in turn becomes the receiver.”

Thinking together can then be seen as a trans-personal process, and we can further explore its properties if we look at Polanyi’s concept of indwelling. Indwelling means that as people engage in tacit knowing with uncritical commitment, they increasingly dwell on things (e.g. tools, theories, rules) that they attend from to the focal part of performance as if they were parts of their body, and this can refer to both conceptual and practical knowledge (Polanyi, 1962a, Polanyi, 1966b, Polanyi, 1962b, Polanyi, 1966a). In other words, indwelling explains to us how people learn considering that we assume that all human knowledge is personal. Moreover, what seems particularly relevant in this argument is that indwelling can also be shared - but this requires putting trust in another person, as stated by Polanyi (1966b: 61):

> “In order to share this indwelling, the pupil must presume that a teaching which appears meaningless to start with has in fact a meaning which can be discovered by hitting on the same kind of indwelling as the teacher is practicing. Such an effort is based on accepting the teacher’s authority.”

Thus as people think together about a problem that they genuinely care about, they share their indwelling which in such sense becomes interlocked on the same point of focus. They guide each other through their learned ways of indwelling on similar problems, and this way they share their tacit knowledge without even necessarily having to speak (Polanyi, 1962a, McDermott, 1999b). Their indwelling becomes synthesised in the fleeting moment, and this way it can lead to the re-creation of new knowledge (Von Krogh, 2011, Sveiby, 1996).

By thinking together people enact an intersubjective position of 'we' from which they negotiate shared meanings that they and others may act upon (Weick, 1995a). Such an intersubjective position requires at least a temporary identification with the same problem and with another person as a partner in learning (Wenger, 1998a), and it can translate into a more permanent sense of identity when fostered more regularly in the atmosphere of conviviality as people invest their efforts into learning how to learn together and from each other (Polanyi, 1962a). Thus thinking together is not only about sharing knowledge, but it is also underpinned by sharing a sense of togetherness (which does not have to be conflict-free).

Additionally, it can be useful to draw further from the sensemaking literature to view the 'thing' that people are thinking together about as an unfolding cue in the collective process of sensemaking. Because the individuals who are thinking together bracket the same cue from which they develop a common story, they require certain prior similar frames, understandings, or trust (Weick et al., 2005). Of course, not all sensemaking involves thinking together, however arguably thinking together always involves (amplified) sensemaking because when people take effort to mutually and intensively address the same 'thing', then it can be imagined that they must be dealing with at least a fairly problematic or demanding situation that they are trying to make sense of.

I identify three significant implications of looking at the process of thinking together through the lenses of sensemaking. Firstly, there is a fair consensus within the sensemaking literature that the 'cue' (i.e. the 'thing') which is attended to is something problematic, or surprising – i.e. something that does not make sense (Maitlis and Christianson, 2013). It would suggest that thinking together may be a way of openly addressing and negotiating 'the nub of the issue' rather than camouflaging it and taking unilateral actions, as well as reflecting about learning. This in turn can build the potential for double-loop and triple-loop learning which are seen as key to building a learning organisation (Argyris and Schön, 1978).

Secondly, by thinking together people can develop and share stories used for preserving and distributing images of action in practice. Such stories can also serve as 'noticing devices' (Patriotta, 2003b) in the form of frames to which people can connect their cues when they try to make sense of the world (Colville et al., 2012), allowing for contingently creating new meanings in the face of changing circumstances (Orr, 1996). Not only then thinking together can be seen as an instance of collective sensemaking, but it can also serve as a way of building resource for future sensemaking efforts.

Thirdly, the sensemaking perspective highlights that socially constructed structures originate from the process which is akin to learning, e.g. a community or an organisation exists because it has been brought to life through peoples' mutual interactions (Porac et al., 1989) and by those whom it gives sense (Humphreys et al., 2012). Importantly, this would suggest that it is thinking together that brings the CoP to life (i.e. it is a process by which it becomes enacted) and not the other way round; even if once enacted community affects the future learning processes.

To summarise these different perspectives, I argue that thinking together is a special case of knowledge sharing which is compatible with Personal Knowledge, and therefore it can make a more explicit link between the CoP concept and Polanyi's work. Thinking together refers to situations where individuals are faced with issues that require to be dealt with interactively and in 'real time', and they are bringing to the table what they have learned before – as in the common saying that 'two heads are better than one'. By thinking together individuals may discover *how* others look at the world and *what* and *why* they pay attention to, and such revelations can serve as invaluable material for developing their competence. Thus thinking together often entails knowledge creation, and it is a trans-personal process through which that practice-based knowledge is preserved and shared. Having said that, thinking together requires certain common understandings, joint perspectives, ability to relate to each other, or trust - and for that reason such 'meetings of the minds' may not always be possible or needed in every circumstances, but sometimes they can be crucial.

Thinking together shows us that it is not just any kind of learning that brings a CoP to life, but rather mutual engagement of frequently very diverse people who manage to relate to each other as they think together about problems what they all care about. Whilst less demanding exchanges of facts and insights can of course be happening at various parts of a community

and they certainly can be productive, alone these are insufficient to provide richness and energy necessary to sustain mutual engagement over time or to attract others to joining a shared practice. Consequently I expect that the emphasis on the process of thinking together may help us both to gain a better understanding of the nature of CoPs and to provide practitioners with a useful point of focus for developing such groups.

Trans-organisational knowledge

Now that I have described the process of thinking together in CoPs, I would like to use it for building an argument that organisational knowledge and learning are essentially trans-organisational[1] and not confined to organisational frontiers. I do this by extending the popular '4I framework' by Crossan, Lane, & White (1999) because it is a widely recognised model of Organisational Learning (OL) which attempts to integrate various influential contributions in the area. I use the idea of intensive social learning spaces which CoPs are one of the examples of to add a new trans-organisational level to this framework. This, I believe, on the one hand allows this model to better account for social learning happening in CoPs, and on the other hand it enables us to better understand the role of CoPs in OL and their effect on Organisational Knowledge.

The 4I framework (Figure 10) was originally intended as a step 'towards a theory' that could contribute to systemising OL (Crossan et al., 2011), because the concepts and the terminology in the field were seen as fragmented and inconsistent (Vera and Crossan, 2004, Crossan et al., 1995). Indeed, the 4I framework's simplicity and its unifying power have been deemed valuable in clarifying OL and in connecting its various elements together (Mintzberg et al., 1998), even though the framework itself has never been accepted as a theory (Crossan et al., 2011). However, even if the outcomes of theorising are not full blown theories, they can still serve as a useful tool – an approximation that can lead to further development (Weick, 1995b). Crossan, Maurer, & White (2011: 451) write:

> "(…) we consider Organisational Learning theory to be like a tree, with a trunk and then major branches from which thousands of leaves may flourish. There have been a lot of leaves placed on branches, and to some degree new branches

[1] This section is based on: PYRKO, I. & DÖRFLER, V. 2013. Trans-Organisational Knowledge: The 4I Framework Revisited. *BAM.* Aintree Racecourse, Liverpool, UK.

added to the tree, but little, if any, work has been done to establish a strong foundation or theory - the trunk."

Level of analysis	Learning process(es)
Individual	intuiting, interpreting
Group	interpreting, integrating
Organisational	institutionalising

Figure 10: The 4I framework

Based on: (Crossan et al., 1999)

Central to the 4I framework are four learning processes occurring at three different levels of analysis, namely: individual, group, and organisational. The processes at the individual level are called 'intuiting' (preverbal experiencing of patterns and images) and 'interpreting' (articulating insights and constructing cognitive maps). At the group level people still interpret, but apart from that they also 'integrate' their learning (i.e. enact shared meanings and coordinate their actions). Lastly, integrating extends to the organisational level where knowledge from the preceding levels becomes 'institutionalised' in the form of organisational context, such as scripts and formal rules (Crossan et al., 1999).

The inputs and the outputs of the processes in the 4I framework are the 'learning stocks' corresponding to the respective levels of analysis. When knowledge is shared across individual and group knowledge stocks to the organisational knowledge stock then the 'feed-forward learning' flow occurs with the prospect of updating the organisational context. Conversely, when knowledge is shared in the opposite direction (i.e. from organisation to groups and individuals) then the 'feedback learning' flows come in place, adding to the development of routines, rules and patterns, and spreading them across the organisation

(Bontis et al., 2002). Initially the feed-forward and the feedback learning flows were seen as equivalent to exploring and exploiting (March, 1991) knowledge respectively (Crossan et al., 1999, Crossan and Berdrow, 2003). However, Jasnen et al. (2009) update the framework as they write that both exploration and exploitation of knowledge can occur both as part of feed-forward or feedback learning flows. In effect the various stocks of knowledge and the flows of learning which bind them together represent a dynamic knowledge system where learning is in the state of constant flux.

More recently Akinci and Sadler-Smith (2012: 9-11) have suggested extending the framework by 'initiating' process of "the external and/or internal circumstances which set the context for the decision (…) [and] act as a trigger and drive the decision", and also by complimenting the intuiting process with 'analysing' as occurring in parallel at the individual level. Also, Jones and MacPherson (2006: 168) have added an inter-organisational level and an 'intertwining' process which "indicates that learning mechanisms are at the interstices between organisations and not just within organisational boundaries". According to these authors (Jones and Macpherson, 2006: 167), at the inter-organisational level external organisations assist in developing new systems and structures to institutionalise learning:

> "Our core argument is that external organizations have a significant role to play in institutionalizing the feedback process by which new knowledge and procedures become embedded within the firm."

Being faithful to the original 4I framework, Jones and MacPherson (2006: 163) write that OL happens rather sporadically in response to critical incidents, and they see embedding peoples' learning into organisational context as being central to OL. Furthermore, they pay a lot of attention to "translating tacit knowledge possessed by employees and managers into codified knowledge". There are however two important interrelated limitations to this view. First, the tacit-explicit distinction as separate categories of knowledge is a misinterpretation of Polanyi's work where 'the explicit' and 'the tacit' are 'the two sides of the same coin' (Tsoukas, 2005b, Snowden, 2003, Thompson and Walsham, 2004, Alvesson et al., 2002), and where "a *wholly* explicit knowledge is unthinkable" (Polanyi, 1966a: 7; emphasis in the original). This means that much of people's knowledge it too tacit to ever be institutionalised in an explicit way. In other words the processes akin to codification should not be viewed as

the main goal of OL (Bell et al., 2002), but merely as performing a supporting function for those who use their products in practice. As noted by Gherardi and Nicolini (2000: 16-17):

> "The abstract knowledge conveyed by educational texts and rules of behaviour is understood and assimilated according to the … culture of the community, and this is difficult to change. Warnings, declarations, and insistence on formal compliance with the rules are likewise ineffective. This type of communication goes unheeded by communities of practice, which continue to behave according to their customary practice… Too often, general or specific rules are framed according to a perspective that reflects too narrowly the bureaucratic language and conceptual matrix of the community of practice that generates them. Consequently, rules are seen as constraints and not as opportunities, even if they are intended to protect rights."

Secondly, Jones and MacPherson's inter-organisational level does not account for those contributions to the area of OL where learning does not have to be formally institutionalised, but which claim that it is a sufficient condition for OL to happen when people socially distribute knowledge in the form of shared mental maps (i.e. as negotiated meanings). This can be seen as limiting considering the aspiration of the 4I model to be an integrative framework. For example some authors argue that OL is merely a metaphor for individuals who learn in organisational context and who thereby act as agents of their organisations (Simon, 1991, Argyris and Schön, 1978, March and Olsen, 1976), while the practice-based view literature theorises OL to be happening continuously as everyday lived experience of participants in communities of knowers (Lave and Wenger, 1991, Brown and Duguid, 1991, Gherardi, 2011, Orlikowski, 2002).

It can therefore be argued that especially in the context of the rising popularity of the practice-based view of OL (Gherardi, 2011, Corradi et al., 2010), labelled by some as 'the quiet revolution' (Easterby-Smith et al., 2000), it may be useful to update the widely recognised 4I framework so that it better accounts for this perspective. According to the practice-based view CoPs are important drivers of OL because such learning is developed in social practices around which such communities form (Gherardi and Nicolini, 2000). In those communities people learn how to do their job when they invest their identity in practice (understood as 'this is how we do things around here'), and when they discover the

community's situated curriculum (Gherardi et al., 1998) that is preserved in shared stories (Orr, 1996).

However, while CoP is an important point of reference in the practice-based view of OL, it is seen only as one form of organising in practice (Gherardi et al., 1998), and therefore authors try to go beyond such communities in their theorising (Amin and Roberts, 2008). Similarly, Wenger (2009) and Wenger-Trayner et al. (2014) position CoPs within the metaphorical 'landscape of practices' where co-exist various types of social learning spaces, i.e. situations when people learn from each other and do things together. A distinguishing characteristic of a social learning space are mutual exchanges rather than only communicating things in a one-directional way (as in traditional classroom style). So a busy discussion is a social learning space; but when someone is reading a book or attending a seminar where one person is speaking and everyone else is just listening then it is not a social learning space (Wenger, 2009, Wenger-Trayner et al., 2014).

A special case of social learning spaces I call those moments involving people thinking together – this may be a one-off event happening only once in a while, but there can also be more regularity to it. I call such special learning spaces which involve thinking together as *intensive social learning spaces.* Thus every intensive social learning space is a social learning space, but not every social learning space is an intensive social learning space because not all of our mutual interactions in learning involve thinking together about problems; individuals may often just quickly exchange facts or insights without going deeper into 'the nub of the issue.'

I identify four types of intensive social learning spaces (Figure 11): casual collisions, learning partnerships, CoPs, and Hot Spots. We may look at them as progressing levels portraying a possible evolution of a CoP through time, but it does not have to be this way as one form of an intensive social learning space may never transform into another. A *casual collision* can be just a one-off conversation, for example two attendees in a conference may start to talk about a presentation which they have just seen and they may suddenly enjoy talking about it so much that they *lose the sense of time*. In other words we can see it as a one-off instance of thinking together, as described in the preceding subsection based on such works as Polanyi (1962a), McDermott (1999b), or Von Krogh (2011). If people want to continue their conversations and thereby give them some history, they may start to identify each other as

learning partners who regularly learn together and from each other (Obembe, 2013, Wenger, 1998b). When a group of learning partners joins to open a shared public space for their learning, and they treat it as a natural forum for negotiating their practice, *then we can call it a CoP* (Wenger and Snyder, 2000). An example of a CoP can be a club of wine tasters who meet every Tuesday evening to talk about their ways of doing things, negotiate what it means to be a wine taster, live with their own stories, interact with people who hold stake in their community (e.g. restaurateurs, chefs) and train newcomers who wish to become full members one day.

Lastly, we can also talk about *Hot Spots* which can be understood as special learning spaces where people collaborate and innovate particularly well and which lead to excellent ideas, i.e. ideas that are surprisingly good, new, and which further on lead to breakthroughs (Gratton, 2007). These are highly performing CoPs where knowledgeable practitioners work very closely together. For example Dörfler and Eden (2011) tell a story of Arthur Kornberg (Nobel Prize in Physiology or Medicine, 1959) who set up a biochemistry workshop at Stanford University where not only did he train new apprentices, but he also managed to promote shared values and high levels of trust and openness which were then inherited by the following generations of scientists. As a result, Kornberg and the other core members of the workshop worked closely together over the course of 40 years until retirement. Despite the fact that most researchers would pursue their own individual projects they all remained close friends were regularly thinking together, establishing what arguably became the best biochemistry lab in the world.

It is beyond the scope of this thesis to consider when, how, and under what conditions CoPs may become Hot Spots (and clearly the great majority of CoPs do not need to and will never achieve this). It should therefore suffice to treat here Hot Spots as 'idols' for social learning spaces: an often unachievable ideal of fostering particularly productive social learning and the sense of togetherness between people for sustained extraordinary performance.

Figure 11: Intensive social learning spaces

Consequently I argue that different kinds of intensive social learning spaces can exist across and beyond official organisational frontiers. However, in contrast to Crossan, Lane & White and Jones and Macpherson (2006), and following the practice-based literature (Lave and Wenger, 1991, Brown and Duguid, 1991, Gherardi, 2011, Orlikowski, 2002), thinking together in intensive social learning spaces can happen organically and it does not necessarily require any formal managerial interventions. For example Brown and Duguid (2002a) write about the story of Xerox which was unable to commercialise its invention of a PC computer, but their IT engineers regularly shared knowledge in trans-organisational communities of other IT engineers that spanned across the Silicon Valley. This way the knowledge of the PC computer leaked through the networks, allowing more efficient companies to take the advantage to pioneer the market – in that case Apple with its first Macintosh machine. It therefore can be suggested that knowledge is 'sticky and leaky': it sticks to the local (the locus being the knowledge domain) social practices, but it also leaks through the organisational boundaries, in search of synergies with alike/akin external practices (Brown and Duguid, 2001).

With regards to the above points it can then be suggested that while learning in CoPs usually happens within organisations, it concurrently flows beyond them. In other words it is learning that is both organisational and *trans-organisational*. From this perspective viewing OL as a

process of institutionalising learning that is linear and confined to a single organisation is too limiting. Therefore, I suggest introducing a fourth level of analysis to the 4I framework: the trans-organisational level (Figure 12). As the trans-organisational level signifies thinking together in intensive social learning spaces spanning across potentially multiple organisations, the processes which can occur at this level are different from the ones in the 4I framework. Instead of interpreting, we can talk about reinterpreting, which signifies the constantly changing and constantly renegotiated meaning of the concepts of the discipline. Integrating will partly turn into its opposite, i.e. knowledge becomes disintegrated and then reintegrated again, depending on the continuous reinterpretations in line with how the disciplinary knowledge is evolving; this recognises the ongoing interactions and agreements of coordinated action among practitioners from different organisations. As thinking together thus transgresses the organisational boundaries, knowledge is deinstitutionalised. We can often see this with specialists at particularly high levels of expertise, who are much more loyal to their discipline that to the organisations they work for. This also gives CoPs non-negligible power which enables them exercising formalised roles affecting the organisational context.

Level of analysis	Learning process(es)
Individual	intuiting, interpreting
Group	interpreting, integrating
Organisational	institutionalising
Trans-organisational	**re-interpreting, dis-and re-integrating, de-institutionalising**

Figure 12: The 4I revisited (the suggested elements are in bold letters)

Since participants in intensive social learning spaces can continually (re-)negotiate the issue of 'this is how we do things around here' (Wenger, 1998b), they should be seen as potential agents of constructive and multilateral inquiries into the real-life problems of the organisation

(also known as ‘good dialectics’) through single-loop, double-loop, and triple-loop learning (Argyris and Schön, 1978: 42). This highlight the fact that OL is not only what is officially embedded into organisational context, but we should foremost see it as the informal thinking together that employees engage with ‘passing by’ during their breaks near the metaphorical (or literal) water cooler machine (Davenport and Prusak, 2000). The question of OL should therefore not only be ‘how much learning is embedded in the organisational context’, but also ‘how deep learning’, and ‘how far reaching learning’ – and this knowledge sharing unavoidably reconstruct the very nature of our organisations.

2.7. Conclusion – literature review

The originality of this review of literature comes through a number of means. Firstly, I have synthesised five broad areas in the literature which are overlapping but not always in an obvious way. For example the bridges between such areas as those of CoPs and Organisational Sensemaking, while apparently natural by common sense, have required some further theorising efforts in order to be reinforced. Moreover much of the novelty in this work is in its strong foundation on Polanyi (going further beyond the tacit-explicit knowledge distinction), and it is through these lenses that the respective areas have been discussed.

The synthesis of literature has resulted in two new and overlapping conceptual ideas. Firstly, I have attempted to sharpen the CoP concept by introducing the process of thinking together which plays a central role in developing learning partnerships that form CoPs. I therefore suggest that it is thinking together that bring CoPs to life and not the other way round, and it is not just any kind of learning but rather mutual engagement of frequently very diverse people who manage to relate to each other as they think together about problems what they all care about.

Secondly, building on the idea of thinking together, I argue that intensive social learning spaces where people learn together and from each other can transcend organisational frontiers, and for this purpose I introduce the idea of trans-organisational knowledge. One the one hand it helps to elaborate the existing claims about the stickiness and leakiness of knowledge in organisations, and on the other hand it allows explaining the role of CoPs on Organisational Learning (OL).

Based on these two conceptual frameworks (i.e. the process of thinking together in CoPs, and the idea of trans-organisational knowledge) I now develop my main argument: *Communities of Practice (CoPs) come to life from peoples' transpersonal process of thinking together, and these communities can play important role in developing Organisational Learning (OL).* While the suggested argument may be potent of elaborating the CoP concept, I appreciate that it now seems essential to substantiate it empirically if it is to be seen as plausible, convincing, and sustainable.

3. Methodological approach

In the previous chapter I have suggested that it is thinking together that brings Communities of Practice (CoPs) into life and such communities can play important role in developing (trans-) Organisational Learning (OL). In this chapter I build the ground for exploring empirically these ideas. First, I provide a brief overview of the empirical setting, which I then describe in more detail in chapter 4 where I present my findings. Subsequently I discuss the philosophical underpinnings which influence this study, and I write about my methodological approach including such considerations as the choice of research methods and the description of my action research design. Finally, I describe how I analysed the gathered empirical material using SODA-style cognitive mapping.

3.1. Empirical research setting: NHS Scotland

The setting of this study was NHS Scotland where I had previously completed my honours dissertation about Communities of Practice (CoPs). I can say that by large my original reasons for choosing healthcare stayed the same: firstly, my perception of NHS Scotland (i.e. my local healthcare service) was that of a place rich in various types of complex practices which were subject to dynamic growth, and hence they could potentially be an interesting place for inquiring about CoPs. Secondly, I regarded healthcare as a very time-relevant setting where my work perhaps might prove helpful to the wider public. Thirdly, in my understanding NHS Scotland was subject to very strong demographic and financial pressures and hence it could serve as a good case for investigating how fostering knowledge might be a way of addressing similar contemporary challenges (these pressures indeed strongly reflect on the strategy of NHS Scotland as described in chapter 4).

While planning the empirical stage of this project I thought that I needed to have access to places in NHS Scotland where the idea of CoPs was being intentionally operationalised. That was considerably eased due to the fact that during my undergraduate studies I had established relevant contacts in NHS Education for Scotland (NES), which was “the national health board responsible for leading NHS Scotland workforce development, education and training”, and which naturally dealt with issues surrounding CoPs and KM (nes.scot.nhs.uk, 2014b). The individuals in question were Dr Ann Wales, Programme Director for Knowledge

Management at NES, and Annette Thain, Knowledge Management Coordinator at NES, whom I met relatively early into my PhD project (i.e. in March 2012). Having familiarised themselves with the background and the aims of my research, Dr Ann Wales and Annette Thain offered me assistance in finding CoP leaders whose communities could potentially benefit from my study.

As a result Annette sent out enquiries to individuals who, according to her knowledge, might be interested in participating in my research and who were interested in the topic of social learning. The first response came to me from Sandra Shafii, Allied Health Professionals Consultant in Dementia, who was looking for help in improving an online CoP which she had been administrating. The aim of that community was to promote knowledge sharing between geographically dispersed practitioners working under a broad agenda of dementia. I then came to an agreement with Sandra that she would assist me in arranging interviews with the practitioners who were signed up to her community. On the one hand that would allow me to gather potentially useful material, and on the other hand I would try to offer recommendations about the possibilities of improving Sandra's community.

Another individual who expressed interest in my research was Maddy Halliday, Director of the Stroke Association Scotland. After our initial conversation Maddy offered me to engage in her project aiming at facilitating knowledge sharing between various narrow fields of stroke research, increasing the speed of translating laboratory research into practice, as well as promoting the 'spirit of co-production of healthy society' between practitioners and patients. My role would be to support and evaluate the group's efforts of developing CoPs in the area of stroke, and in return I would obtain access to do research with those communities. In December 2012 my first supervisor and I contributed to a proposal for funding of the group which was going to be submitted to the Scottish Government. Nonetheless at the time when I was finalising this thesis, that project had not come into life.

In late 2012 Annette Thain also put me in touch with Alison Hunter and David Butterfield from Healthcare Improvement Scotland, an organisation supporting healthcare practitioners in improving the quality of delivering care. Much of the interest of Alison Hunter and David Butterfield was in the area of sepsis and VTE. Thus similarly basis as it was in the area of dementia, they helped me in organising interviews with practitioners working in sepsis, and who they believed were relevant to the topics of social learning and CoPs.

Lastly, in mid-2013 Annette Thain and her team introduced me to a number of individuals who were keen in the idea of CoPs as a way of developing official practitioners' networks in NHS Scotland, and who were based in the Edinburgh office of NES. Those individuals were Mandy Andrew, Programme Manager, Leading Quality Network; Hazel Powell, Education Projects Manager, NMAHP, NHS Education for Scotland; and Ali MacPhail, L&D Adviser, National Leadership Unit, NHS Education for Scotland. I met with each of them once, and during those meetings we discussed their work around CoPs.

3.2. Philosophical framing

The role of philosophy in academic research

Following Easterby-Smith, Thorpe, and Jackson (2012: 17-18) I regard ontological and epistemological assumptions as the very foundation of methodological design in academic research (Figure 13). These authors suggest that failure to recognise the role of philosophy may considerably affect academic research in a negative way because appreciating philosophical issues allows researchers to be more intentional in designing their research projects. This is because philosophy "gives researchers to think more reflexively about crafting their research design, and it helps them to invent designs that are outside of their past experience". Similarly, Cunliffe (2011: 651) writes:

> " … Our metatheoretical assumptions have very practical consequences for the way we do research in terms of our topic, focus of study, what we see as ''data,'' how we collect and analyse that data, how we theorize, and how we write up our research accounts."

In this respect I am also inspired by Tsoukas and Chia's (2011: 4-6, 14-16) endeavour of explaining 'why philosophy matters to organisation theory'. They admit that it is possible for academics to do their research without ever venturing into the meta-questions about "the nature of the concepts". However, when researchers tacitly accept the frameworks within which they do their work, they thereby close the meanings of the concepts that they use, at least until the moment in which they fail to make sense of their empirical material, i.e. when they realise that the previously taken for granted categories need to be called back to their attention.

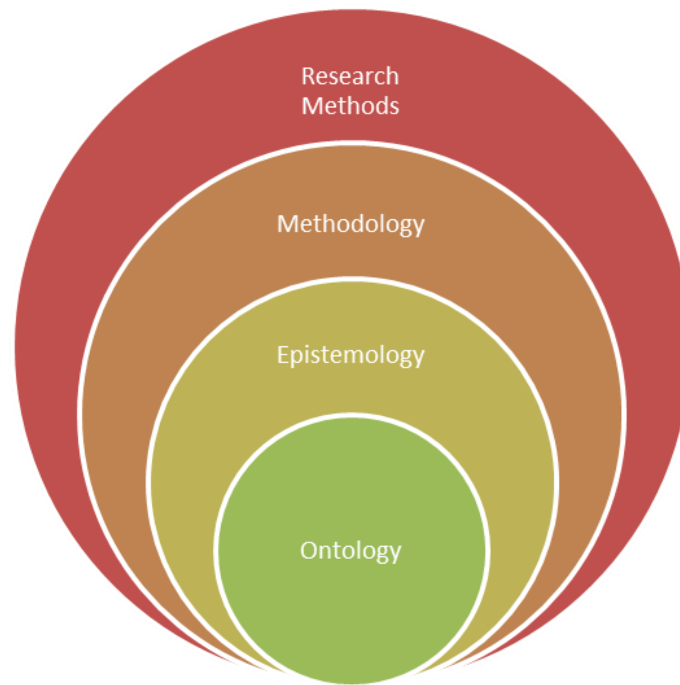


Figure 13: Philosophical and methodological considerations

Based on: (Easterby-Smith et al., 2012: 18)

In other words Tsoukas and Chia (2011: 4-6, 14-16) alert us that philosophical inquiry allows keeping those categories 'open' by continuously challenging their meanings. This in turn enables the scientific theories "to be what they are meant to be", i.e. useful tools for learning new things about the world rather than undisputable truths. Similarly, what prevents academics form gaining profounder understanding of the researched phenomena are not merely knowledge gaps in the accepted theories, but the enduring assumptions about the world that constrain our thinking, i.e. "ignorance of our ignorance."

Ontological and epistemological assumptions

According to Hatch and Cunliffe (2006: 12) ontology refers to the philosophical questions about reality, e.g. is there an objective reality, or does it exist only in peoples' minds? They suggest that depending on the philosophical position one will regard some things to be 'real', concurrently ignoring others. Tsoukas and Chia (2011) observe that as a result of such choices, researchers focus only on the particular elements of the explored phenomena, and thus by altering their ontological assumptions they might approach those phenomena from new perspectives.

Furthermore, Hatch and Cunliffe (2006: 13) write that epistemology is "… concerned with knowing how you can know" and the typical questions are concerned with how knowledge is created and what criteria should be used for considering something as knowledge. Because such questions clearly depend on 'the nature of reality', therefore it can be said that epistemology and ontology are closely interrelated.

With regards to the above considerations a major philosophical paradigm which appears to be the closest to my personal viewpoint is symbolic interpretivism. Hatch and Cunliffe (2006: 14) describe this paradigm as being grounded in subjective ontology where reality depends on the perceptions of individuals, and hence knowledge is "relative to the knower" (Figure 14). Thus as part of the empirical research I focus on the ways individuals and groups of people (including myself as a researcher) create meanings in their dynamically changing contexts through the process of interpreting "… stories, rituals, symbols, actions, interactions…" I now expand on these points by giving more texture to my ontological and epistemological assumptions.

Characteristics of symbolic interpretivism	
Ontology	Subjectivism – the belief that we cannot know an external or objective existence apart from our subjective awareness of it; that which we agree exists.
Epistemology	Interpretivism - all knowledge is relative to the knower and can only be understood from the point of view of the individuals who are directly involved; truth is socially constructed via multiple interpretations of the objects of knowledge thereby constructed and therefore shifts and changes through time
Organisations are…	Continually constructed and reconstructed by their members through symbolically mediated interaction. Organisations are socially constructed realities where meanings promote and are promoted by understanding of the self and others that occurs within the organisational context.
Focus of organisation theory	Describing how people give meaning and order to their experience within specific contexts, through interpretative and symbolic acts, forms and processes.

Figure 14: Characteristics of symbolic interpretivism

Source: (Hatch and Cunliffe, 2006: 14)

The author who has had the strongest bearing on my philosophical standpoint is Michael Polanyi. While Polanyi is perhaps best known for his original contributions to epistemology, he also developed an ontological perspective that is coherent with his landmark work on Personal Knowledge. He argues that when people use what they know then intangible performances such as solving a mathematical problem in one's mind can be more profoundly real than tangible matter such as rock or sand. This is because acts of tacit knowing (i.e. using what one knows) are personal and unfolding rather than depersonalised and predictable, and therefore they can bear higher significance for an individual - as when one cares more about some personal or work-related problems which they may be worrying about than about a chair on which one is sitting (Polanyi, 1946, Polanyi, 1966b).

Within our acts of tacit knowing we can observe two levels of reality. The knowledge that we bear on (e.g. a mathematical theory – the proximal term) is one level of reality, and the performance into which that knowledge is integrated (e.g. solving a mathematical problem – the distal term) is another level of reality. In such way the distal term (what a person does) is always governed by two sets of rules: those rules operating at its own level and those rules coming from the proximal term (the knowledge) on which it relies.

In more general sense such pairs of levels of reality can form a hierarchy of realities because the distal term in one pair of realities can serve as a proximal term in a different pair depending on how people use what they know. So by giving the example of human speech: voice relies on words, but then sentences rely on voice, subsequently style relies on sentences, and sentences rely on literary composition. Similarly human knowledge of machines relies on human knowledge of physics and chemistry for example to explain the nature of materials from which machines are made, but they cannot explain the very purpose of machines – and for this reason the upper level of reality can never be fully explained only by the rules operating at one lower level of reality (Polanyi, 1946, Polanyi, 1966b). As Polanyi (1966b: 47) writes:

> "Thus the logical structure of the hierarchy can come into existence only through a process not manifest in the lower lever, a process which thus qualifies as emergence."

In other words, peoples' realities *emerge* from knowing, i.e. from how they do things, how they interact with the world and how they learn about it. Those realities can be intangible yet concurrently significant and meaningful, e.g. love, pain, sense of freedom. What people come to know *becomes real* as it bears on their experience of life. The potential for that knowing is their personal knowledge rooted in the tacit component. However, personal knowledge, while exclusive to the knower, is not individualistic. Personal knowledge is developed socially, in the atmosphere of conviviality, as part of multigenerational traditions, from master to apprentice, and from peer to peer as they learn together and from each other (Polanyi, 1962a, Polanyi, 1966b).

As a result Polanyi's (1966b) ontology appears as an early form of social constructionism (I refer here to what many authors label instead as nominalism), where people construct what they see as real (i.e. what *emerges*), by acting upon it (through acts of tacit knowing), and they essentially do so in the social context (with the sense of conviviality, as part of tradition or lore). However these emerging realities are constructed by making contact with the independent world which multiple, complex, and diverse facets are by large inaccessible to those who cannot comprehend them and who therefore cannot see them (i.e. to unprepared minds).

In Polanyi's (1962a) philosophy that independent world is intertwined with the emerging social realities as they all shape each other (as when the climate change affects people's social worlds, but at the same time peoples' social worlds affect the climate change). Personal knowledge is developed by trying to make contact with the world that is governed by its own rules. People can only understand a part of that world by genuinely committing to it, and by reaching out to it with respect to the existing universal standards (e.g. the current state of science). Polanyi (1962a: preface, 67; emphasis in the original) gives an example of Einstein who revolutionised the scientific frameworks of that time, and he accomplished it with a 'universal intent' to those dominating standards i.e. his 'act of hope' to discover the truth was deeply informed by the generally accepted theories. Consequently personal knowledge is saved from being merely subjective in that it is "*objective* in the sense of establishing contact with a hidden reality."

Because of the emerging character of reality or realities, and due to being interlocked with peoples' fluid and personal knowledge, it is clear that Polanyi's ontology is very much

dynamic and process-oriented. This resembles ontology of becoming as popularised in the organisation studies by Chia (1999) and Tsoukas and Chia (2002b). According to these authors change is not something which merely happens to organisations from time to time, but it is happening constantly and it is a main source of order and organising. In effect Tsoukas and Chia (2002b: 204) encourage other researchers to paying attention to 'microscopic change' rather than merely to 'big change' of getting 'from A to B':

> "It is subtle, agglomerative, often subterranean, heterogeneous, and often surprising. It spreads like a patch of oil. Microscopic change takes place by adaptation, variations, restless expansion, and opportunistic conquests. Microscopic change reflects the actual becoming of things."

While the ontological aspect of Personal Knowledge points to the emerging character of reality, its already mentioned epistemological aspect emphasises that knowledge cannot be divorced from a human being. This entails rejecting an ideal of detached and objective knowledge, and instead refocuses on peoples' meanings and social practices where those meanings are constructed (Polanyi, 1962a, Polanyi, 1967). To put it differently, this epistemology differs from traditional positivism where knowledge is produced and verified through 'measurable' scientific method**.** It also contradicts critical philosophy because personal knowledge is developed and embellished through uncritical commitment. Furthermore, Polanyi's epistemology is also different from radical postmodernism which avoids or denies knowledge as a technical term because it treats it as a source of power of those who 'possess knowledge' (Hatch and Cunliffe, 2006).

A good example of such postmodernist epistemology is in the existing conceptualisation of Communities of Practice (CoPs), where instead of knowledge the main point of focus is on identity invested in practice, which is to stress that 1) learning is a social formation of a person rather than mere acquisition of facts and 2) meaningful learning about the world is not confined to schooling or to scientific research (Lave and Wenger, 1991). Polanyi's epistemology is partly compatible with such view, but it does not go as far to deny the concept of knowledge as a technical term altogether – here people do invest their identity in practice, but the outcome of their learning is personal knowledge that is contextualised and meaningful within that particular social practice. The interlocking of Polanyi's ontology and epistemology thus resembles Weick's (1995a) version of sensemaking where people

collectively develop their mental models of the social worlds around them. As they make sense of those worlds, they concurrently enact them (i.e. bring them to life) – and this brings us to the famous assertion that "man is an animal suspended in webs of significance he himself has spun" (Geertz, 1975: 5).

3.3. Research design

Methodological implications of philosophical framing

As I have already stated, this project is influenced by symbolic interpretivism, although I do not deny the existence of an independent world which in my view is mutually affected by peoples' socially constructed realities. Being informed by Easterby-Smith, Thorpe, and Jackson (2012: 24) and Hatch and Cunliffe (2006: 14) I suggest the following methodological implications of my philosophical assumptions.

In this paradigm I aim to arrive at generalizability by developing new insights and explanations about the studied phenomena rather than to achieve statistical accuracy or to test the hypothesis. Such generalizability is possible in the sense that by obtaining a deeper understanding of the phenomena we can answer what happened and how something happened, even if the outcomes of theorising will then need to be specifically reinterpreted to the different contexts where one wants to apply it.

Weick (1989) explains this using a metaphor of marine navigation using radar. A researcher is like a navigator whose problem is to avoid the collision with the rocks in the sea. Their radar is a method of developing representations of the studied objects which they see as echo emissions on the screen, and based on those representations and on their judgment they need to select their route (e.g. is this a plausible and convincing solution?); and this is what Weick calls *disciplined imagination.* However, both the echo emissions and one's judgment do not give 'perfect' account of the studied objects. Therefore a researcher may need to be learning richly from the studied phenomena by looking at it from different perspectives and by following a rigorous and explicitly documented approach in order to be able to see things as faithfully as they can to what they really are:

> "Objects are more likely to be avoided and theoretical problems are more likely to be solved when the problem is represented more accurately and in greater detail

> with assumptions made more explicit, as a greater number of heterogeneous variations are generated, and as more selection criteria, of greater diversity, are applied more consistently" (Weick, 1989: 520).

Thus following March, Sproull, and Tamuz (1991) I attempt to 'learn richly' from this small sample by paying attention to its context, by looking at the multiple aspects of the empirical material, and by thinking reflexively about its alternative interpretations. One way of achieving this is by applying the cognitive mapping method in the analysis, as explained later in this chapter.

As a researcher in this project I immerse myself in the complexity of the researched situation, and by collecting rich empirical material encompassing multiple perspectives of the participants, the observations of their immediate environments, and the examinations of various relevant artefacts e.g. documents, diagrams, brochures. I use these accounts to gain a better picture of how the participants make sense of their socially constructed worlds.

The strengths of following this approach are its suitability for working with processes, meanings, and theory generation (Hatch and Cunliffe, 2006). However on the flipside a project underpinned by symbolic intepretivism can be very time consuming, the analysis of empirical material can be very difficult, and the results may not be convincing for policy-makers (Easterby-Smith et al., 2012: 27-28). These limitations are worth being aware of – they call for careful crafting of the research design and for strong time management skills on the part of the researcher, as well as for clearly communicating the rigour of the research.

Action research

I have asserted that in this project as a researcher I take an engaged role and I see myself as a participant within the studied situations. I now explain how I intend to induct theorising from the examined phenomena by adopting an action research approach. Eden and Huxham (2002: 255) describe action research as follows:

> "Action research involves the researcher in working with members of an organization over a matter which is of genuine concern to them and in which there is an intent by the organization members to take action based on the intervention".

Eden and Huxham (1996a, 2002, 1996b) build on this brief description as they elaborate on the nature of action research. They address the voices criticising action research as an approach lacking rigour, arguing that a project must first satisfy the accepted standards of academic work before it can be called action research. They also write that while the outcomes of action research have to be useful to the client organisation, the results must be also applicable and meaningful in other contexts beyond the studied organisation – at least as suggested areas for consideration. These outcomes cannot be merely new tools and techniques, but they must be acts of theorising that are explicitly informed by existing theories.

Furthermore, Eden and Huxham (1996a, 2002, 1996b) and Checkland and Holwell (1998) note that because each action research intervention is different from the previous one, and each intervention has emergent character, then action research is not suitable for testing theories. However on the other hand it can be appropriate for interlocking a complex set of theories and then exploring that systemic relationship in practice in a cyclical manner that involves facilitating change in organisation and then reflecting on that intervention (Figure 15) - this way it can lead to building new theories from lived practice. It therefore appears that action research makes a good fit with this project because I synthesise five broad areas in the literature and then I intend to apply them empirically in order to learn more about good ways of developing CoPs and their role in Organisational Learning (OL).

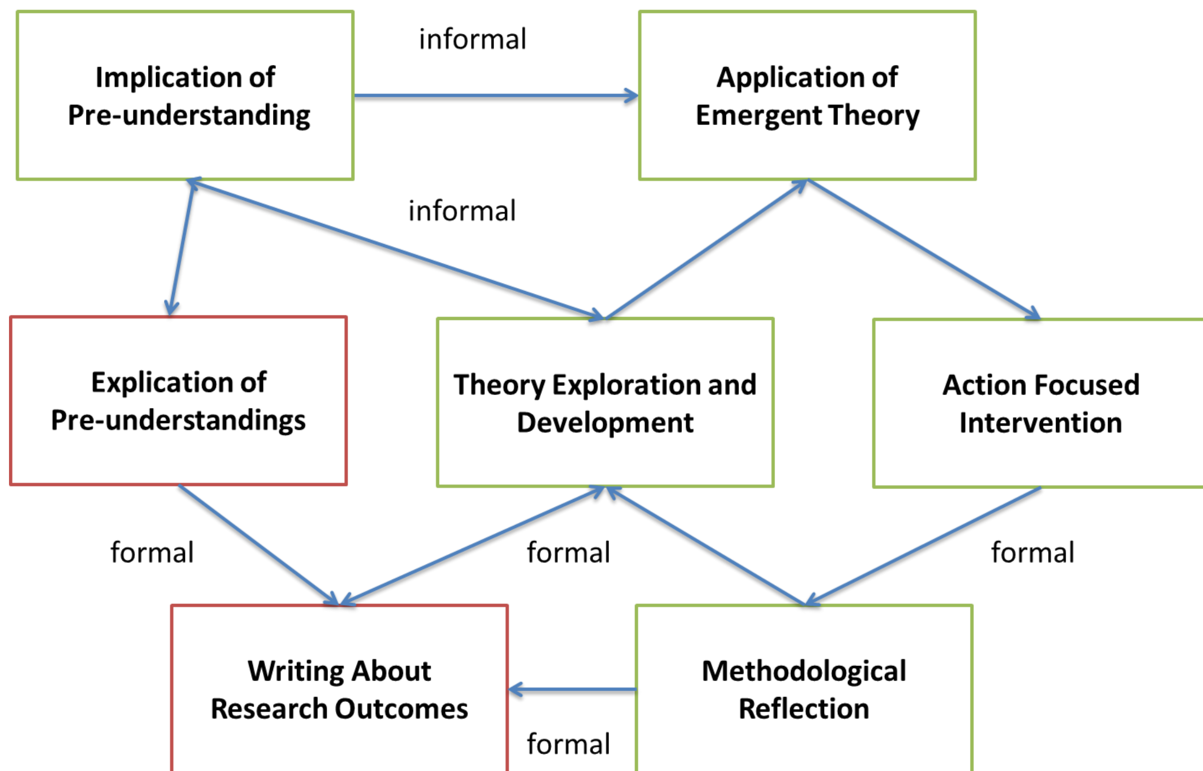


Figure 15: The cyclical process of action research

Based on: (Eden and Huxham, 1996a)

The initial stages are marked with green borders, and the latter stages are marked with red borders.

The limitation of action research is that the generalizability of its results may not be convincing if evaluated only from the perspective of more traditional positivist criteria (Checkland and Holwell, 1998) because theorising from cases may be too idiosyncratic even if tied into broader theoretical constructs (Eisenhardt, 1989). Since each intervention is different, as it involves co-participation and facilitation of organisational change, then it is important that the research is 'recoverable' to the reader, i.e. that it is very clear how the researcher performed it and how they arrived at the findings (Checkland and Holwell, 1998). It therefore requires a systematic and robust approach to analysing, structuring, and presenting rich empirical material (Eden and Huxham, 1996a, 2002, 1996b) – as described in section 3.3 where I talk about my use of cognitive mapping for analysing semi-structured interviews.

The benefits of following action research are that it enables the researcher to see how people act on what they say, i.e. using Argyris and Schön's (1978) vocabulary to learn about their theories-in-use as opposed to espoused theories (Eden and Huxham, 1996a, 2002, 1996b), as

well as to learn about things which the participants may not be even aware of – thus it may allow for 'capturing' the world more richly (Huxham, 2003). As a result action research should particularly concentrate on those aspects of the studied phenomena which could not be examined using more traditional approaches (Eden and Huxham, 1996a, 2002, 1996b). Furthermore, it can be suitable for taking a fresh perspective on well-established concepts (Eisenhardt, 1989) – and this again seems to fit well with my aim to 'shake up' the CoP idea that has been around for nearly 25 years.

It is also worth noting that the fact that I was following the action research approach was seen as an incentive by the employees of NHS Scotland who were helping me in organising interviews because they were expecting that they could potentially benefit from my research project. While that was not the main reason of doing action research in first place, it arguably allowed me to access places in the organisation which I would not have been able to reach otherwise.

Ethical considerations

The participants of this study included only the employees of NHS Scotland, and not the patients. The sought information was not patient-related, personal, or commercially sensitive as it only related to the topics of social learning among healthcare professionals and CoPs. The only possible risk to the participants was that they could disclose information that might prove politically incorrect in their teams or organisations, e.g. by criticising their managers. In order to mitigate that risk, care was taken to ensure the information was acquired solely with the participants' consent, that only the investigators would access the empirical material, and that upon the participant's request any parts of the empirical material would be anonymised or destroyed.

This project was granted approval by the ethical committee of the Department of Management Science, University of Strathclyde Business School.

Research methods

I have so far positioned this research in the symbolic interpretivist paradigm, and I have argued that its aim is to gain novel insights into the studied phenomena rather than to 'measure' them with statistical accuracy. Furthermore, I have outlined an action research character of this project where I, as a researcher, attempt to gather rich empirical material by

engaging with the organisation and by trying to change it (e.g. by encouraging people to change their minds). I anticipate that this may enable me to explore an interlocked set of theories (i.e. the five synthesised areas in the literature) with respect to the lived practices of people in NHS Scotland, and more specifically their experiences of social learning and developing CoPs. The selected research methods therefore needed to be suitable for collecting rich empirical material, for taking engaged position as a researcher, and for giving me enough flexibility to correct my approach as the project emerges over time.

One of the methods which could arguably meet the above criteria was semi-structured and in-depth interviews. This method can be a good way of "discovering the views, perceptions and opinions of both individuals and groups through the language they use." It is flexible as it allows to amend the questions on the spot, and it offers opportunities for collecting non-verbal clues (Easterby-Smith et al., 2012: 126). However, on the part of the interviewer semi-structured interviews require reasonably good interviewing skills and the ability to facilitate the conversation in a desired direction (Cooper and Schindler, 2006), as well as developing good understanding of the respondent's immediate context (Easterby-Smith et al., 2012). Moreover, in-depth interviews tend to be very time-consuming and their findings can be difficult to interpret, but the obtained material can be rich and unique (Saunders et al., 2002, Bryman and Bell, 2007).

Alvesson (2003: 28, 2011), adopting a similar line of argument as previously Fontana and Frey (2005), recognizes the considerable popularity of interviews both in the academia and also in the wider society. He argues that interviews are sometimes treated in an unreflective way, as if what was said in the interview essentially mirrored the reality, and as if an interview was a pipeline utilised for extracting data or 'the truth' from reality. Moreover, he claims that a number of similar reports from several people do not have to indicate high validity because they may merely "indicate that these people engage in similar impression management tactics or are caught in the same discourse".

In Alvesson's view the biggest difficulty with interviews is not the very act of conducting them (without denying the effort and the skill that is required on the part of the interviewer), but how they are afterwards interpreted. Because of that he calls for 'epistemological awareness', i.e. to think carefully about the match between one's philosophical approach and the application of the interview, as well as about the ensuing strengths and limitations of that

view. For example a romantic view on interviews, in Alvesson's typology the closest to the interpretivist paradigm, prioritizes establishing more 'genuine' human interactions that enable exploring the interviewee's 'inner world' of meanings, ideas, or feeling, but on the other hand such view may be leading to idiosyncratic results that are difficult to generalise.

Consequently, similarly to Cunliffe (2003), Alvesson (2003: 26, 2011), advocates for treating the results of the interviews as the 'complex empirical material' that needs to be looked at reflexively from different angles in order to appreciate the potential richness of its meaning. He suggests eight metaphors (Figure 16) that are "to provide a way to thinking about how we can avoid getting caught in certain ways" as well as to "make life easier for the researcher through offering an alternative way to think about knowledge generation". These metaphors include for example 'interview as impression management' (e.g. the interviewee attempting to make a good impression of themselves), 'interview as political action' (e.g. the interviewee being biased by the organisational politics), or 'accounts as local accomplishment' (e.g. the interviewer being an integral player changing the interview situation).

While not all of these eight metaphors are expected to be followed all at once when interpreting the empirical material, they can be used a point of reference when using a given resource for informing one's theorising. Thus in this project I kept myself aware of those metaphors and I treated them as useful guidance, although I followed a different method for systematically analysing that material as it is discussed in the next section.

Metaphor	Key Problem/Feature	Neopositivism (Non)response	Romanticism (Non)response	Localism (Non)response
Local accomplishment	The mastering of complex interaction in the interview situation	Denial—managed through strict interview procedure	Partial denial—managed through empathy	Acknowledged as a key feature of the interview situation
Establishment and perpetuation of a storyline	Ambiguity of situation and the need for sensemaking	Denial—managed through strict interview procedure	Partial acknowledgement—managed through openness and dialogue	Partly outside what localists focus on since it involves speculations about interviewee's sensemaking work
Identity work	The situated adoption of identity position(s)	Denial—researcher control over identity	Encouragement of authentic self, making genuine response possible	Identity work and self-positioning in the situation are possible objects of study
Cultural script application	Difficulties of representation and normative pressure for adopting certain talk	Partial denial—counteracted through specific questions	Partial denial—possible to avoid/minimize through interaction bringing forward genuine response	Acknowledged as a possible object of study
Moral storytelling	An interest in legitimacy promoting oneself and one's group	Partial denial—counteracted through specific questions	Risk reduced through interview technique aimed at encouraging honesty	Acknowledged but difficult to study since it is hard to identify moral storytelling as a distinct topic
Political action	Interview subjects are politically oriented	Denial	Risk reduced through interview technique aimed at encouraging honesty	Falls outside research agenda since it assumes interests that cannot directly be studied
Construction work	Problems of representation and ambiguity of language	Denial—inconsistent with neopositivist view on language	Denial—inconsistent with romantic assumptions of meaning	Acknowledged as a possible object of study
Play of the powers of discourse	Interviewees constituted and responding within discourse	Denial	Denial	Falls outside the research agenda since it assumes macropower

Figure 16: Eight metaphors of interviews

Source: (Alvesson, 2003: 15)

Another research method which I applied in this study was unstructured observations. However, I used this research method to a much lesser extent than the interviews because participants typically expressed preference to be interviewed and they did not want me to wander around their wards and offices. Nonetheless I still managed to attend a few meetings where I was taking notes. Unstructured observations can be useful in exploring the symbolic interactions between the subjects and the sense of identities which they construct in their workplace (Saunders et al., 2002). For this reason they can be suitable for studying CoPs, where peoples' investment of identities in social practices is intertwined with learning and negotiation of meanings (Wenger, 1998b). Other advantages of using this method are the possibility of recording events 'as they happen', gathering ignored information, and capturing events in a rich form including both verbal and non-verbal cues (Cooper and Schindler, 2006).

The limitations of this method include time errors, the mentioned problems with getting access, observer's bias, and the general suspicion of participants (Bryman and Bell, 2007). Furthermore, the researcher must be careful in defining their role, as for example an ethnographer doing research in health care typically cannot hide their identity due to ethical considerations (Crang and Cook, 2007). Thus, as in case of any other qualitative research method, it is important for researcher to be reflexive about the impact of their presence on the collected empirical material (Easterby-Smith et al., 2012).

It may be also worth adding that in this project the empirical material was collected during pre-arranged meetings with the employees of NHS Scotland. For interviews I loosely followed a topic-guide, however I would typically amend it 'in real time' depending on how the conversation unfolded - hence certain themes could be emphasised or omitted. All interviews and observations were audio recorded using a voice recording device, and also hand notes were taken for collecting non-verbal data. The recordings were transcribed and stored in digital format.

Sampling

The target population for this study were those of the 140.000 employees of NHS Scotland (show.scot.nhs.uk, 2012) who expressed interest in the topics of social learning or CoPs. It is therefore hard to estimate the number of that population, however within interpretivist paradigm the aim is typically to develop new insights and explanations of the studied phenomena rather than to achieve statistical accuracy (Easterby-Smith et al., 2012). In this respect the sample size in this study was relatively small - it included 30 conducted or observed conversations taking on average 1 hour, some of which were repeated with the same individuals. As previously mentioned following March, Sproull, and Tamuz (1991) I attempt to 'learn richly' from this small sample by paying attention to its context, by looking at the multiple aspects of the empirical material, and by thinking reflexively about its alternative interpretations.

The process of finding participants in NHS Scotland was very difficult because its employees tended to be exceptionally constrained by time pressures, and sometimes they also seemed to feel uncomfortable about providing information to members of external organisations due to being subject to strict confidentiality policy. As a result I relied on snowball sampling and convenience sampling based on the contacts in NHS Education for Scotland office in

Glasgow which I had established when working on my honours dissertation. Thus in particular Ann Wales, The Director of Knowledge Management Programme; Annette Thain, Knowledge Management Coordinator at NHS Education for Scotland; and Sandra Shafii, AHP Dementia Consultant; helped me in identifying individuals willing to participate in my study. Although these sampling methods did not provide a representative sample of the population and the sample error cannot be computed (which is not an aim of this study), it is expected that they still may lead to gathering rich empirical material that can inform this project (May, 2001).

3.4. Analysing the empirical material

When describing the action research approach undertaken in this project I have noted that because the design of the study is emerging, and because it deals with large amounts of rich qualitative material, then it is important to use a method of analysis capable of structuring and making sense of that material so that the research can be communicated clearly to the reader. For this purpose I use cognitive mapping[2] which in my regard is suitable for meeting those needs. I now provide a brief overview of cognitive mapping, I write about how I was coding and analysing the maps using this method, and I comment on how it can be useful in academic work.

SODA approach to cognitive mapping

Cognitive mapping is a formal technique where a person's thinking about a problem is modelled using directed graphs (Eden, 1988, Laukkanen, 1994, Armstrong, 2005). It should not be confused with the mind mapping technique developed by Buzan and Buzan (1995) and recently popularised Web-based tools such as Spider Scribe, MindMeister, or Bubbl[3] that can produce similarly looking graphs. Whilst mind maps typically depict spontaneous networks of ideas portraying linkages to a central concept (Davies, 2011), the structure of cognitive maps emerges from causal relationships of concepts represented by short phrases that are linked by unidirectional arrows (Eden et al., 1992, Laukkanen, 1994).

The term 'cognitive mapping' was first used by Tolman (1948) who intended to oppose the back-then dominating understanding of human as a stimulus-response processor of

[2] This section is based on: PYRKO, I. & DÖRFLER, V. 2014b. SODA in qualitative research: Using cognitive mapping for analysing semi-structured interviews. *BAM 2014.* Belfast, Northern Ireland, UK.
[3] See the websites: http://www.spiderscribe.net/ , http://www.mindmeister.com/ , https://bubbl.us/

information (see Polanyi, 1962a). The pioneering example of cognitive mapping as a technique can be traced back to Axelrod (1976) who used directed graphs to analyse the content of codified resources in the area of political science. Today cognitive mapping is a well-established technique with various variants (Narayanan, 2005) despite the fact that it can be very time-consuming and labour-intensive (Hodgkinson and Clarkson, 2005). Those approaches include Self-Q (Bougon, 1992) and its modifications (Tegarden and Sheetz, 2003) who use cognitive mapping in structured interviews. Another example, FCM incorporates fuzzy logic in cognitive mapping (Kosko, 1986, Özesmi and Özesmi, 2004, Vanwindekens et al., 2013).

An essential consideration for all cognitive maps is that they do not result in 'complete picture' of someone's cognition, rather they offer an imperfect representation of cognition that may perhaps be useful in thinking about a given problem. As noted by Eden (1992: 262):

> "(1) [cognitive maps] may represent subjective data more meaningfully than other models and so have utility for researchers interested in subjective knowledge, and (2) they may act as a tool to facilitate decision-making, problem-solving, and negotiation within the context of organizational intervention".

The particular approach to cognitive mapping which I pursue is called SODA (Strategic Options Development and Analysis) developed by Eden and Ackermann (2009a) which has arguably 'made a career' in the field of management and organisations (and particularly in the area of operational research) since its early formulations (Eden et al., 1983, Eden et al., 1979). SODA is in fact a broader approach that has been developed for management consultants to aid their client groups in dealing with messy problems and cognitive mapping is a central technique to it (Eden and Ackermann, 1998). Thus for the purpose of simplicity every time I use here 'cognitive mapping', I specifically imply SODA-style cognitive mapping. So far cognitive mapping has been mostly used for management consultancy to facilitate the negotiation of strategy making by executive teams, but its analytical capabilities appear attractive also to the academic work, especially when dealing with rich qualitative data that requires a structured approach for making sense of.

According to Eden (1988) the key conceptual underpinning of SODA is the work of Kelly (1955) and his Theory of Personal Constructs. According to Kelly's theory people try to

predict the future developments of the world around them by making sense of that world. They do so by contrasting and finding similarities ('I like jazz rather than heavy metal music'), by trying to explain why certain things have happened ('why have you decided to buy a car?'), and by hierarchically organising the meanings of the things that they know ('in order to achieve the goal of getting a good job in the future I need to gain relevant work experience, graduate from the University, and network with the professionals in my field'). As it should be seen in the subsequent discussion, Kelly's theory strongly influences how cognitive mapping is done in practice.

The rules of constructing cognitive maps have been refined over the years (Bryson et al., 2004, Ackermann et al., 1990, Ackermann and Eden, 2011, Hodgkinson et al., 2004, Hodgkinson and Clarkson, 2005, Jenkins, 2002). From these sources we can learn that in cognitive mapping a modeller constructs a directed graph based on their own thinking, or based on a written text, or based on an interviewee's accounts during an interview situation. The maps can be drawn on the sheets of papers, or they can be constructed on a flip chart using post-it-notes. Alternatively, as we have done in this paper, the specialised software Decision Explorer[4] can be used.

In cognitive mapping an account of a problem is broken down into separate phrases of between 10-12 words which are formulated in an actionable form while also trying to retain the natural language of the original source. The *nodes* (concepts on the maps) are linked to each other using unidirectional arrows in order to mark their means-and-outcomes relationships. In this way it is possible to obtain a hierarchy of nodes (Figure 17) with the *goals* (outcomes that are 'good in their own right') at the top, *negative goals* (undesirable consequences), *strategic issues* representing central and highly linked nodes (that will have considerable ramifications if we do not do anything about them), and *options* at the bottom (that may lead to alternative courses of action).

This means that we can typically ladder up the map by asking 'why' questions (e.g. why do you want to do this), and we can ladder down the map by asking 'how' questions (e.g. how do you want to do this). It is also useful to add extra meaning to the nodes by including the opposing poles to the existing statements. This is expressed by placing '…' which stands for 'rather than' between the two poles inside a node. Consequently if we want to direct an arrow

[4] http://www.banxia.com/dexplore/

leading from a node to an opposing pole in a different pole, then we have to put a negative '-' sign next to it.

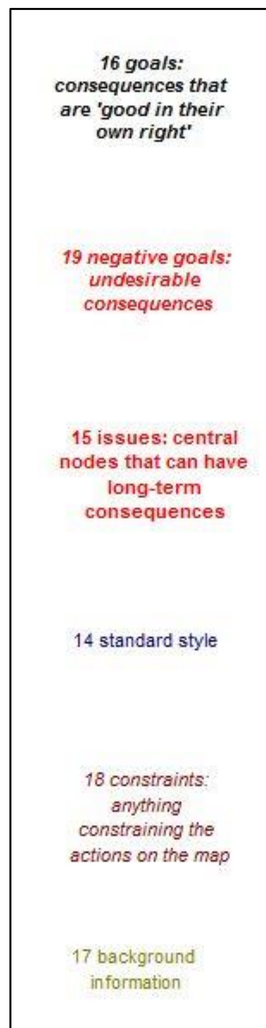


Figure 17: Styles of nodes used in this project

For the illustrative purposes of what a simple cognitive map looks like, I have created a map[5] describing a situation where I want to write a paper for the BAM (British Academy of Management) Conference (Figure 18). In node[6] 20 I state what I want to do – in this case 'write a paper for BAM' (the nodes are numbered by default according to the order in which they are entered). The nodes leading to node 20 explain how it could be achieved: by working all weekends rather than not working during weekends (node 24), and by using the analysis prepared for this thesis (node 23). Note that there is a negative link coming from node 26 to

[5]Based on: PYRKO, I. & DÖRFLER, V. 2014a. Novice's Guide for Cognitive Mapping: Analysing Rich Qualitative Data in Academic Research (Professional Developmental Workshop). *BAM 2014*. Belfast, Northern Ireland, UK.

[6] The maps are numbered according to the sequence in which they are entered, but the number of each node can be altered by the modeller.

node 20. This is because if I decided to go on a desired trip to Rome, I would most likely miss the submission deadline (node 27) – the trip therefore has to wait. Furthermore, by looking at the nodes above node 20, we can see why I want to write a paper in the first place: to write something relevant for my doctoral thesis (node 25) and to attend the conference (node 22). These two nodes in turn lead to the main goals (i.e. outcomes good in their own right) of this endeavour: to progress my thesis (node 30), to meet people from the academic community (node 28), to share my experiences of learning how to map (node 21), and to discover a new place – the city of Belfast (node 29). This simple model then presents the type of logic followed in cognitive mapping which can hopefully serve as a useful guidance for reading the other maps included in the subsequent sections.

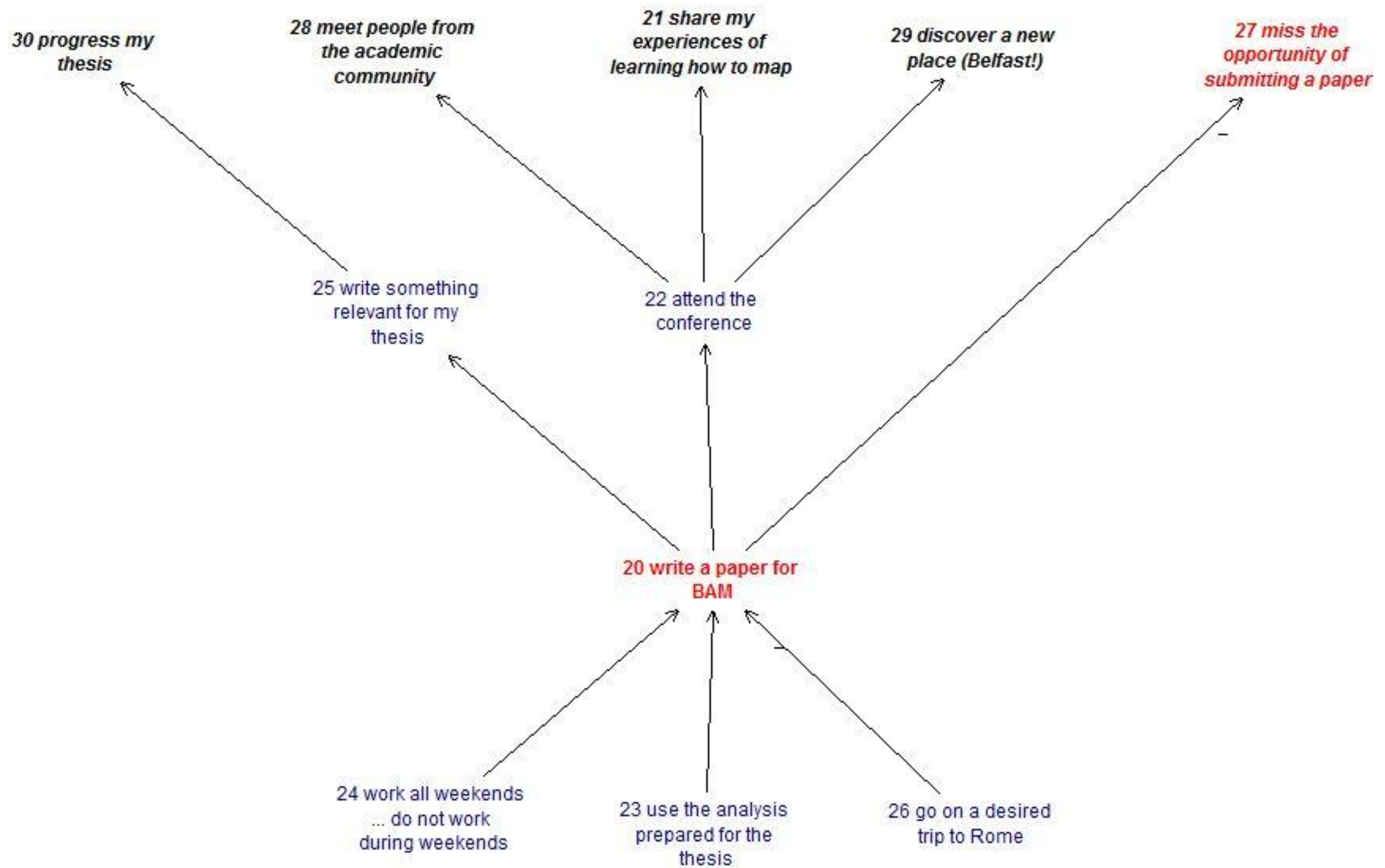


Figure 18: An example of a cognitive map

Drawing the maps: coding the interviews

In this study I use cognitive mapping to map semi-structured interviews with the expectation that it can allow to add more rigour and clarity to thinking about the messy problems surrounding CoPs, such as the issues of knowledge and learning across functional teams, organisational politics, or culture. There are typically two variants of SODA mapping which I could potentially choose from (Bryson et al., 2004, Hodgkinson and Clarkson, 2005). One option, called oval mapping, is to invite the participants to construct the maps together as a group in a 'real-time' session. This, however, was not possible because the participants of the study were working in different hospitals and hence they were scattered across different parts of Scotland. Thus I followed the other variant, where the modeller firstly does the individual maps with each participant, and only then the constructed maps are merged into one map.

When I started doing the interviews I was assuming that at some point I would use cognitive mapping for analysing the gathered material, but I had not planned ahead how I would construct the maps and how I would validate them. Because I would often do a series of interviews in a row, and because I was doing the full transcriptions before I was mapping the interviews, I sometimes ended up coding the interviews weeks after they had happened. That was not in line with the typical mapping convention suggesting that the maps should ideally be done in real time because it allows the modeller to ask questions in a reflexive way with regards to the map as it emerges during the conversation (Bryson et al., 2004). Even though the map tends to be very messy at that point, it can indicate the gaps or inconsistencies in the interviewee's argument, or things that the interviewee is not clear about, or things that the interviewer does not understand. Consequently such gaps can prompt the interviewer to ask relevant questions that might have not been asked otherwise.

As a form of illustration the Figure 19 represents a fragment of a map from one of the interviews in this project. The interviewee was a National Dementia Consultant who wanted to develop an online CoP for Allied Health Professionals - a group of professionals specialising in rehabilitation of people with dementia (on the map I label this community as 'AHP CoP'). The interviewee thought that a good way of doing that was to establish a dedicated website (node 1395). The nodes leading to node 1395 explain what actions the interviewee thought it would take to set up the CoP website: receive technical support from NES (NHS Education for Scotland) which is an organisation supporting healthcare professionals with training and educational technology (node 1396), sit together a

developmental team (1397), argue for the CoP concept to the national steering group (node 1392), and make the CoP open to anyone (node 1410). Note that node 1410 'make the community open to anyone' is an issue (i.e. it has red font) because it was emphasised by the interviewee both verbally and non-verbally (e.g. by the tone of voice) as a particularly important matter: the decision to make it fully open was influenced by a security leak in another closed community and hence the administrators decided to give up on making it closed (node 1592), however being opened made it constrained by inability to track membership (node 1423), and the interviewee also thought of an action (node 1593) of adding a private discussion room for members that would make the community a bit less open (hence a negative link coming from that node).

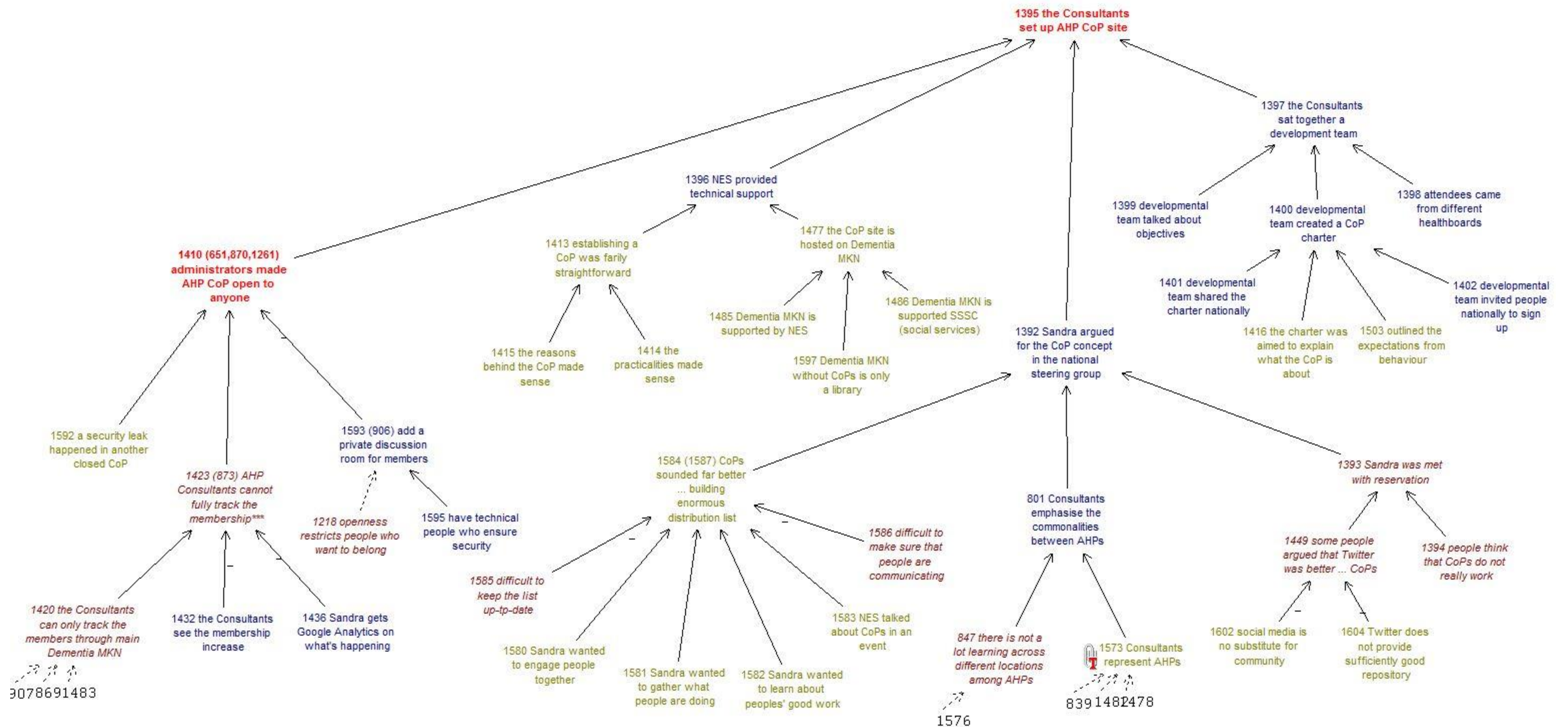


Figure 19: Map - setting up an online community of practice in Dementia

While this part of the map[7] appears fairly well developed, it might have been beneficial to for example ask the interviewee to tell a bit more about the domain (i.e. the range of topics and problems) of that community and how it was formulated, or why 'people think that CoPs do not really work' (node 1394 – right bottom). It would arguably have been much easier to spot such gaps and to ask the necessary questions if I had been coding the map during the interview situation. Interestingly, the emerging map can serve as a structure that can replace the interview guide, and the coding process literally forces the interviewer to listening very carefully to the interviewee which in itself can often be an exhausting and uneasy task (Bryson et al., 2004).

Furthermore, I should have ideally met with each of the interviewees within the week of the interview to review the content of the map, unless this could be done during the interview (Bryson et al., 2004). Since in this case a longer period of time passed before the interviewees could see the map, they may not be able to recall that well everything that was said in the interview. Meanwhile the interviewee's help may be particularly needed in situations when the modeller finds it challenging to judge whether the statement 'A' is the means to the statement 'B' and not its outcome or vice versa. This is usually a non-trivial question as it can considerably change the meaning of the map.

For example on Figure 20 we can see that setting up the CoP website (node 1395) leads to the fact that the Dementia Consultants administer the site (node 1425), which also involves such options as trying to encourage the discussion (node 1473), promoting the community (node 1429), and 'self-governing alone' (1479). In turn, the fact that the Dementia Consultants administer the site (node 1425) leads to people being able to share their resources through administrators rather than directly by themselves (861), which in turn leads to the Consultants publishing a quarterly newsletter (node 1417). This is followed with people engaging in a shared practice through the newsletter rather than through a conversational way (node 1489),

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7 The numbers in the brackets inside the nodes represent merged nodes, coming from different interviews. The dotted links with the numbers underneath them at the bottom of the map represent collapsed nodes, i.e. the concepts that I hid in this view to make the map more readable – they were detailed background information which were not needed for this demonstration. The bigger dotted link coming from node 1218 represents a connection which I assumed based on the context of the interview. The paperclip symbol next to nodes 1573 signifies additional notes (i.e. 'memos') that can be added to the model in the software Decision Explorer. Such notes can include the detailed information about the empirical material which is not contained on the map.

which leads to the community being a place to find resources rather than to have a conversation (node 1403).

In this example it seemed quite evident with respect to the broader interview context that the CoP website served mainly as the means to publishing a newsletter about dementia rather than to use the newsletter as the means to advertise and support the CoP website that would be the central point of sharing knowledge (which reflects on the respective direction of the arrows on the map). As a result, while the newsletter comprising of the contributions from various practitioners nationally could meet such goals as stopping to reinvent the wheel (node 1412) or informing a wider group of people about dementia (node 1409), there is a negative link going from the CoP being a place to find resources (node 1403) to the goal of showing the social side of the community (node 1446) – which accounts for little direct conversation happening on the CoP forum pages. However, whilst this can be a potentially very useful finding, it would be useful to talk about it further with the interviewee (on that occasion I actually did repeat the conversation with the interviewee).

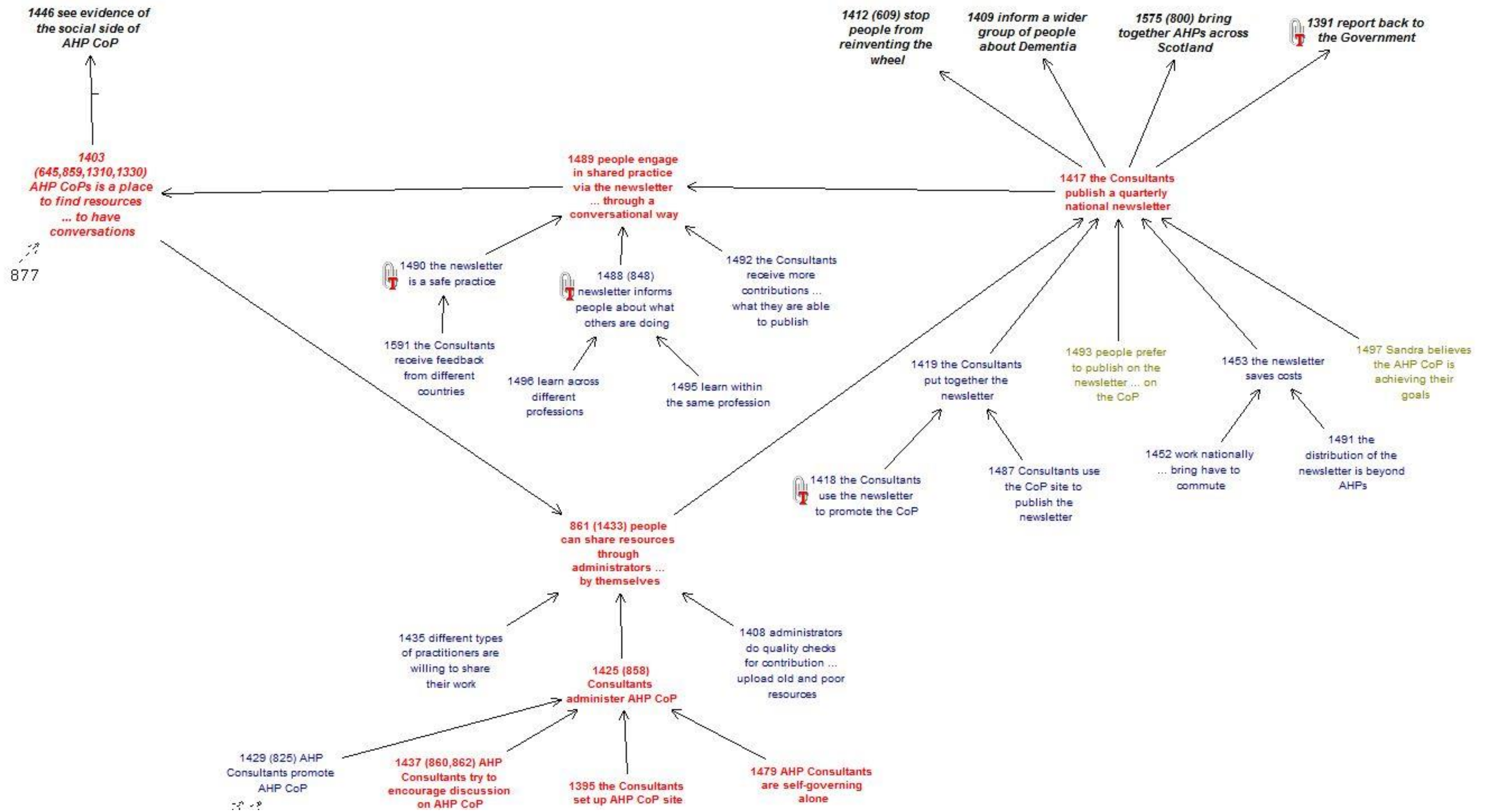


Figure 20: What results from setting up the community website?

Nonetheless there sometimes may be no other possibility than to code the interview post factum (e.g. when using the prior recorded material, or when coding someone else's interview), as it happened in this project. However, in order to better capture the interview more fully I was working with the audio recording without stopping rather than coding from the transcript. It allowed me to immerse myself in the recorded conversation, and to pay attention to the non-verbal cues (such as the tone of voice) which then can be helpful in identifying the possible goals and issues. It also gave an opportunity to practice coding in 'real time' which can be a helpful exercise before the subsequent interviews.

What may be misleading about learning cognitive mapping is that it may seem very easy and intuitive at the outset because one can simply start entering the nodes and connecting them together. Nevertheless if one does not follow the coding conventions (Ackermann et al., 1990) then one can easily end up with a map which is not very useful and not amenable to analysis. As suggested by Eden et al. (1992), inexperienced modellers often create maps that have too many links and too few nodes.

For example in the first attempts to produce the maps for his study, I was mapping roughly 35 nodes per hour of interview, whilst after reworking my maps three times from scratch and considerably revisiting the relevant literature I was coding on average 90-120 nodes per hour (I compare these two maps later). The explanation for this can be that inexperienced modellers do not code what they do not consider to be relevant, and that they bundle a number of concepts together under one generic node that represents them all. Such approach makes the map less useful because the very purpose of the map is to represent the problem in its full richness – the map should serve to better understand the problem without losing on its complexity (Eden, 2004). If one is able to note down the summary of the whole interview in 35 nodes, then the need for using cognitive mapping becomes questionable since one could as well do the analysis in their mind. That is not to say that the nodes with the same meanings should not be merged (e.g. 'set up a community website' and 'establish a community page'), but one must be very careful to ensure that the merged nodes really mean the same thing (especially if the merged nodes are coming from different interviewees).

When coding the map it is also important to maintain the natural language of the interviewee. The risk is that one can end up with the map that represents the modeller's thinking rather than that of the interviewee, meaning that the map does not pay justice to the empirical

material (Ackermann et al., 1990). I had fallen into this trap at the first attempt of coding my interviews and as a result I had to start the entire mapping process from the beginning. Furthermore, it is advisable to avoid duplicating the links when it is not necessary (Bryson et al., 2004). For example on Figure 20 the links would be duplicated if there was a link coming from node 1479 ('AHP Consultants are self-governing alone') to node 1417 ('the Consultants publish a quarterly national newsletter') because node 1479 is already connected with node 1417 through node 1425 ('Consultants administer AHP CoP') and node 861 ('people can share resources through administers … by themselves') within the same chain of argument. In some situations a modeller may be tempted to include such links, however adding too many links may bias the analysis of the map.

Learning from the maps: analysing the interviews

The extent of how much we can learn from the maps is highly affected by whether one appropriately follows the coding conventions (Ackermann et al., 1990), particularly if one expects to subsequently conduct the type of analysis that is informed by them (Eden et al., 1992, Eden, 2004). I illustrate this assertion by comparing two different versions of the map prepared for the same interview in this project. I include Figure 21 and Figure 22 *to specifically discuss the shape rather than the content of these maps* because the shape emerges from the relationships within the content and hence it can be a good starting point for analysing the maps. I will also occasionally 'zoom into' the maps to provide more detail in places where it is needed.

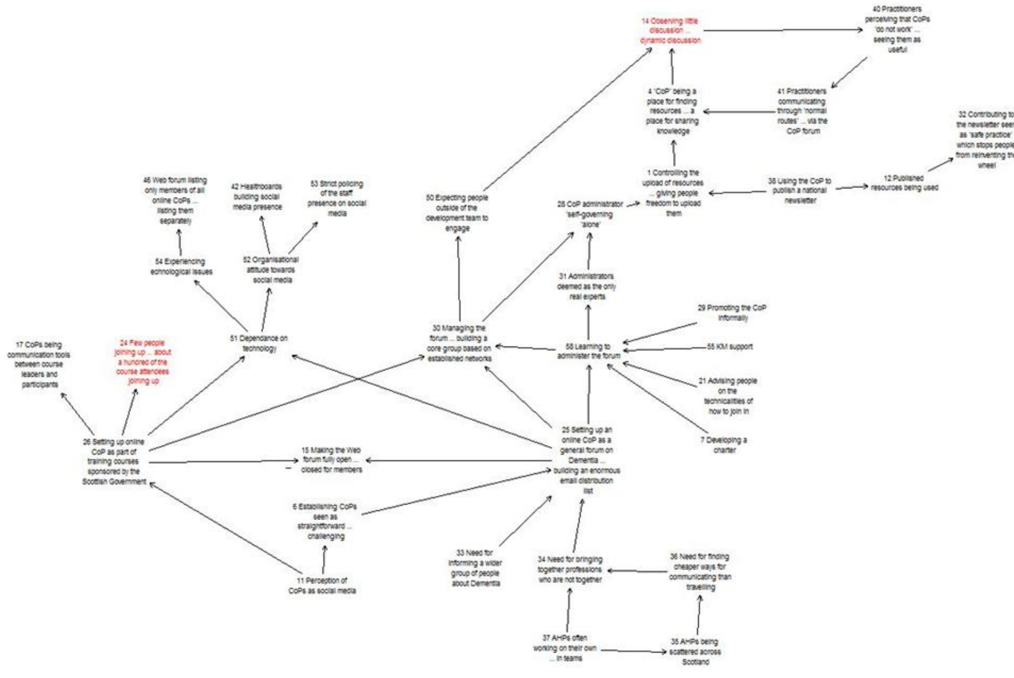


Figure 21: The shape of the first version of the map from the first interview

***Please note that I include Figure 22 and Figure 23 to demonstrate the differences between the shapes of these maps. The contents of these maps are not visible because the maps are shown in their full scale – normally only more manageable fragments of these maps would be shown to a reader.

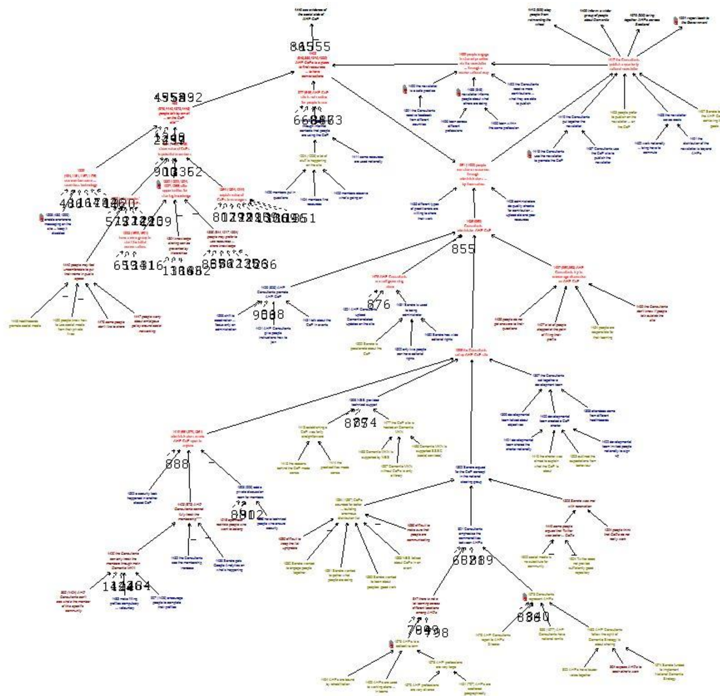


Figure 22: The shape of the final map from the first interview in the area of dementia

The map on Figure 21 clearly fails to adhere to the mapping conventions, and the map on Figure 22 was made after I had revisited the relevant literature about cognitive mapping having understood that my initial maps had not been of sufficiently good quality. The map on Figure 21 contains fewer (read too few) nodes and it also does not adopt the ‘teardrop’ structure (Figure 23); in ‘teardrop’ the most specific actions are positioned at the bottom of the map, subsequently leading upwards to the central and highly linked issues, and finally ending with the goals at the top of the map.

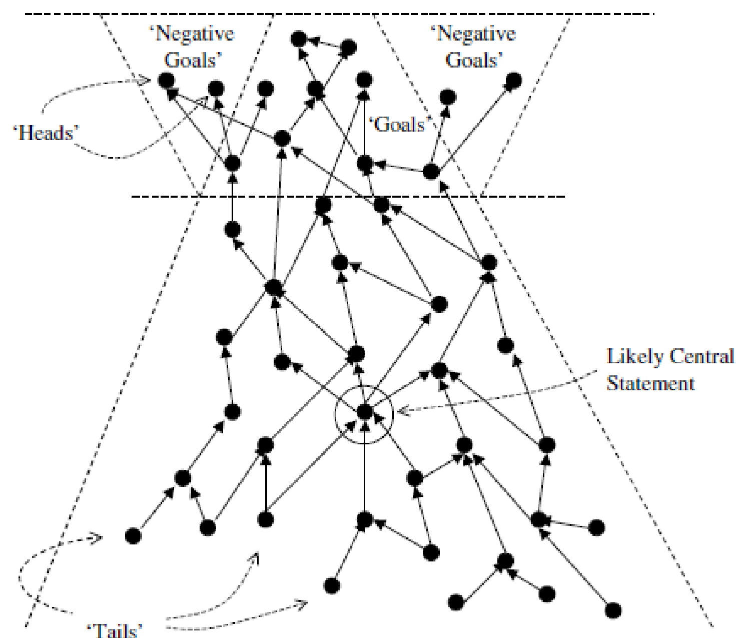


Figure 23: The ‘teardrop' structure of cognitive maps

Source: (Eden, 2004: 676)

The advantage of following the ‘teardrop’ structure is that it can make it easier to track the alternative bundles of action that can lead to completing the more generic options – as for example when I was discussing what actions it took to establish the CoP website on Figure 19. Since the map on Figure 22 does follow the ‘teardrop structure’, I can start interpreting it without even reading its content, and I can compare its shape with the shape of other maps which follow the same type of mapping logic. Here I can observe that the map on Figure 22 is mostly narrow, with more elaborate options ‘happening’ at its top, end with a few ‘heads’ (i.e. nodes which do not lead to any other nodes). However at the centre of the map there is one main chain of argument which does not diverge through most of the map until it reaches its top.

Interestingly, such initial observations may already be pointing to some potential findings before even taking a closer look at the maps. For example the long and linear (rather than diverging in more complex ways) chain of argument ending up with a rather few heads may perhaps signify an idealistic thinking about the problem where only one or a few outcomes are considered, while the more concentrated area at the top may be a place of some interesting dynamics that begs for getting explored. It is worth noting that the map which represents an idealistic thinking about the problem does not have to be inherently correct or incorrect, but again it is simply an initial observation that can be used for further exploration of the content of the map (I explore the content of these maps in detail in chapter 4 where I discuss my findings). If we compare this map with the map from a different interview which I conducted in the area of sepsis (Figure 24), then we can see that this other map is much more flat and the courses of actions in the bottom and in the middle appear more elaborate, while the number of heads is even smaller. Again, these are examples of potentially interesting observations that can merely serve as a resource for further analysis and discussion.

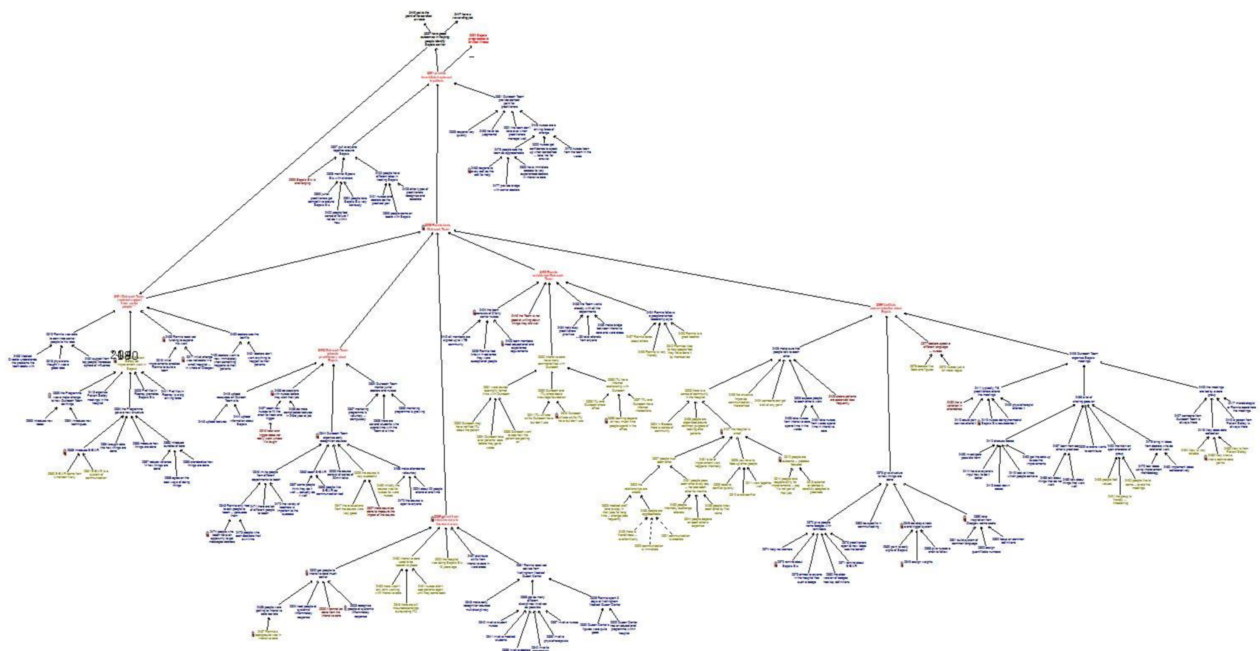


Figure 24: The shape of the first interview in the area of sepsis

After coding the maps and gaining some initial insights simply from comparing their shapes, I decided to merge the individual maps together. Merging is an important issue, however care must always be taken to ensure that the context (i.e. the meaning) of the merged concepts is the same – a useful indication is to compare the links coming in and out of the nodes under

consideration. Note that if one is doing this in Decision Explorer software then it is necessary to save the model prior to merging the maps because many of the changes cannot be undone.

At the first attempt at merging I brought the layouts of the respective maps (with each map representing a separate interview) into the same view (i.e. a window in the software that is used to look at the selected parts of the model) where I merged together the nodes coming from different interviews when it seemed plausible to assume that they referred to the same underlying meaning (e.g. 'promote the community website' and 'advertise the community website'), and I made the links between the maps where such links were also clearly stemming from the interviews (e.g. particularly when the interviews were discussing the same topics or issue in a similar way). However I found that the approach of merging the maps in a single view was cumbersome and confusing because of the high number of nodes that were dumped into it. As a result I decided that it was easier to merge the maps whilst working in separate views (i.e. each view representing a different person) rather than in one 'big view'. The logic of merging the nodes was exactly the same, as the main idea was still to look for the commonalities between the maps.

The reason why it was necessary to merge the maps rather than to conduct the analysis on the individual maps separately was because only then it was possible to gain insight into the 'emerging properties' (i.e. the hierarchies and the linkages) of the whole model (i.e. all of the interviews brought together) and not merely of the separate maps. The entire model can be very big – the model in this project after merging consisted of 1869 nodes. However, it is particularly when working with such large models that the cognitive mapping method offers us potentially powerful analytical capabilities (especially if we use specialised software, such as Decision Explorer). Because of that it was essential for me to become familiar with making use of different views in order to look at the whole model from multiple and concurrently more manageable angles.

The main purpose of the analysis is to better understand from the perspective of the interviewees which concepts are central to the problem, to identify the main themes relevant to the problem, and to make the complexity and the size of the map easier to manage by simultaneously retaining both its size and its complexity (Eden et al., 1992, Eden, 2004). It can always be a good idea to follow the 'visual inspection' of the map (which I have just demonstrated) with a *loop analysis*. This type of analysis identifies vicious and virtuous

circles based on the empirical material which might not be otherwise easily identified. The loops are important because they directly point to non-linear situations which can be self-reinforcing and which can have considerable consequences (Eden et al., 1992, Eden, 2004). In fact the map on Figure 20 which I have already discussed (the results of setting up a CoP) does contain an example of such a loop.

In another example on Figure 25 we can see a loop where the representatives of the NHS Education for Scotland (NES) were trying to develop a CoP that would be supplementary to a leadership course for healthcare practitioners holding senior positions. The course was sponsored by the Scottish Government, and the central part of the interactions of the CoP-to-be members (who were simultaneously attending the training course in question) was supposed to be a dedicated online forum. By reading the loop we can clearly see the vicious circle in which the respective parties found themselves in: the course attendees were more likely to communicate by email rather than on the CoP forum, leading to the administrators of the CoP not being happy about it, leading to the course attendees being called to the Minister to explain why they did not use the dedicated CoP forum, leading to the course attendees not trusting the CoP forum, leading to the course attendees using the forum to ask general questions but not to formulate their own opinions, which in turn brings us back to why the course attendees were more likely to communicate by email rather than on the CoP forum. By getting a clearer overview of such problematic situations we can then reflect on them whether to stop or to further reinforce them and potentially arrive at some interesting insights.

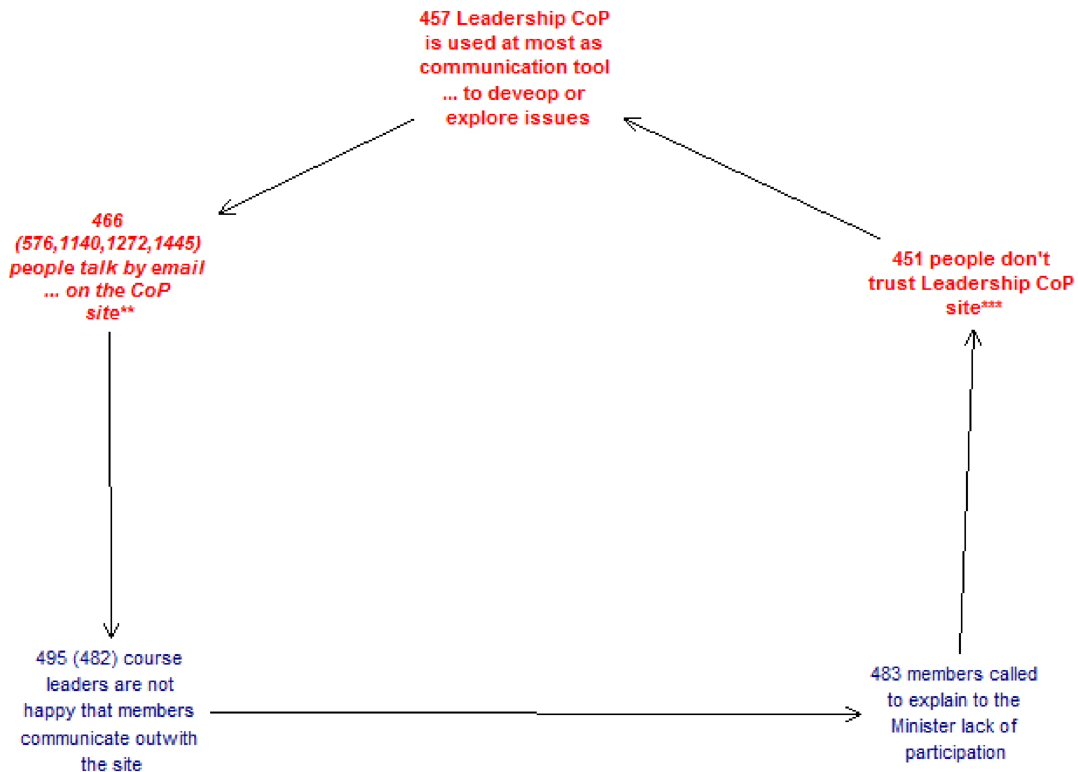


Figure 25: An example of a loop

Furthermore, using the Decision Explorer software I performed *domain analysis* (Figure 26) which ranks the coded nodes according to their numbers of inward/outward links. While domain analysis can point the researcher to the key issues in the model, some of those may be ‘catch-all-phrases’ that are very general and which may be hiding a number of other concept behind their label. Thus apart from domain analysis, another useful built-in algorithm is calculating the wider impact of the nodes on the map; this is called *central analysis*. In conjunction with domain analysis it can be helpful in identifying the key issues. In this project it was then possible to obtain an overview of these key issues by opening a new view and by hiding all the other non-issues (with the ‘collate’ option which I use extensively in chapter 4).

All concepts in descending order of value

11 links around
2287 make the CoP as lively as possible

10 links around
1264 (1294,1344) explain value of CoPs to managers
1417 the Consultants publish a quarterly national newsletter
2031 (1656) concentrate on four priority areas
2049 (2278) Ali runs Managers' Development Network

9 links around
*466 (576,1140,1272,1445) people talk by email ... on the CoP site***
486 people can't see the instructions
1248 (1228,1230,1458) encourage Champions CoP to share knowledge regularly ... only when they meet with the leader
1647 (1894) the small group learning in GPs has become recognised
1984 enable staff effectively share and apply their knowledge across traditional boundaries

8 links around
180 Patient Safety get all the boards together
203 (2332) Patient Safety do improvement work in Sepsis
381 negotiate what Sepsis means to practitioners ... discuss general topics
694 interviewee is not using the online CoP a lot ... use it a lot
1221 (1138,1345) show value of CoPs to potential members
1339 (484,1151,1167,1176) use cumbersome ... seamless technology
1603 develop Dementia Expert CoP
1653 (1953) Annette's team struggling to get concrete example of the use of KM ... get concrete examples of improving quality
1680 Annette's team support existing networks
1795 (2029) build a knowledge brokers network over next few years
1864 introduction of the KIA strategy
2299 (1113) rural boards are forced to use technology to be connected

Figure 26: Domain analysis

Furthermore I used the software to create the clusters of nodes that were closely interlinked, which in turn was helpful in identifying the relevant themes, such as ‘organisational culture’ or ‘technological issues’. These clusters, along with the emerging structure of the maps (e.g. their goals, issues, constraints), informed how I structured the nodes in NVivo so that it mirrored the model in Decision Explorer. The advantage of supplementing a model in Decision Explorer with a model is NVivo was to double check whether the maps and the analysis in the former make sense with respect to the gathered empirical material. In other words Decision Explorer can be used for building an argument, and then NVivo can be used for testing the argument, as applied by Page (2009). Moreover in this project NVivo proved particularly useful as a data management tool; but having said that I did not use the analytical functions of NVivo beyond that as I found Decision Explorer sufficient in this regard. Also, while NVivo comprises of its own mapping feature, Decision Explorer as a mapping tool is arguably much more flexible, robust, and powerful analytically.

Reflecting on learning to use cognitive mapping

Perhaps the biggest trap which I had fallen into when trying to develop my mapping skills was when I had initially assumed that cognitive mapping was a straightforward word-and-arrow diagram that could be learnt intuitively. I inevitably discovered the hard way that cognitive mapping, like any other research method, required careful learning of the rules by which it was governed. The initial maps which were not guided by those rules were not found to be of much use for this study and therefore all of them had to be repeatedly reworked after carefully revisiting the literature on SODA-style mapping. The tricky question was however that it was not entirely clear from which sources to actually start the readings. For example perhaps the most popular publication where SODA-style cognitive mapping has been applied extensively is the book by Ackermann and Eden (2011) which nonetheless seems to be more suitable for the more advanced rather than for the novice mappers (and which in fact is more about strategy making than about cognitive mapping).

The difficulty is that it may perhaps not always be easy for the thought leaders in the area to recommend the sources for the novices because of how tacit their understanding might have become over the years of practice (i.e. they may know it in terms of the ‘big picture’ rather than in terms of the basic issues of technical nature that a novice may be facing). The categorisation of the sources into the ones which proved ‘good to learn the basics’ was a non-trivial task, but based on my experiences of having to learn cognitive mapping from ‘zero’ it can be advised to start with the following more foundational sources: (Bryson et al., 2004, Eden, 1988, Ackermann et al., 1990, Eden et al., 1992, Eden, 2004, Eden, 1992, Eden and Ackermann, 2009b, Bryson et al., 2014). Subsequently one can venture into the more advanced sources which tend to assume that one understands the basics, such as: (Ackermann and Eden, 2011, Ackermann and Eden, 2005, Eden, 1994, Eden and Ackermann, 2000, Eden and Ackermann, 2013).

Moreover, apart from learning the cognitive mapping as a method, it may be very useful to familiarise oneself with the dedicated software Decision Explorer. The reason for this is because on the one hand the software can make the mapping process much more efficient, and on the other hand by learning about the tool one can arguably simultaneously learn more about cognitive mapping as a method. For this purpose it is recommended to visit the Banxia[8] website (the Decision Explorer’s producer) where one can find numerous training resources.

[8] See the website: http://www.banxia.com/dexplore/

After reading them it can also be a good idea to go through the Help file in the software, and to print off for one's own reference the list of software commands which can be also found there.

Furthermore, it appears to be the key priority for novice learners of cognitive mapping to accept the mind-set that the role of the mapper is to listen very carefully to the interviewee and to try to be as faithful to the original material as it is possible. The mapper therefore should try to code what the interviewee is saying without paraphrasing or summarising this content, as well as to capture as much material as possible in the form of short statements that retain the natural language of the interviewee – only then can the interviewee feel the sense of connection with the map. The researcher should also keep in mind that the map is merely a tool - a simplified and imperfect visual representation of the interviewee's thinking.

Nevertheless, while there are so many considerations to be reminded of in cognitive mapping, there can be numerous benefits to reap for those who decide to learn this research method. By literally forcing the researcher to listen carefully to the interviewee, cognitive mapping helps to ensure that the researcher understands what the interviewee is talking about. Lastly, it may give more structure and rigour to their own thinking about the collected empirical material, and it helps to enquire into the gaps in the discussed chains of arguments which thereby become more evident. While the structure can be regarded by some to be limiting, it is arguably flexible enough to support the researcher in making a better sense of their project.

3.5. Conclusion – methodological approach

My main intention in this chapter has been to present the design of this project in a coherent way with regards to questions of philosophical and methodological nature. It is worth noting that the way I have previously presented the review of literature, placing a strong emphasis on personal knowledge and on peoples' socially constructed meanings, has unveiled much about my philosophical assumptions. Essentially, it is by thinking more intentionally about such questions that one can see that there exist multiple ways of approaching or defining a given research problem and hence the question of methodological coherence becomes a non-trivial matter.

For example I can imagine inquiring into thinking together in CoPs and into their role in Organisational Learning (OL) within let us say positivist paradigm. I would then perhaps first

be trying to do some initial interviews in order to figure out the key variables which might be referring to the quality of people's informal learning partnerships, and how much they learn by addressing some problems together with those who share their genuine interests. I then might want to test that using a large scale survey or with a high number of structured interviews across various hospitals in Scotland.

However I believe that these topics can be also approached fruitfully within the interpretivist paradigm which I subscribe to. By concentrating on peoples' meanings, identities, and personal opinions; and by immersing myself in the studied situations as one of the participants, I can arguably stay close enough to the events and tune my attention to capture the detail, the richness and the dynamism of CoPs.

What stems from the action research character of this project is that I do not avoid changing the participant's mind, quite contrary – it is specifically by changing their mind that I can learn more about thinking together in CoPs. I am not measuring, but exploring and trying to better understand. This leads me to interviewing people in by large spontaneous conversations, discussing events in which sometimes I even happened to take part in.

The resulting material is rich and messy, and at first sight difficult to make sense of, and therefore it calls for a rigorous way of documenting and communicating the conducted analysis – and this is why I have placed a strong emphasis on the use of cognitive mapping. In such sense I am confident that I have constructed here a research design that is internally fairly coherent. But is it really? It appears that only by keeping this question reflexively open rather than answered, can I claim this alleged coherence. It seems like a valuable reminder as I progress into presenting the findings.

4. Findings and Analysis

4.1. Structuring the findings

In this chapter I present the findings and the analysis resulting from my empirical study in NHS Scotland over the period of 2 years. I draw here from 30 conducted or observed conversations, ranging from semi-structured interviews to loose discussions (Table 1). The average length of those conversations amounted to roughly 1 hour each and they took place in various hospitals or NHS offices across Scotland. I further supplement those conversations by second-hand readings and by the documents obtained or recommended by the participants.

I begin by briefly describing the relevant organisational background including such topics as the organisational strategy, the role of knowledge sharing and Communities of Practice (CoPs) in that strategy, and the learning culture. These general topics all apply to the three cases of cultivating CoPs in NHS Scotland which I subsequently present: the first one in the area of dementia, the second one portraying the use of CoP idea for building formal networks in healthcare, and the third one in the area of sepsis. The order in which these cases are presented is more or less correspondent to their chronological occurrence (for the dates of interviews see Table 1. Furthermore, while I present these cases separately in this chapter, in the next chapter I discuss them together while talking about the key issues stemming from the findings.

I structure this chapter based on the analysis which I conducted using the software Decision Explorer and NVivo (I write more about this method of analysis in section 3.3). That considerably helped me in organising and making sense of the rich, messy, and unstructured qualitative material which I was working with. First I mapped all of the interviews, with each individual map (i.e. one view) representing one person and not necessarily one interview. So for example I could have a view ‘Person XYZ’ with all of the conversations with that person coded under that view. Then I merged the nodes (i.e. the concepts) where it was possible by shifting between the views and by looking for commonalities between them. After merging the nodes I had a model comprising of 1869 nodes (i.e. concepts on the map) and 19 main views. I then used Decision Explorer to generate clusters which pointed me to potential main

themes in the model. That gave me 32 clusters, however some of those clusters were isolated problem areas rather than major patterns surrounding key issues.

I also decided to create sets of nodes corresponding to the three mentioned cases in this project: i.e. sepsis, dementia, and formal networks. I did this because some of the contexts and therefore the participants' meanings were too different to join them (although a few of the maps in dementia also appeared under the set 'formal networks'). For example when practitioners in sepsis talked about CoPs, they typically meant interdisciplinary monthly meetings; while practitioners in dementia typically thought about online discussion forums.

The generation of sets was important because if I had not done it, then the software would have run its analytical functions on the whole model, e.g. it would have looked for the central concepts among all of the nodes. That would not have been useful because it would have been comparing concepts between different contexts (read: cases). Thus only once having created the sets I run the analytical functionality of Decision Explorer to look for loops, key issues, or to identify catch-all phrases.

Having done the analysis in Decision Explorer, I used the generated clusters and the hierarchy of concepts from the maps (e.g. goals, issues, constraints) to develop a node structure in NVivo. At level 1 of that hierarchy I had three sets (sepsis, dementia, networks), and a few general topics which were applicable to all of those sets: 'technology', 'organisational knowledge culture', 'good quotes', 'loops', and 'action research' (i.e. the changes which I facilitated with my work). At level 2 of that hierarchy I organised the key issues identified in the analysis: thus for example under 'dementia' there were such key issues as 'CoP value to members', 'CoP value to managers', or 'coordinating CoPs'.

Subsequently I assigned the relevant fragments of transcripts and second-hand sources under those nodes, and while doing so I was double checking whether there were any mistakes or inconsistencies in the Decision Explorer maps based on those materials. That led to some minor updates, but no major alterations. I also did not use the analytical functions or mapping functions of NVivo as I believed that Decision Explorer was sufficient for my purposes in that respect – in such sense I could say that I used NVivo as a data management tool.

Consequently I had two models which mirrored each other's structure: a model in Decision Explorer and a model in NVivo. That was very helpful for making sense of the messy empirical material because using those models I could quickly jump between the fragments of cognitive maps, the analysis in Decision Explorer, and the corresponding parts of the empirical material. Thus while this chapter closely follows the structure of these two models, I have written it by actively switching between them in order to hopefully make the analysis clearer and more rigorous.

Table 1: Sources of empirical material

Participant	Role	Organisational area	Date	Location	Format	Anonymised?
Sandra	AHP Dementia Consultant	Dementia	29.06.2012; 05.07.2012; 14.11.2012; 22.04.2013	Wester Mowat Hospital, Airdrie	2 Interviews + 2 loose conversations	No
Kirsty	Anonymised – leadership role in the dementia area	Dementia	03.08.2012	Anonymised	Interview	Yes
Lauren	Anonymised – leadership role in the dementia area	Dementia	16.08.2012	Anonymised	Interview	Yes
Gillian	Specialist Dietician	Dementia	23.08.2012	Dept of Nutrition and Dietetics, Wishaw Resource Network	Interview	No
Jenny	AHP Dementia Consultant	Dementia	28.08.2012	Midlothian Community Hospital	Interview	No
Lynn	NHS Lanarkshire Care Home Liaison Physiotherapist	Dementia	14.09.2012	Law House, Carluke	Interview	No
Alan	Dementia Services Manager, NHS Shetland	Dementia	21.09.2012	Videoconference hosted by the University of Strathclyde	Interview	No
Emma	Anonymised – leadership role in the dementia area	Dementia	24.09.2012	Phone interview	Phone interview	Yes
Heather	Team Leader Angus Dementia Liaison Team	Dementia	28.09.2012	Stracathro Hospital, Brechin	Interview	No
Irene	Anonymised – leadership role in the dementia area	Dementia	20.03.2013	Anonymised	Interview	Yes

Sofie	Infection Control Nurse, NHS Dumfries and Galloway	Sepsis	17.04.2013	Dumfries and Galloway Royal Infirmary	Interview	No
Eddie	Nurse Consultant, Acutely Unwell Adults	Sepsis	20.04.2013	Crosshouse Hospital, Kilmarnock	Interview	No
Ronnie	Clinical Nurse Specialist, Critical Care Outreach Team	Sepsis	11.06.2013	West End of Glasgow	Interview	No
Outreach Team	Various types of professionals	Sepsis	12.11.2013	Borders General Hospital	Interview	No
Annette	Head of Knowledge Based Practice team	NHS Education Scotland	31.05.2013	NES Glasgow Office	1 Interview + 1 loose discussion	No
Ann	The Director of Knowledge Management Programme in NHS Scotland	NHS Education Scotland	10.06.2013	NES Glasgow Office	Interview	No
Ann and Annette	As described above	NHS Education Scotland	05.03.2012	NES Glasgow Office	Loose discussion	No
Annette and Sandra	As described above	NHS Education Scotland; Dementia	12.12.2012	NES Glasgow Office	Loose discussion	No
Cath	Knowledge Manager	NHS Education Scotland	31.05.2013	NES Glasgow Office	Interview	No
Derek	Senior Knowledge Manager (Acting), Knowledge Service Group, NHS Education for Scotland	NHS Education Scotland	31.05.2013	NES Glasgow Office	Interview	No
Knowledge-Based Practice team meeting	Various types of professionals	NHS Education Scotland	31.05.2013	NES Glasgow Office	Loose discussion	No
Alison	National Patient Safety Facilitator	Patient Safety	24.10.2012	Delta House, West Nile Street, Glasgow	Loose discussion	No

Hazel	Education Projects Manager, NMAHP, NHS Education for Scotland	NES	05.06.2013	NES Edinburgh West Port office	Loose discussion	No
Mandy	Programme Manager, Leading Quality Network	Leading Quality Network	14.06.2013	Management Science Dept, University of Strathclyde	Loose discussion	No
Ali	L&D Adviser, National Leadership Unit, NHS Education for Scotland	NES	15.05.2013	NES Edinburgh West Port office	Loose discussion	No

On Figure 27 I also include a reminder to the styles of nodes used in the cognitive maps constructed for this thesis.

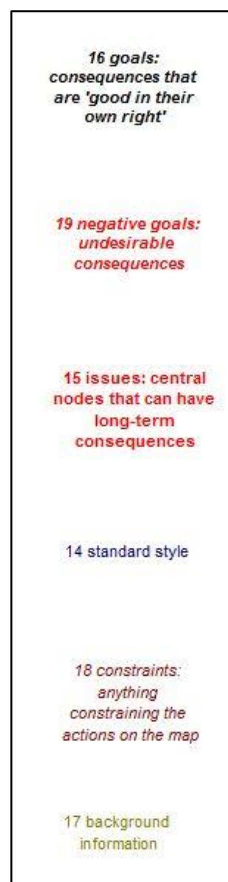


Figure 27: The style of nodes in the maps used in this project (reminder)

4.2. General background to NHS Scotland

The role of Communities of Practice in the strategy of NHS Scotland

Due to the fact that health and social services is one of the devolved matters of the Scottish Government, it controls NHS Scotland by its legislation (scottish.parliament.uk, 2014). While one might view NHS Scotland as one large organisation, it comprises of 14 health boards which cover different parts of the country, all exercising a fair level of autonomy:

> "NHS Boards in Scotland are all-purpose organisations: they plan, commission and deliver NHS services and take overall responsibility for the health of their populations…" (ournhsscotland.com, 2014b).

Today the strategy of NHS Scotland is influenced by the forecasts warning about the ageing nature of the Scottish society:

> "Over the next 10 years the proportion of over 75s in Scotland's population – who tend to be the highest users of healthcare services – will increase by over 25 per cent. By 2033 the number of people over 75 is likely to have increased by almost 60 per cent … There will be a continuing shift in the pattern of disease towards long term conditions, particularly with growing numbers of older people with multiple conditions and complex needs such as dementia…" (ournhsscotland.com, 2014a).

In order to address these challenges NHS Scotland has introduced its Quality Strategy, which goals are to deliver healthcare that fosters closer links between patients, their families, and carers. The healthcare is to be delivered in a safe environment that is free of avoidable injury or harm to patients (scotland.gov.uk, 2010a). The Quality Strategy is supplemented by the '2020 vision' which outlines a vision of healthcare that is integrated with social care and which to a larger extent is delivered in home setting (scotland.gov.uk, 2011a).

When I asked Dr Ann Wales, The Director of Knowledge Management Programme at NHS Education for Scotland (NES) about the NHS strategy, she emphasised that the Quality Strategy and the 2020 vision were closely interlinked:

> "The two big top level policy drivers for the NHS and social care in Scotland just now are the Quality Strategy … and also the 2020 vision. These are both interrelated …they are the two sides of the same coin in a way. The Quality Strategy is all about applying improvement approaches to ensure safer, more effective, and more person-centred care. And the 2020 vision is in a sense the narrative. You know, the 'how we achieve those better outcomes.'" (Ann, The Director of Knowledge Management Programme at NHS Education for Scotland).

Dr Ann Wales also commented on the role of knowledge sharing in the context of this strategy (Figure 28). She noted that due to the fact that the 2020 vision required healthcare practitioners to continuously work on improving quality of care, pooling each other's knowledge, and working in closer collaboration with social services, then knowledge sharing was gaining on its importance. That in turn could call for Knowledge Management and such concepts as CoPs:

> "You can see that the whole principle of working to share knowledge and apply knowledge across boundaries is absolutely central … to achieving those high level policy and care aims … That's very much dependent on … the ability of healthcare professionals to work in close partnership with patients, service users, and community members. And to exchange knowledge with them so that they arrive at a kind of common shared set of decisions on how care is going to be delivered ... So yet again like the CoP model, it's all about capturing and sharing knowledge across traditional boundaries. About creating new knowledge … based in that bringing together of experience and expertise, and then taking action … on the basis of that shared knowledge. So the integration agenda and the person-centred care agenda as … big priorities for health and social care just now I know have very strong roots in the same principles as CoPs."

> "… The ambition or strategic goal of integrated care working across sectors is heavily dependent on us [NHS Education for Scotland] providing methods and mechanisms and tools such as CoPs that enable health and social care staff to share their knowledge and experience more effectively so that they can work as a much more integrated team. So delivering that multi-agency cross boundary model of care has … a closed dependency I would say." (Ann).

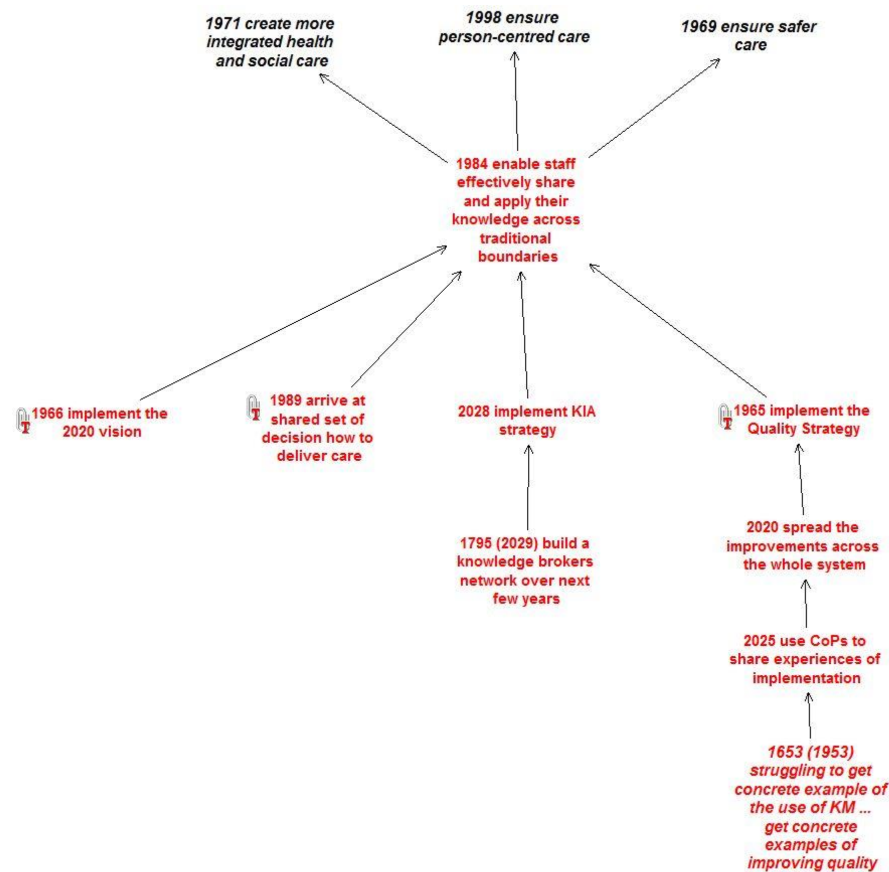


Figure 28: The role of knowledge sharing in NHS Scotland strategy - goals and issues

* The map has been merged from the interviews in the NHS Education for Scotland. This is collated map coming from my analysis which portrays goals and issues for the role of knowledge in NHS Scotland strategy. The hidden details which fall under these goals and issues are discussed in this section under corresponding headings. In this thesis I include these kinds of maps in order to provide the reader with a visual overview of how these central elements come together as stemming from my research.

The organisation mentioned by Dr Ann Wales which specifically deals with the issues surrounding education, Knowledge Management (KM), and knowledge sharing is NHS Education for Scotland (NES). It is a special health board responsible for training and educating healthcare professionals (nes.scot.nhs.uk, 2014b). NES, among other functions, administers the Knowledge Network – an online learning portal and a resource library. Within NES, one of the teams involved with the topics of networks and CoPs is the Knowledge Based Practice team (nes.scot.nhs.uk, 2014a).

I asked Annette Thain, the Head of the Knowledge Based Practice team, why they had originally become interested in the idea of CoPs. She said that the team had their roots in the librarianship services, but the emergence of KM and such approaches as cultivating CoPs was an opportunity for them to extend their role and to support the application of medical knowledge in practice. They were also further inspired to facilitating CoPs by an invited speech delivered by Etienne Wenger in NHS Scotland:

> "…We really wanted to shift from being librarians or custodians of knowledge to actually supporting the implementation [of knowledge]. And the communities were seen as a key way to actually do that".
>
> "We started back in 2003 talking about networks. And that was at the time that the Managed Clinical Networks were being formed [formal and coordinated networks of practitioners] … They have started to prove themselves as a useful way of organising clinical teams. And so we started looking at it around that time. And it was in about 2005 that we had Etienne Wenger come to speak to us about it [CoPs]. So we've been kind of thinking about this [CoPs] for a long time…"
>
> (Annette, Knowledge Management Coordinator at NHS Education for Scotland).

More recently, Annette has observed an increasing interest from the broader organisation in CoPs, as that concept was becoming recognised as a good way of improving practices in healthcare:

> "… In the past few weeks NES Education Development Director suddenly had taken an interest in CoPs as … social learning … And we're being questioned

> about it more: 'oh, what do you do about communities?' I mean, nobody has ever asked us as much about our communities [laughing]. We've been kind of working away. So there's definitely something around their interest. And I think it's connected to the fact that the whole implementation of guidance and guidelines … Everybody's beginning to recognise the need for the social learning in order to actually make these changes in practice that are sustained." (Annette).

By the same token I asked Dr Ann Wales about the history of NES's involvement with CoPs. She stressed that NES from its very beginnings had been focusing on CoPs as a way of translating knowledge (understood both as research evidence and as practice-based knowledge) into the existing practices:

> "There's a methodology behind it and the reason we were initially attracted to do it [cultivating CoPs] … From the way back in 2004 to 2005 was because of the focus on practice. You know, changing practice through that creation, that social sharing of knowledge. Because that's ultimately what we're all trying to do - to improve practice. So it's more than just the learning, it's the impact on the practice that's the big attraction for us." (Ann).

The focus of NES on translating knowledge into practice manifests itself in its Knowledge into Action approach (Figure 29), which in response to the NHS Quality Strategy and to the 2020 vision "aims to support the care of individual patients in local contexts by combining and contextualising different types of knowledge, including the research literature, the experience of practitioners, patients, and carers, data from practice activity, and the context in which services are delivered" (knowledge.scot.nhs.uk, 2013: 94). Dr Ann Wales who had been leading Knowledge into Action commented that at its heart was building a knowledge broker network where practitioners from across different disciplines would be connecting and supporting each other with their expertise. That was yet another reason for NES's interest in CoPs:

> "As you know, one of the core offerings within the Knowledge into Action service model we're developing is that this knowledge broker network of librarians and others across the system will be able to offer is a support for the social and relational use of knowledge. And CoPs are facilitating and supporting

that intentional development of communities in an effective way. It's one of the key offering that we aim to bring to support local and national improvement and quality outcomes across the piece". (Ann).

One of the individuals supporting the development of the knowledge brokers' network is Cath Ferguson, Knowledge Manager working in Annette's team. She also saw the CoP concept as being integral to the network:

"CoPs are really vital part of it [the knowledge brokers network] because it's a way of capturing a different type of knowledge as well. You know, when you've got individual knowledge and experience ... CoPs are vital for that as well, as also sharing published knowledge and research, findings, and what people been doing. So yes, to me it's pretty much a bedrock of being able to do that – to translate knowledge." (Cath Ferguson, Knowledge Manager at NHS Education for Scotland).

Figure 29: Knowledge into Action approach

Source: www.knowledge.scot.nhs.uk

Furthermore, according to Dr Ann Wales another way how CoPs fitted well with the organisational strategy was in the fact that the strategy prioritised technology-enabled learning, which in turn could justify developing online communities:

> “As part of their workforce development to support this 2020 integrated vision there is a recognition that technology-enabled learning needs to be used much more to provide learning opportunities for the workforce ... And within that technology-enabled learning sort of remit, one of the key areas for development will be social networking and social media. You know, as technology tools to help people share and spread knowledge for improvement. So while … from one perspective the technology-enabled learning development strand can be seen as about technology, there’s a very strong cross-over with CoPs as an effective mechanism for people to engage with technology, to do that creating and sharing of knowledge.” (Ann).

As a result NES have been providing the infrastructure for practitioners interested in leading online CoPs, as well as the basic training how to administer the web space for such communities. However, Annette observed that the life of those communities would not necessarily be taking place on the dedicated discussion forums, and therefore it could perhaps be easier for NES to find evidence of supporting productive CoPs by shifting their attention to face-to-face communities. The problem was that NES was often strongly associated by practitioners with the technology because of their support of online libraries and networks:

> “Last year we created using our technology 38 new Websites, new community Websites started. Now, some of these will have begun to fall away by now. And we are increasingly creating communities within larger structures so that, you know, we’re not giving them all new websites. But we’re giving them … sections of websites. … I couldn’t possibly put a number on the number of communities [slightly silencing the tone of voice] … Within children services there are some communities there, definitely. They’re all supporting the clinical networks within children services. And I was recently asked to have a look at something. And I realised there is actually quite a lot of activity there. You know, there’s a lot it that goes a bit hidden. We don’t necessarily realise what’s going on.”

> “… What we need to do is … get some evidence of actually working with only… a team or a community, or a network … who are not using IT [Information Technology]. Because almost that’s where we’re going to get the shift to recognise the value of these things … Because people associate us so much with

> the technology that they don't always give us that in to say: 'OK, we can do this. You don't need to use our technology' [laughing]."
>
> (Annette).

The need of collecting the evidence of supporting well-performing communities was also stressed by Dr Ann Wales because in her view it would be instrumental to receiving more support from the top decision makers for similar initiatives:

> "I feel very strongly that we can do a lot more with more political support and recognition of the potential of these [Knowledge Management] methods. We could do a lot more to use CoP methods in a much more focused way, that is really linked in with what matters to the health service and to the practitioners and then their patients." (Ann).

It then appears that there exists a good ground for cultivating CoPs in NHS Scotland because of its strong match with the organisational strategy through the notion of translating knowledge into practice. Nevertheless, the potential of CoPs remains not fully realised because of the difficulties with collecting the evidence of well-performing communities. These are certainly useful, even if somewhat general pointers for further exploration in the three cases that I subsequently discuss here. However before we continue to these cases, let us look first into how the practitioners in NHS Scotland view the learning culture within their health boards as it may give us further insight into the organisational background that may subsequently inform the following discussion.

The learning culture in NHS Scotland

A major source of change in NHS Scotland over the last years has been the 'Agenda for Change' which was agreed back in 2004, and which allocated all jobs to one of nine pay bands that depended on the knowledge and the type of responsibility required to perform that role (nhsemployers.org, 2014). Within each band the staff have to agree a progression plan with their manager which is informed by the Knowledge and Skills Framework, i.e. a list of core dimensions of one's development at work such as communication or service improvement (ksf.scot.nhs.uk, 2006).

Some of my interviewees expressed their concerns about the effects of the Agenda for Change on peoples' learning. While I can imagine that not everyone would necessarily agree with all of their views, these accounts still direct us to some potentially important problems. In the first account, an anonymous participant in a leadership position was concerned that due to the Agenda for Change many practitioners were reluctant to engage in additional learning, such as developing peer-mentoring groups, which would not be explicitly linked to their formal personal development plan:

> "It used to be that we were on different pay scales. Like nurses were on one pay scale, all OTs [occupational therapists] and physios [physiotherapists] on a different thing … And then what they called the Agenda for Change came in and put everybody on one pay scale, and brought in this thing called the Knowledge and Skills Framework, KSF. And … it's been really years and years since it came in and people are still unhappy. And what used to happen… If I went back to before the Agenda for Change came in, and I said to a group of occupational therapists: 'I'm thinking about doing a special interest group. We're gonna' run it at 4.30 in the evening. Em… 4.30 to 6.30, and I'll give you like a couple hours back for it, just if you want to attend' – people would come! [quite enthusiastically] And you would get a lot of people. People would put effort into organising it, and people would use their spare time to do it. See if you tried to do that now, not a chance [in a resigned tone of voice]. People will go just like that: 'do I have to do this? Is it in the contract? – No. – Are you asking me because you're my manager and you're saying that I really have to do it? – No. – Well, I'm not doing it then.'"
>
> "People work to the job description and won't go further than that. It's just a real shame".
>
> (Anonymised, leadership role in the dementia area).

Another anonymous interviewee in a leadership role was concerned that practitioners who reached the top pay within their band no longer had a sufficient incentive for further self-development. However the participant added that such incentives did not have to be monetary because peer recognition and a manager's recognition might be good enough:

> "… If you've developed yourself beyond the capacity or the remit of your position, I don't think that there's any extra reward for that. You have to be quite motivated then to keep going because … you reach the ceiling quite quickly, of the position you're in. And so then what's the rewards to keep motivating, to keep developing? … I think the organisation is worried that if it recognises somebody's increasing knowledge, that they will have to recompense them with the financial reward. And actually I don't think that's required. I think many times people would just like to be appreciated and acknowledged for their knowledge! And they're not expecting something different in their pay check. They just want somebody to say: 'that's a great piece of practice you've done there, that's really good, whatever'. And to hold them up to their peers around them and acknowledge them publically maybe even. But we don't do that." (Anonymised, leadership role in the dementia area).

Another factor which appears to influence the organisational learning culture is its drive toward evidence-based practice (i.e. practice informed by published research) and the standardisation of practices across different sites which might lead to both positive and negative outcomes. These are very popular issues in healthcare in the UK which I have previously touched upon in the literature review when talking about CoPs in healthcare. Jenny Reid, AHP Dementia Consultant, seemed supportive of that direction as an opportunity for improvement, and she thought that it required more effort on the part of the practitioners:

> "… I think there's probably a wee bit a move towards trying to make things a bit more uniform. But hopefully it's the good stuff that's uniform. So I think in the past there maybe was a bit more flexible and easy". (Jenny, AHP Dementia Consultant).

However an anonymous leader, while also appreciating that the standardisation could improve practice, noted that on the flipside it had negative effect on people's bottom-up initiatives to better the quality of care:

> "Currently the culture is quite hierarchical. It didn't use to be [in a rather negative tone]. It used to be quite flat. And as a senior charge nurse you had the ability to go out and to decide yourself how you wanted to provide care. But now it's very

much, it's top-down telling you. Now it's research-based practice. But we all have to do the same. Everything has to be the same across all sites. Everyone has to use the same documentation, the same tools, and I suppose from that perspective has made an improvement in care. But it's probably stifled creativity". (Anonymised, leadership role in the dementia area).

The same interviewee added that the standardisation of work forced highly performing wards to change how they did things, which resulted in people feeling constrained by their job descriptions:

> "We kind of have situations where we have senior charge nurses running fantastic wards, standard of care is excellent. If you go and measure it, you will always get that things are done really well. And they have to change their systems because the hierarchy have decided 'this is how we want to do it'. So it is not that what they're doing is wrong, it's just different. They're not allowed to be different any longer. So there's no creativity there. People just get fed up. 'We'll just do it, just do that, just do it because I've been told.'" (Anonymised, leadership role in the dementia area).

Furthermore, the interviewees agreed that learning was valued in NHS Scotland as the means of improving practice, however the available time for learning could be highly limited particularly in very busy areas. Lynn Flannigan, Care Home Liaison Physiotherapist, commented that busy practitioners could have less time to attend formal training:

> "I think in some areas where there's high pressure it [finding time for training] might be quite difficult. And likely, you know, if you work in say an A&E department, for instance, you know. If you're in an area where there's short staff … There was maybe high waiting list. Then … it might be a bit more difficulty freeing people up to do to … more formal forms of learning because obviously there's targets to meet, you know, there's waiting lists to meet. But I do think generally the organisations are trying to be accommodating this as possible. Because as I said, they see that the recognition that without that … high performing work force … you're not gonna' meet your goals either" (Lynn, Care Home Liaison Physiotherapist).

Irene, leadership role in the dementia area, added that as a result of service pressures people might be constrained to reflect on the practice, which could impoverish their learning experience:

> "I think that learning is important to the organisation in some ways [pause] … because they recognise that they have to achieve certain objectives and standards. So therefore they recognise that they need to have staff who can actually help to deliver on that … I sometimes think we don't allow staff the time and the opportunities to reflect in order to gain learning. Because knowledge comes in a variety of different ways, as you know. You bring knowledge yourself, your experience, the opportunity to actually be part of education." (Irene).

There was also a visible pattern in the interviews in that the service pressures were impeding on the Continuous Professional Development (CPD) time (i.e. protected time for learning), and therefore whether they actually got that time depended on their manager's decision:

> "… You've got still pressures on you from other areas, and quite often that time is eroded by other tasks that are put to you that you have to do. You know, somebody phones to say: 'you need to do such and such a thing'. Or a meeting is set up. And the only place to do it is in the time that you will be allocated for your CPD". (Alan, Dementia Services Manager).

> "… As an OT [occupational therapist] you're supposed to get half a day a month of CPD time. So, something like that you would think might be ideal … However how is that implemented depends on a manager-to-manager basis. It's hugely different. So on the one hand, if you've gone on a week-long training course in January, it might be that the manager says: 'well that was a week-long course, so that's basically ten of your half days'. Which means that for the whole year, that's you've used up all your half days - you're not allowed anything else. This is ridiculous [slightly irritated]. The other extent of that is managers who just waive their staff members off for one day a month and they've no idea what they are going to do." (Anonymised, leadership role in the dementia area).

"… We have to do Continuous Professional Development for our registration. And to do that, we're supposed to get a certain amount of time per month for CPD. And we don't always get that amount of time". (Gillian, Specialist Dietician).

"Every second year you have to renew your registration. Without that you can't practice. And part of that is that you sign off to say you've kept your skill updated. You know, you've done your continuous professional development. So that's part of keeping your professional registration. So managers need to support it. I think it's just… Their understanding of what that means would vary. Some would give you more time." (Jenny, AHP Dementia Consultant).

In another identified pattern the interviewees referred to a cultural barrier that many practitioners were quite precious or unconfident about sharing their knowledge with others:

"I think sometimes professional jealousies come along as well. You know, 'who does she think she is doing that…?' And that's probably the same in any organisation I would imagine, whether it's Shell or the NHS. There's gonna' be people that are going to hold close their knowledge to advance their own careers".

"There is a little bit of preciousness I think at times when people are saying: 'but this is my idea, I'm holding it here, I'm not gonna' tell you'… So we have to go over that I think as well".

(Anonymised, leadership role in the area of dementia).

"One of the main barriers to that information being shared properly is a lot of people are quite precious about the work that they've done. So they'll say 'oh, you can have a look at it, but you can't use it!'" (Gillian, Specialist Dietician).

"… I think that there are people who are either too modest - who don't think that what they're doing is good enough for sharing. Or people who are a bit suspicious, and maybe want to… Would like the benefit of other people sharing, and aren't very good at it". (Jenny, AHP Dementia Consultant).

> "And actually what we don't do is share things that didn't go well. And probably there's more learning in things that don't go well, that didn't work. Who's gonna' share that? Cause that's the part around 'we all want to make out we're all doing a fantastic job'. So people are less likely to share". (Kirsty, leadership role in the dementia area).

> "People are quite precious about things that they've done themselves, and they want to keep it as themselves". (Lauren, leadership role in the dementia area).

However, Lauren acknowledged that Lanarkshire health board distinguished itself as being exceptionally knowledge-sharing-oriented, which contributed to its good reputation in NHS Scotland, and which thus testified for the benefits of knowledge sharing as for example a way of enhancing one's reputation. I compared the websites of the Lanarkshire health board with the other health boards in NHS Scotland. Indeed, the list of publications by the Lanarkshire health board was fully accessible and easy to find and I could find there a Learning Strategy which explicitly expected from practitioners and their managers to actively share their knowledge and to promote a culture of learning (Dunne et al., 2012). Here is what Lauren said:

> "NHS Lanarkshire … they share everything – they're brilliant. If they develop anything, they'll share it. They don't care who gets it. And they kind of say: 'as long as you credit it to them, they don't mind.' So the expectation is that you think that everybody's going just about to copy Lanarkshire stuff and they won't get the credit. But that isn't the case at all. It's just that in Lanarkshire now everybody have a very good reputation cause we all see their stuff. I was in other health board areas, so there's an awful lot of competitiveness. So people are actually reluctant to share. You know we're just a wee Glasgow, we're competing with Lothian, or occupational therapists could be competing with physiotherapists and so forth. So I think that there can be rivalries there that make it that people feel very vulnerable putting something out there for everybody to see, especially if they are one of the few people who are doing it. I think that Lanarkshire are forging ahead with that, but we could all learn a lot of from them."(Lauren, leadership role in the dementia area).

Consequently what we can learn here about the culture of learning in NHS Scotland is that on the one hand it is varied across the health boards and different locations, and that it depends highly on the promoted values and on the approach of the local management. However there are also some key aspects of this culture which seem to be similar across the distinct contexts, as stemming from the accounts of the interviewees who occupy different roles and who are located in different health boards. One shared aspect is that there is a drive towards the standardisation of practices which has impact on how work is done, forcing the local units to unify their processes. Moreover there appears to be considerable competitiveness between the health boards which leads to barriers in knowledge sharing.

Having said that, at least at the level of espoused theory NHS Scotland seems to value learning and knowledge sharing as long as it leads to improvements in work (read: as long as it is very clearly justified). Since the practitioners' Continuous Professional Development (CPD) time is in the remit of the line managers, it is easy to conclude that any resources or time dedicated to knowledge sharing, such as facilitating more official CoPs, must be essentially agreed with them. This gives a picture of a learning culture that is very pragmatic and task-oriented. To judge whether that is good or bad may not necessarily be within the remit of this project; however such considerations can be a helpful preparation for thinking reflexively about the three cases that are now to follow.

4.3. Bringing Dementia professionals out from isolation

I now present three cases of cultivating Communities of Practice (CoPs) in NHS Scotland which are based on the conversations with different practitioners, members of alleged CoPs, about their views on CoPs and on social learning. While talking with them I was emphasising the things that they had found to work and others that had not worked with regards to CoPs. We must remember that modern organisations are still learning what it means to learn in an organisation and as an organisation. We are still trying to understand the ways of supporting knowledge and learning, as well as fostering such forms of organising as CoP. The professionals from these cases were trying to figure out the best ways of helping healthcare practitioners to make the most of their potential. They were all enthusiastic individuals who were striving to improve care for the good of patients. Their successes and failures are our resource for learning, and especially in terms of the latter I am thankful to them for sharing with me their stories.

Setting up a Community of Practice for Allied Health Professionals

The first case which I discuss took place in the area of dementia, which is "a syndrome (a group of related symptoms) associated with an ongoing decline of the brain and its abilities" including problems with memory loss, language, or thinking speed (nhs.uk, 2014a). In the UK an important role in helping patients with dementia is performed by Allied Health Professionals (AHPs) who are a number of professions specialising in supporting people in their recovery. AHPs include, among others, occupational therapists, speech and language therapists, art therapists, and dieticians (scotland.gov.uk, 2014a). Nonetheless, although AHPs are bound with common purpose, they tend to work alone rather than as a team as they shift between different hospitals:

> "What binds the AHPs is the rehabilitation."
>
> "AHP, Allied Health Professionals, is just a collective term that pulls this together. But there is no such thing as an Allied Health Professional embodying everything."
>
> "It's interesting just in terms of culture. Allied Health Professions, we tend to be alone. We tend to work on our own clinically. You know, for example, if you work in a hospital, we might sit in our department with our colleagues, but when we see our patients we go out to wards. So we see our patients in somebody else's environment ... Whereas nursing, for example, they tend to work in wards or in teams, and they tend to be in professional groups. They tend to work alongside each other... They're usually in teams. We're more used to be alone, working on our own."
>
> (Sandra Shafii, AHP Dementia Consultant).

Sandra also noted that AHPs have expertise in different stages and in different aspects of dementia; hence it would make sense for them to learn from each other so that they can do their jobs better:

> "Someone with dementia might never see somebody from speech and language therapy until they're in the end stages of life, because they have swallowing

problems. However that dementia journey can be 10 or 15 years. But speech and language therapists have got *fantastic* knowledge and information and support to offer people at the early stage. But you will not see that practitioner, but you might see an occupational therapist. So we should really, as occupational therapists, be able to represent that knowledge as well and embody that. And link that in and share some of that because you're not gonna' see the expert." (Sandra).

Consequently the AHP Dementia Consultants (experienced practitioners who are appointed as national advisors to other professionals in their area) believed that it would be beneficial to expose those different AHP practitioners to each other's practices: on the one hand that could perhaps prevent 'reinventing the wheel' and allow for arriving at ways of doing things that seemed to work well for everyone, and on the other hand that could contribute to seeing dementia from a more holistic view – i.e. as a journey comprising of different stages which all needed to be understood and looked after. Such direction was expected to be in line with the National Dementia Strategy which emphasised making knowledge about dementia more available, and connecting different types of healthcare professionals specialising in dementia with social services workers (scotland.gov.uk, 2010b). As Sandra and Jenny, both AHP Dementia Consultants, commented:

"It's from that need to bring together professions who are not together around an agenda that they don't really see as being theirs in terms of dementia."

"One of the things that came out from a [AHP] conference that we had was… we all thought we knew what each other did. But what we thought we knew was very much of the time when we were students maybe, and when we were on placement we were sent to spend a day with the physiotherapists. So if you've been 20 odd years in practice, your idea of what a physiotherapist does is 20 odd years old. And you just know that's not what it's like today. So really what we need to do as a family of professions is actually joining together, and understand, and know more about what it is that each other does."

(Sandra, AHP Dementia Consultant).

> "I think probably traditionally AHPs haven't necessarily all joined together. So you might have speech and language therapists who would speak to other speech and language therapists, and dieticians and physios together, and OTs [occupational therapists] together. And what we've tried to do is bring us across the profession. So we're a leader voice and, kind of, recognising that we share lots of things in common. We're each different, but there's a lot of commonality. So it would make sense. We've got a louder voice together." (Jenny, AHP Dementia Consultant).

Aiming to bring the AHPs together the Consultants were thus looking for a suitable approach for facilitating learning across the professions. During that time they heard about the CoP idea from the representatives of NHS Education for Scotland (NES):

> "I thought – I have this job to do. How I'm going to do it? How I'm going to communicate? How I'm going to engage, involve, gather what people are doing just now if people are doing good work … How am I going to know about it? How do I make sure then if I'm asking for help or for the information, that I am asking widely and that it will be inclusive? How am I going just contact everybody? It was actually through contact with the Knowledge Network. They came along to talk to us in Lanarkshire about something around knowledge, Knowledge Management ... And the CoP concept was mentioned in that work. And I immediately kind of clicked onto that and I thought: 'aha, now that sounds ideal'. A CoP sounds far better than building an enormous email distribution list which would take for everybody just as long as the motorway. It's absolutely massive and how to keep that up to date and how to make sure that people are also communicating with each other. So I thought: the CoP as a concept – that sounds like it's got some potential for me, for my post. I then contacted Annette Thain [from the NHS Education for Scotland], she was given to me as the contact, and that is whom I reckon that started from." (Sandra, AHP Dementia Consultant).

> "And part of our job is [pause] trying to make everybody think that dementia is part of their role. You know, you might work in a medical ward, you know the Royal Infirmary. And you might not think that dementia is a part of your job. But actually, you know, 25 to 50% of the people in that ward have dementia. So,

that's part of our job is trying to make people think that even if you're not working in a specialist dementia team, you need to know about folk with dementia cause they're using your service. And they might not be getting a very good service. So I suppose it's for us, how we capture those people that maybe don't traditionally think it's what their applied for. 'I didn't apply to be a dementia physio'. But actually they'll see loads of folk with dementia. And I think those people could probably get quite a lot from our CoP. Cause they're not necessarily very well supported in their team." (Jenny, AHP Dementia Consultant).

However according to Sandra, the idea of pursuing the CoP approach was initially found with some opposition among their peers:

"… The CoP sounded like an ideal vehicle. So ... basically what I did was, I took that to our national steering group and said: 'I think this is the way to go', to be met with a lot of … probably reservation. And people with past experiences of CoPs would have said: 'it's just rubbish'. You know: 'I'm in six of them and I don't get anything out of it', or: 'I was in CoPs for this and for that but I don't know if they really work.' I was thinking: 'well, I don't see any other way to do what we want to do."' (Sandra, AHP Dementia Consultant).

Nevertheless, despite facing some negative voices about the possible value of CoPs, the Consultants decided to try to establish their community (Figure 30)[9].

[9]On Figure 30 we can see a fragment of the cognitive map based on the interview with Sandra Shafii, AHP Dementia Consultant. Some of the nodes on this map have been merged with the maps coming from other interviews. The purpose of this map is to provide a visual overview of the content of this section. The numbers in the brackets inside the nodes represent merged nodes, coming from different interviews. The dotted links with the numbers underneath them at the bottom of the map represent collapsed nodes, i.e. the concepts that I hid in this view to make the map more readable – they were detailed background information which were not needed for this demonstration. The bigger dotted link coming from node 1218 represents a connection which I assumed based on the context of the interview. The paperclip symbol next to nodes 1573 signifies additional notes (i.e. 'memos') that can be added to the model in the software Decision Explorer. Such notes can include the detailed information about the empirical material which is not contained on the map.

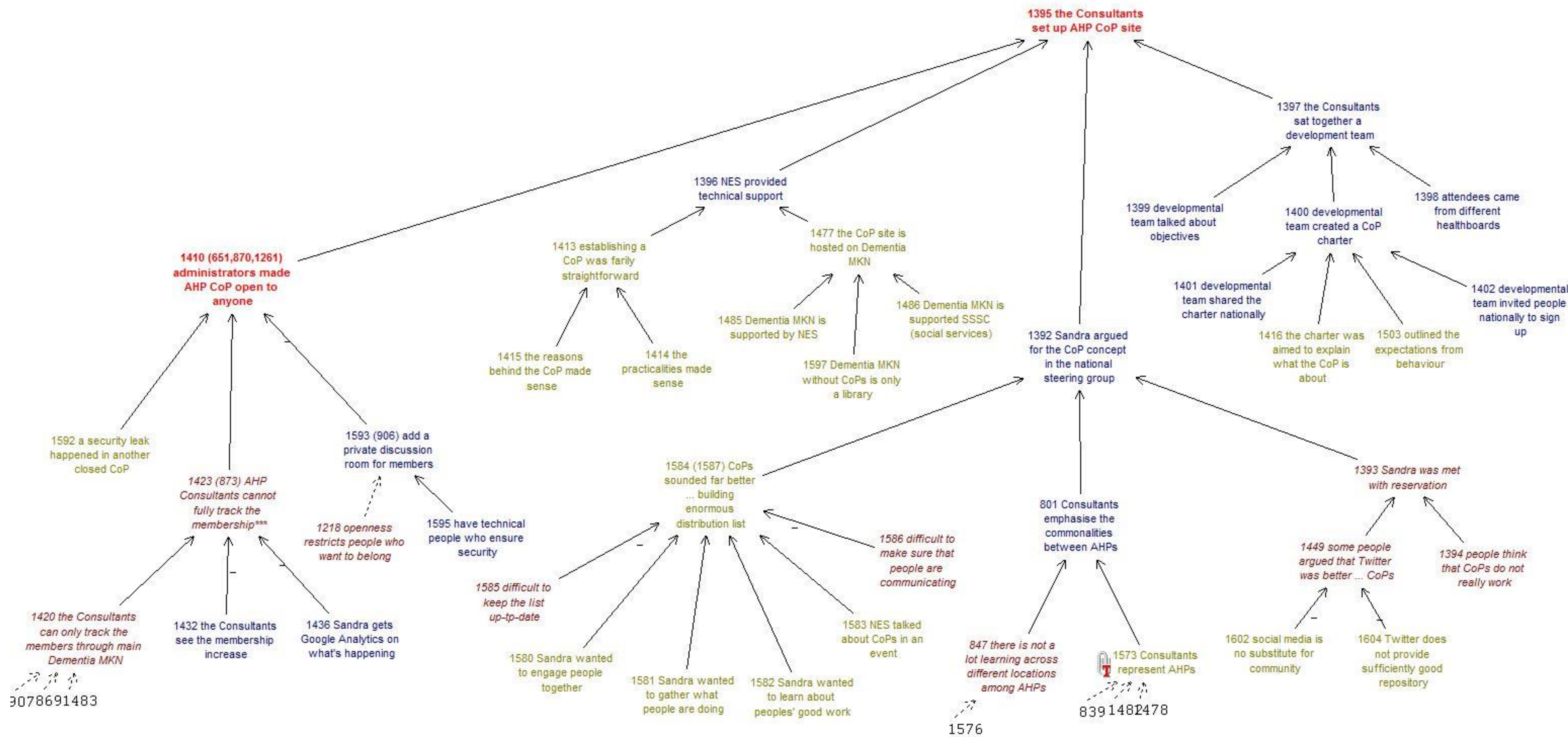


Figure 30: Setting up a Community of Practice for Allied Health Professionals

*The map has been merged from the interviews in the area of dementia.

As a result in April 2011 the Consultants set up an online discussion forum[10] labelled 'AHP Best Practice CoP' which was hosted on the dementia side of the health services' library:

> "… In terms of getting started, actually establishing a CoP was fairly straightforward. The practicalities of it, the reason behind it – all of that made sense".
>
> "We established that [the CoP site] with Annette's help [Annette Thain from NHS Education for Scotland]. What we did was… We got a small group of people together who had an interest from across some other health boards. And we sat together and we had a development team. We actually talked about what we want this to do, what we want this to achieve, what's the value base, what's bringing us together, what do we want the success to look like? And we developed a charter for our CoP which we then shared nationally and invited people nationally to then join and to have a look at a charter. When they join our CoP, they're signing up to that charter."
>
> (Sandra).

For AHP Dementia Consultants an expected benefit of sharing knowledge as an online community was the possibility of connecting practitioners from more isolated locations such as the Scottish islands and highlands:

> "We're talking about 14 health boards across Scotland. And Scotland's not big, but it's hard to get around."
>
> "It kind of goes back a little bit to the geography of Scotland as well because, you know, how can we engage with people, with our colleagues in Shetland, in Orkney, in the Western Isles, Highland? You know, a massive area. It's not feasible for people to travel and to come to meetings. So we can alert people, we can tell people what's going on, they can contribute if they want, they can wait and see the outcome, they can then take that outcome and try it locally." (Sandra).

[10] The link to AHP CoP website can be found here: http://www.knowledge.scot.nhs.uk/dementia/communities-of-practice/national-ahps-best-practice-in-dementia-network.aspx

> "I think even like Lothian [health board], we've kind of got 4 areas: … East Lothian, Mid Lothian, Edinburgh City, and West Lothian … I've been in post about 18 months. And people really didn't speak to each other across the patches. So you might know what else is happening in Edinburgh, if that's where you work. But people in West Lothian might be doing something really great and you've no idea about it. I've tried to pull people together across the professions, and across the areas in Lothian. And I think that's part of what are our CoP online is about. It's trying to say: 'maybe we don't have to waste lots of time developing something if somebody in Fife [health board] is doing it, it's brilliant' - and they say 'it's okay, you could just replicate it.'" (Jenny, AHP Dementia Consultant).

> "… Taking somewhere like Glasgow or Lanarkshire and Lothian, you know the big health boards. It's easy for us to sit back and say: 'well I have my own informal networks.' But as you say, if you take somewhere like Orkney or Shetland where they don't have an official mental health services, who are they gonna' hold on for that support? … It could be that the only one other person is their manager. And maybe their manager is causing the problem?" (Lauren, leadership role in the dementia area).

The Consultants' concern about the isolation of practitioners in remote places was shared by Alan Murdoch, Dementia Services Manager, who was based in Shetland:

> "… We don't have a lot of specialist peers. There's only myself and one other colleague that probably would have the same degree of specialism in dementia. So we don't tend to have an awful lot of, you know, in terms of discussions with other people here at that same level." (Alan, Dementia Services Manager).

As a result while setting up their online AHP CoP forum, the Consultants made it fully open to the public with the expectation that it would allow reaching a wider audience:

> "Well I know that in our one, the National AHP one. There was a lot of discussion and we made it open to the public. And that was the decision that we made because of the fact that we wanted to use it as a way of raising awareness of what other AHPs do." (Lauren, leadership role in the dementia area).

> "Again, that's open. So anybody can use that. And that's deliberate again, because we want to share what we are doing in the spirit of the Dementia Strategy which is really… you know, 'we're in it together.'" (Sandra, AHP Dementia Consultant).

Administrating a Community of Practice for Allied Health Professionals

After 'establishing the CoP' the Consultants began administrating the discussion forum which involved uploading and organising the content and monitoring the users' activity. Moreover they were trying to promote the CoP in their respective health boards:

> "I think I do a lot of it [administrating the CoP], but I have a co-administrator in the national practice [AHP CoP] – Jenny Reid, who is my colleague in Lothian. And Jenny, because she has the admin right, she can put information on there as well. So we kind of share that a little bit … But I kind of basically do a lot of the … background stuff, just checking, taking stuff off that's old, and putting new stuff on and updating."
>
> "… Every time I send an email I have something about the CoP at the bottom. So every time I email somebody there is an opportunity then for people to look at the small strap underneath and I talk about the two CoPs that at that point of the time I administered – I encourage people to join."
>
> "Whenever we have any events, we always talk about the CoP. We always encourage people to go on. And we always say: 'we'll put our stuff out there so that you can find it quite easily.' We talk about it a lot anytime we do any presentations nationally, we mention that we've got a CoP. So we're always advertising it."
>
> (Sandra, AHP Dementia Consultant).

Moreover the Consultants used the AHP CoP discussion forum to publish a quarterly national newsletter about dementia (Figure 31) which included the information about dementia-related events and the practice-based stories received from practitioners, which could give others a general awareness about their work:

“I’m putting it out there [the AHP CoP], letting people know that it existed. I used a vehicle for that which is a National Newsletter for AHPs, which myself and my two colleagues put together and we publish that quarterly. So the first edition carried almost like a full page on the CoP. So that had a wide distribution, so we advertised, if you like, the CoP through that newsletter. And we would send that out through our networks, our AHP networks across Scotland, and waited to see how that landed.” (Sandra).

“If your job is very much in one team [pause]…You might not have any way of knowing that somebody in the next team is doing something really similar. If you don’t ever lift your head up above the parapet and get out of your team … For me that’s things like our newsletter or CoP hopefully are helpful for that. That people might see your article, or see an example of practice on the community and think: ‘oh, that’s exactly what I’ve wanted to find out about.’” (Jenny).

Dementia AHPproacheS

Music therapy: a late-stage intervention emphasising positive capacities.

carole-clarke@ssesurf.co.uk

As a music therapist working in a Dementia Assessment ward and Early Onset Unit at the Royal Edinburgh Hospital, I look for positive capacities in the patients I see. This might be a person picking up my viola and playing it most ably (to the delight of ward staff), to rhythmic waving of a conductor's baton from the bedside, as I sing and play with someone who is further on in their dementia journey. Or perhaps a previously withdrawn person will comment favourably on a fellow patient's musical contribution, and receive similar feedback.

I work closely with the OT (Old Age Psychiatry) Department, who purchase my services on a freelance, sessional basis. Before the weekly sessions we do a handover and share thoughts about patients who might be prioritised for intervention. Music therapy is so adaptable with this client group - from a song session involving relatives, to individual therapy using rhythmic work to assess sequencing abilities.

I carry with me a selection of high quality, attractive instruments, and the music therapy group together elects music that feels appropriate. Rather than just being used to 'cheer folk up', music can calm and soothe, as well as allow for expressions of sadness and loss. Of course there is a place for music to enliven and stimulate – and this might all happen within one session! For people feeling agitated or restless, I can pace alongside and sing something suggestive of a slower tempo –if this doesn't result in the person resting, they still have the experience of being in joint activity and feeling 'met'.

Often, singing is the intervention which draws the unlikeliest candidates into the group. Many people are still able to initiate song suggestions, and I always take these up if I can. At the end of our group session one morning, a gentleman said to me, "Will ye no' come back again?" Not only was this lucid, appropriate speech and accurate lyric recall, but he was sending me off with an apt and humorous play on words!

Let the music play on....

What do popping round for tea and pop up tents have in common?

Figure 31: A page from the newsletter 'AHPproacheS'

Source: http://www.knowledge.scot.nhs.uk/media/CLT/ResourceUploads/4014307/DementiaAHPproachesVol2Iss1.pdf

It is worth mentioning that the practitioners would send their stories directly to the Consultants who wanted to check their quality before featuring them in the newsletter:

> "If we put anything out there, it's quality assured…You know we do check that out, we don't put anything right there unless it's quality – we want our names associated with that." (Sandra).

Furthermore, Sandra added that she had received positive opinions about the newsletter not only from Scotland but also from other parts of the United Kingdom and even from other countries:

> "I've had conversations from Ireland, I've had somebody from Australia emailed to say: 'I've seen your newsletter on the Dementia MKN, it's amazing what you're doing in Scotland!'" (Sandra).

Apart from collecting stories for the newsletter, the Consultants were inviting the practitioners to send any documents or resources which they would like to share on the CoP website. On the updated community website[11] there indeed can be found a range of resources including: all of the editions of the newsletter, training resources, information about upcoming events, or strategy and policy documents. In the interview Sandra said that she was convinced that people were using those resources:

> "We know through more informal contact that people are using the resources that are there [pause]. We know that's happening." (Sandra, AHP Dementia Consultant).

Sandra explicitly referred to an example of a leaflet about 'nutrition, eating, and drinking' for carers of people with dementia developed by a dietician. She said that that leaflet had been well received by the practitioners:

> "Certainly I think, our experience is that we're putting information out there *and it's being used*. I've got some one or two examples of how that's worked [pause]. You know, a particular leaflet was developed by one dietician, it's now actually out there. And how that's being used, and how people are saying: 'Can we use this? This is great.' So that's the kind of thing that we are hoping to achieve. I think that is a really good example of what we set out to do." (Sandra).

Nonetheless it appears difficult to evaluate the impact of the newsletter and of the community resources on peoples' practices because to my best knowledge no specific research has been done in this regard. Sandra was receiving Google analytics reports about the users' activity on the forum, but that was insufficient to provide meaningful information about the community's impact on practice. For example the report for June 2012 (the month when I met Sandra, which was over a year after the forum had been established) indicated 73 unique

[11] The link to the community website is here: http://www.knowledge.scot.nhs.uk/dementia/communities-of-practice/national-ahps-best-practice-in-dementia-network.aspx

visits, 144 page views, and an average time spent on the site of 1min44sec. That meant that roughly 18 new people would enter the site per week, but they would probably only briefly browse through the available content rather than engage in the conversations.

Moreover when I spoke with Gillian Banks, the dietician who had developed the leaflet mentioned by Sandra, she admitted that her leaflet had been successful and that she had received many inquiries about it:

> "I … developed a leaflet for dementia care, for people who are carers of people with dementia, to do with eating and drinking issues … It's been shared across the UK now and in Ireland, believe it or not … I feel that carers who have received the leaflet are happy with the information as well … and probably more able to speak to us about issues as well now because they know that they are not alone with that particular problem. And they might think that's something that was really daft before, but now they realise it's actually part of that person's condition, and it's something that they can manage … I think that's helped and definitely I've had a bit of recognition. And they wanted me to put forward for an award and I said no [laughing]. I don't like that kind of recognition. But it's good that people are using it, and that's recognition enough as far as I'm concerned. So the wider that's used, the better. And as I said, we've had about sixty enquiries about the leaflet which is brilliant; I'm so chuffed about that. And we've let every area who's asked about it to use the leaflet as well. So we've allowed amendments and just putting an acknowledgement on it. So, it's made a big difference." (Gillian Banks, Specialist Dietician).

However Gillian noted that the leaflet, apart from being posted on the AHP CoP, had also been published in a professional journal and she felt that that other source had a strong effect on its popularity:

> "It's been posted on there [the AHP CoP]. I don't know how much response I've had through that community though [in a slightly doubting voice], and how much has been … I actually put it on our professional journal as well, and I had a huge response to that. So … I can't gage how many people have come off that side of things [through the AHP CoP]. And I've never personally come across resources

on it that, you know, I thought ‘oh, that would be really good.’ But that’s because I find it hard to navigate around the site more than anything else [laughing].” (Gillian).

In a way the newsletter did meet the Consultants’ original goals because it was promoting the work of dementia professionals and it was potentially exposing them to each other’s practices. Furthermore, according to Sandra, the Consultants were receiving more contributions from the practitioners than they could possibly include in a single edition of the newsletter:

> “People are very busy. See that newsletter - it’s just getting bigger and bigger. I actually say, you know, keep it for the next edition.” (Sandra).

The AHP CoP website served as one of the ways in which the newsletter and other dementia-related resources could be accessed. However both the Consultants and the practitioners agreed that on the downside there had been very little conversation happening on the community’s pages (no new conversations since the beginning of my PhD project at the time when I am writing up this thesis):

> “We try to encourage discussion, and that has not gone well. We’ve had people put questions out, and no answers. And we don’t know whether or not people are then replying outside of the discussion pages. They might be.”
>
> “In terms of the life of that community, you could say is that CoP just an online resource. And that has stopped at that point.”
>
> (Sandra).
>
> “It’s basically just a central point for resources. So I know what’s there. So if I need something it’s handy for me because I know it’s there. In terms of how other people use it, I’m not convinced that it’s used.”
>
> “There’s the discussion section. Somebody will maybe put a discussion saying: ‘I’m opening a dementia service to nursing homes, and I’m interested to know if there’s anybody else out there that’s doing the same’. Now, I know that there’s

lots of people that do the same. It’s really upsetting to see this person getting no replies. And then they’ll think: ‘right…’ I know there is, so then I’ll end up replying to them saying: ‘yes, I know there’s a fair in Glasgow’. And then, what will end up happening, I’m saying to someone: ‘just email me, I’ll give you their email addresses and you email me in...’”

(Lauren, leadership role in the dementia area).

“I think it’s not routine enough for people. So if they’re really looking for something, they might go and look on the CoP. But I don’t think people do it. I suppose to really engage with the … discussion board, you probably want people to be logging on once a week and just checking out what’s happening. I don’t think that people are in the habit of doing that. Certainly local staff, I think they use it for one thing, a one-off thing, but not a regular.”

“Those things [discussions on the AHP CoP forum] tend to only happen if I’ve said: ‘why don’t you put a question on the discussion board about that’. And people don’t tend to respond very much. I think that’s a shame that that doesn’t get used. But I think people do click on it for links.”

(Jenny).

“I like the concept of CoP. The dementia one has been useful, as you say, for accessing resources.” (Heather, Team Leader, Angus Dementia Liaison Team).

“- Have you met any people when you were using that tool [AHP CoP website]? (Igor). - I think it’s more about, I’ve seen, I recognise names of people I know from before, so… You know, that I’ve recognised maybe from an event that I’ve met. Probably rather then meeting new people.” (Lynn, NHS Lanarkshire Care Home Liaison Physiotherapist).

“With things like the CoP on the dementia side of things, I’ll be quite honest: I haven’t used it an awful lot.”

"I've been on some of the CoPs on the dementia forums. And to be honest, they don't look like they're being particularly well used either. There's not a lot of information, the information is out of date. It really has to be kept up to date and current for people for it to be useful to them."

(Gillian, Specialist Dietician).

Nonetheless Sandra's thought that the contributions submitted for the newsletter constituted as a substitute for engaged practice on the community's pages:

"We use the CoP to for example publish … these newsletters … The first one was like we were writing it [laughing]. But as it's moved on, these AHPs are contributing their work. It's not done in a kind of more of a conversational way, but it's done through that kind of medium."

"There is vibrancy, it's just not in that way that we see in the online discussions. It's done in another way [through people's contribution submitted to the website's administrators], but I think that's a safe practice."

(Sandra).

Analysing the community challenges

Sandra, AHP Dementia Consultant, wanted to find out more about the reasons why people had not been directly sharing knowledge on the AHP CoP. She therefore introduced me to the practitioners who were signed up to her CoP or to the other CoPs in the area of dementia. I visited those practitioners in their respective hospitals across Scotland in order to interview them about the idea of CoPs and social learning. At first I could observe a strong pattern in the interviews as the practitioners typically explained that they had not been commenting on the CoP forum because of lack of time:

"I think part of that though is how much time you have to dedicate to that [to the CoP] because any relationship takes time then. You have to invest in it; you have to put time into it. And you have to get to know the other people within your CoP. And I know I have good intentions. And you know, when it first started I would

visit it [the AHP CoP]. And then… months go by. And I haven't gone back there. Now, I haven't stopped thinking about dementia, and I haven't stopped reflecting and trying to problem solve. But I've used other methods rather than go back to the CoP."

"I think it's time. It's the time factor; it's the having that visual prompt to go and have a look … That takes a conscious effort to stop the clinical day-to-day work and say: 'right, I'm gonna' put an hour a side at the moment to review Athens, to see what's there.'"

(Heather, Team Leader, Angus Dementia Liaison Team).

"- Do you think that it would be useful if more resources were invested into supporting peoples' knowledge sharing? (Igor). - Yeah, definitely. Just not necessarily more resources, just more time." (Gillian, Specialist Dietician).

"Time. So I think that it's about managing your time. And actually allocating time. You know, so now I'm thinking: 'I need to actually allocate myself some time every week to go on to that CoP and just say – that is the hour that I'm going to go on and I'm going to do that.'" (Irene, leadership role in the dementia area).

"I think what you will always get is time, isn't it? I think that you would hear that repeatedly. Because, you know, a lot of our health services are under a lot of strain and people … People are just, you know, obviously having to deal with that particular potential crisis. Or, you know, the beds are full. And I think that mainly for our colleagues in the acute hospitals that'll be everywhere. I think that it will be a big barrier. And people will tell you that it will be time." (Lynn, NHS Lanarkshire Care Home Liaison Physiotherapist).

Primary knowledge sharing obstacles: lack of time, lack of awareness of the available tools, lack of commitment, lack of perceived value. (Hand-written notes, interview with Emma, leadership role in the dementia area).

While the participants stressed that the time pressures constituted a major constraint in developing the CoP, it seemed like a good idea to dig deeper into the 'nub of the issue'. For that purpose I used the analysis in Decision Explorer on the set 'dementia' (including all dementia practitioners). I first identified an interesting loop (Figure 32): people can only submit their resources through administrators (i.e. the Consultants), which leads to the Consultants publishing the newsletter, which leads to people engaging in the shared practice via the newsletter and not through direct conversation on the forum, which leads to the CoP website being a place for resources rather a place for conversation, which then closes the loop.

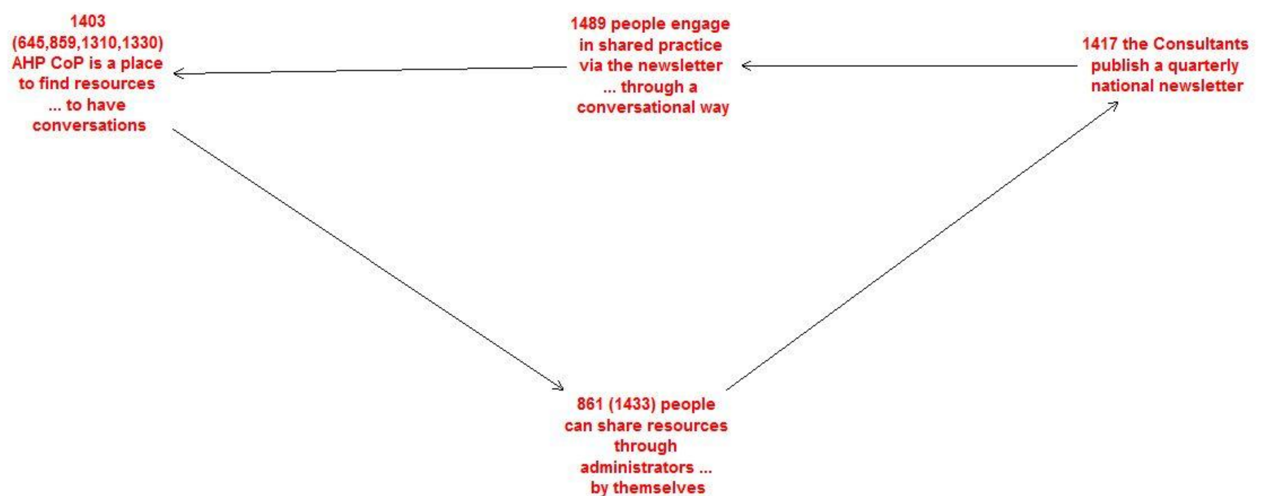


Figure 32: Dementia set - loop

*The map has been merged from the interviews in the area of dementia. The numbers in brackets indicate merged nodes.

That is clearly a self-reinforcing loop because all of the links have the same sign (+), and it is vicious because node 1403 (people do not have conversations on the CoP) was highlighted by the interviewees as a negative state of affairs. The 'safe practice' via the newsletter appears to be a substitute for a more direct engagement, and it places the main focus on submitting the resources to the administrators of the website rather than on opening up new discussions.

From this loop it can be concluded that while the newsletter seems to be meeting some of the Consultants' goals (nodes 1391, 1575, 1412 and 1409), the emphasis on the newsletter can also be a distraction from fostering direct conversations (nodes 1446, 1355, and 865 are all

goals connected with negative links thus they have not been achieved) – as seen on Figure 33. In other words instead of the newsletter being used as a way of promoting the CoP, a broader kind of community has formed around the newsletter – and that community is engaged, but *not mutually engaged.*

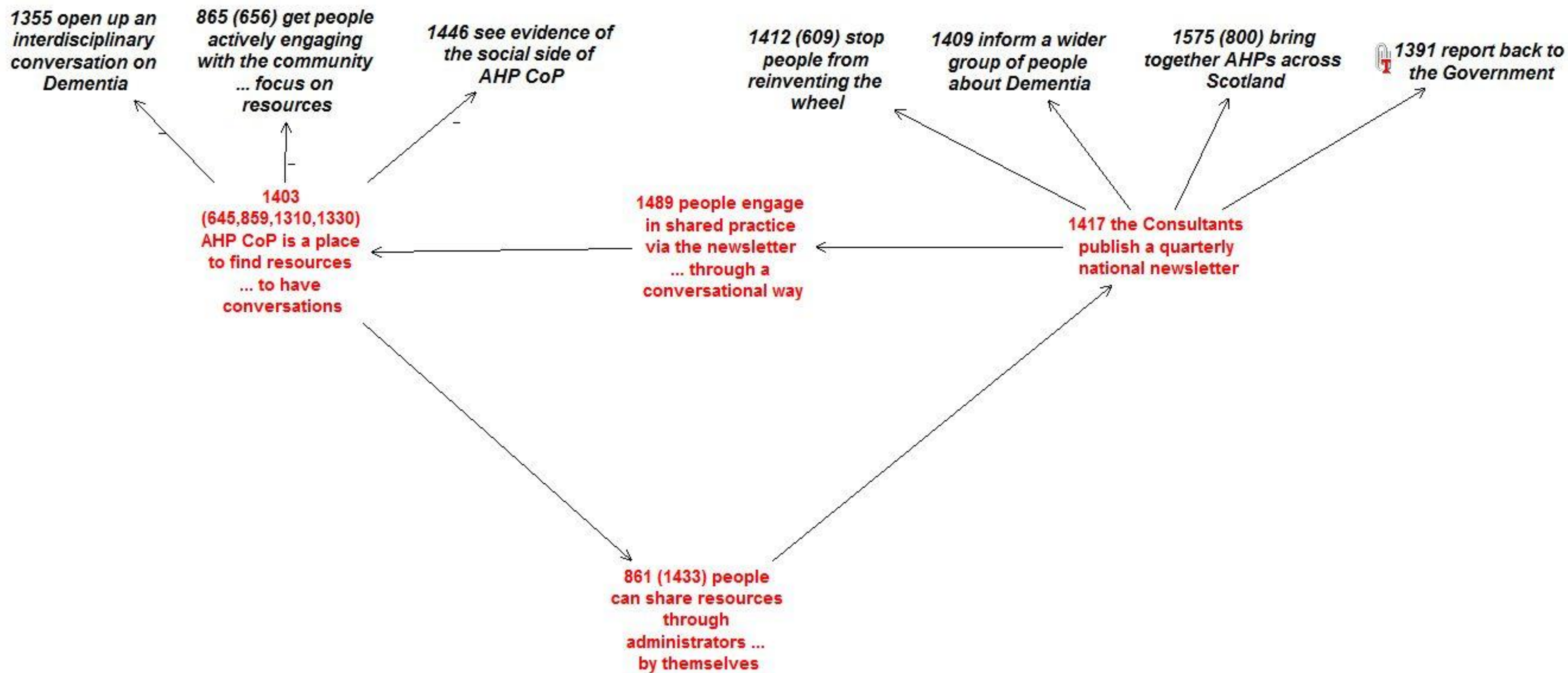


Figure 33: Dementia set - loop (focus on goals)

*The map has been merged from the interviews in the area of dementia. The numbers in brackets indicate merged nodes. The paperclip in node 1391 indicates researcher's notes.

In order to explore that case further, I have brought all of the issues from the set 'dementia' onto one layout for visual inspection (Figure 34). On the top left corner we can see the already mentioned loop with three links leading into it (from nodes 1425, 877, and 466). Those three links are reinforcing the loop because they have the same sign (+) as the links inside the loop.

The first chain of argument (node 1425, left bottom corner) which reinforces the loop (i.e. the vicious cycle why people don't use the CoP site to talk) refers to the issues around setting up and administrating the CoP site, and that is causing people to share resources through administrators rather than directly on the website (node 861). Thus one reason why people do not talk on the CoP site may be that they are used to submitting their contributions directly to the administrators - and that issue stems from how the site is administered.

The two other links reinforcing the vicious loop lead to the node within the loop saying that the AHP CoP is a place to find resources rather than a place for conversations (node 1403). One of the causes of that state of affairs (in the middle of the map) is that the site is not routine for people (node 877), which in turn is caused by such issues as lack of time (already emphasised) and the fact that people's knowledge needs are fulfilled locally (an interesting insight).

Another reason why 'CoP is place is a place to find resources…' is that people talk by email rather than on the CoP site (node 466), and that in turn is caused by the technology used for the CoP site being cumbersome, and not showing enough value to members. Meanwhile the sources of the perceived members' value include opportunities for sharing knowledge, managers seeing the value of CoPs, and people having confidence in CoPs. In other words the visual inspection of the map would therefore suggest that the problem of people not using the CoP site for their spontaneous discussions is more complicated that the lack of time or the inability to upload resources (read: files) directly on the website.

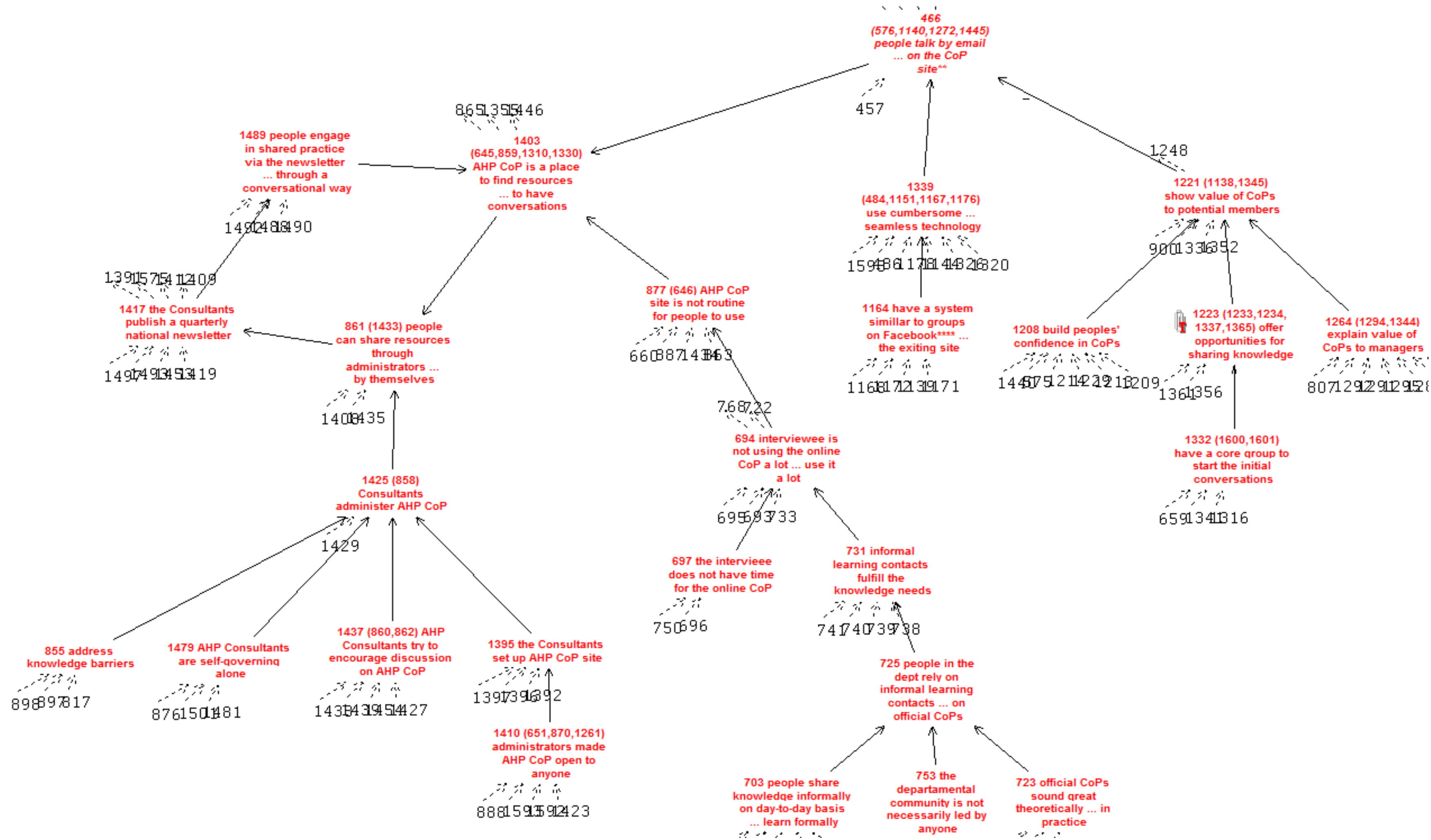


Figure 34: Dementia set – issues

*The map has been merged from the interviews in the area of dementia. The numbers in brackets indicate merged nodes. The numbers next to dotted arrows indicate hidden details.

I then wanted to see which of those possible issues were most likely to be the key issues within the set ‘dementia’. I first run domain analysis (Figure 35), which ranked the nodes according to the biggest number of links around them. That showed that the highest ranked concepts included such issues as explaining value of CoPs to managers, the Consultants publishing the newsletter, CoPs using cumbersome technology, or a constraint that people cant’s see the instructions how to navigate on the site. However, some of those could have been just ‘catch-all phrases’ which might have had many links around them simply because they were formulated in a general or vague way by the interviewees.

Because of that it was helpful to compliment domain analysis with central analysis which ranked the concepts according to their broader impact on the map (Figure 36). That indicated that the concepts with the biggest impact were: to show value of CoPs to potential members but also to managers, the CoP is a place to find resources…, people talking by email…, technological limitations, people lacking confidence to use the CoP, the Consultants setting up and administrating the site, and people being limited to submitting resources through administrators. Consequently it seemed that it was actually not necessarily as much the problem of the lack of time that people were not engaging with the AHP CoP, but rather *lack of value that would justify their involvement* and also the CoP site being too complicated to use.

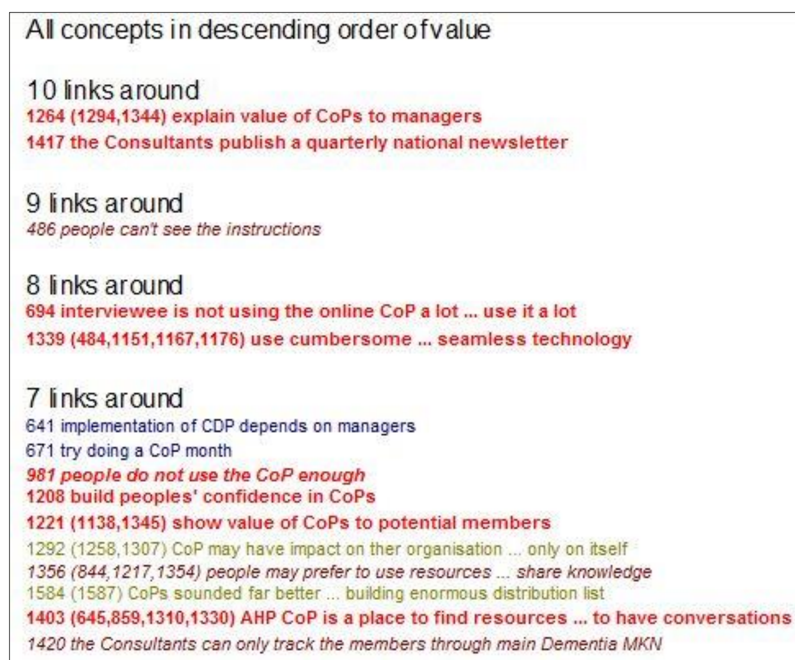


Figure 35: Dementia set - domain analysis

Cent Scores Calculated...

1221 (1138,1345) show value of CoPs to potential members
34 from 78 concepts.

1395 the Consultants set up AHP CoP site
30 from 72 concepts.

1425 (858) Consultants administer AHP CoP
29 from 65 concepts.

1264 (1294,1344) explain value of CoPs to managers
29 from 61 concepts.

466 (576,1140,1272,1445) people talk by email ... on the CoP site**
29 from 73 concepts.

1403 (645,859,1310,1330) AHP CoP is a place to find resources ... to have conversations
28 from 63 concepts.

1208 build peoples' confidence in CoPs
27 from 60 concepts.

1339 (484,1151,1167,1176) use cumbersome ... seamless technology
25 from 50 concepts.

861 (1433) people can share resources through administrators ... by themselves
25 from 57 concepts.

Figure 36: Dementia set - central analysis

I subsequently decided to concentrate on those issues which based on my analysis could be seen as the most significant by the interviewees, and those were: showing value of CoPs to members and managers, building peoples' confidence in CoPs, people talk by email…, and technological issues. I then brought the selected key issues onto one view (Figure 37) in order to discuss them in more detail. That selection of key issues excludes the concepts with high domain score but with low central score, or those which had not been highlighted as 'possible issue' during coding (e.g. based on the participants' non-verbal cues). It also excludes the matters around setting up and administrating the community which I have already covered in this chapter.

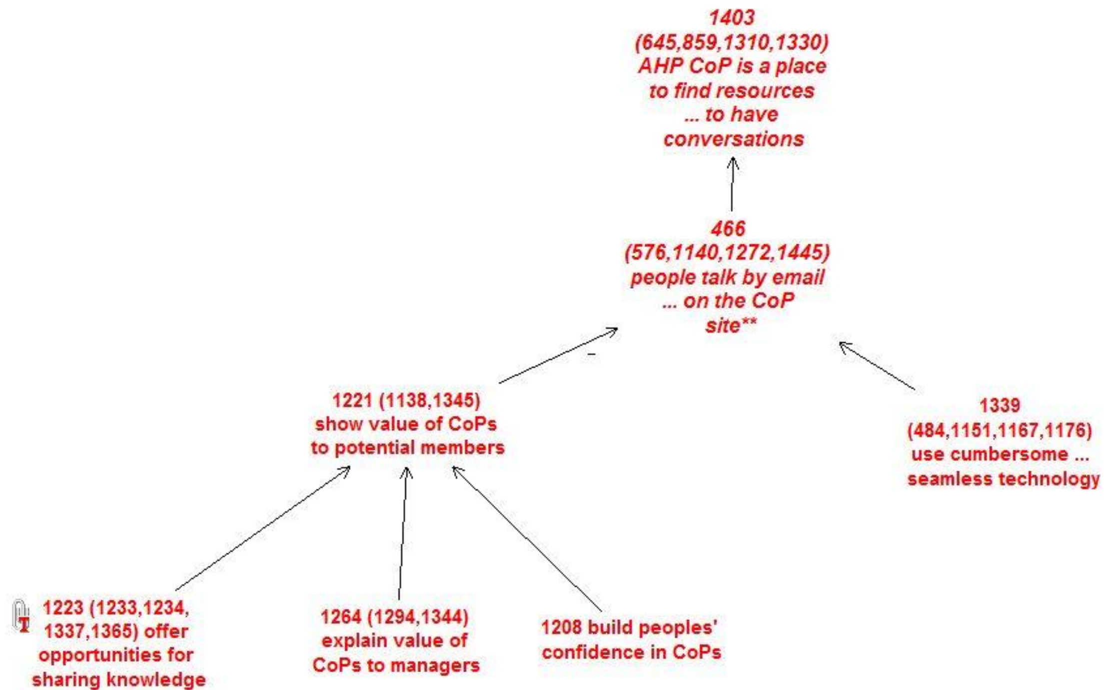


Figure 37: Dementia set – why do not people talk on the community site?

By looking at Figure 37 it becomes more clear that the nodes in the upper part of the map (1403, 466) are in fact more likely negative consequences (due to their position at the top of the teardrop), and they are underpinned by a set of key issues. We can read that the CoP site would possibly be a place for conversations (node 1403) if people wanted to choose it instead of other ways of communicating such as email (node 466). Moreover the fact that people talk by email rather than on the CoP site is caused by failing to show value of the CoP to potential members (node 1221) and because of using cumbersome technology (1339) – let us now further explore these two underpinning issues.

Showing the community value

One of the ways of showing CoP value to members is to give them good opportunities for sharing knowledge in the first place (node 1223). Thus the much needed value would be some existing and relevant conversations that the new members could join in fulfilling ways that could help them grow as practitioners:

> "It's just how you get that draw to get people to look at it. And I think that once you start getting there interesting conversations, people will start looking. But

when all you've got is eight unanswered discussions, are you gonna' post your own things? Of course you're not. Because nobody's replying in first place."

"People tend to be busy in their work and they're quite selfish for that – not selfish in a negative way, but they want to join a CoP obviously to get something out of it. And at the point where they want something out of it, they want the CoP to work well. But they're not always willing to invest in that process so that it's constantly working well. So they'll just access it once to get the information, and then if they don't get that response immediately, they're likely just to turn their back on it and try different means. So I think that's why things are difficult in terms of the contract that people sign up to with the CoPs. People are very enthusiastic about the idea".

(Lauren, leadership role in the dementia area).

"- Or maybe … there isn't [on the CoP] at the moment enough perceived value? (Igor). - I think maybe there isn't. (Heather, Team Leader, Angus Dementia Liaison Team). - To convince you to use it. (Igor). - Yes, yeah. I suppose that's it. I suppose that's the benefit isn't it? If I think I'm gonna' get something out of it… Then it would probably attract me to use it more. And if it was very easy and seamless to use it." (Heather).

"There's got to be enough pull to go to it. And I don't know if it's just the payoff of getting your question or your query answered. I think there's got to be more within your own professional development that the CoP can offer."

"… I think sometimes that face-to-face [pause] kind of communication that you can have with your team, when you come back and you say: 'I've encountered this problem today, what shall I do about it?' And you have that reflection. It's *immediate*, and you get your response immediately. Sometimes within the CoP you might post up a query, a dilemma. And *there's no* actual guarantee that anybody will respond to it."

(Heather, Team Leader, Angus Dementia Liaison Team).

> "I think you need time to get a core group of people that come along to these things. And there's lots of other people that are untouched by it." (Jenny, AHP Dementia Consultant).

> "It has to be something that if we expect people to be part of something, there has to be something in it for them. You know, so there has to be a clear understanding that there's something that they will gain from that. And hopefully they will gain not only a network of people that they can then access who might have knowledge that they don't have. They then are able to share their knowledge. And I think that if people are sharing their knowledge as well, it then allows them to be more confident in what they do. And feel more valued that they're actually being able to provide something." (Irene, leadership role in the dementia area).

Apart from fostering knowledge sharing, another way of convincing people to the value of CoP was to build their confidence in it (Figure 38).

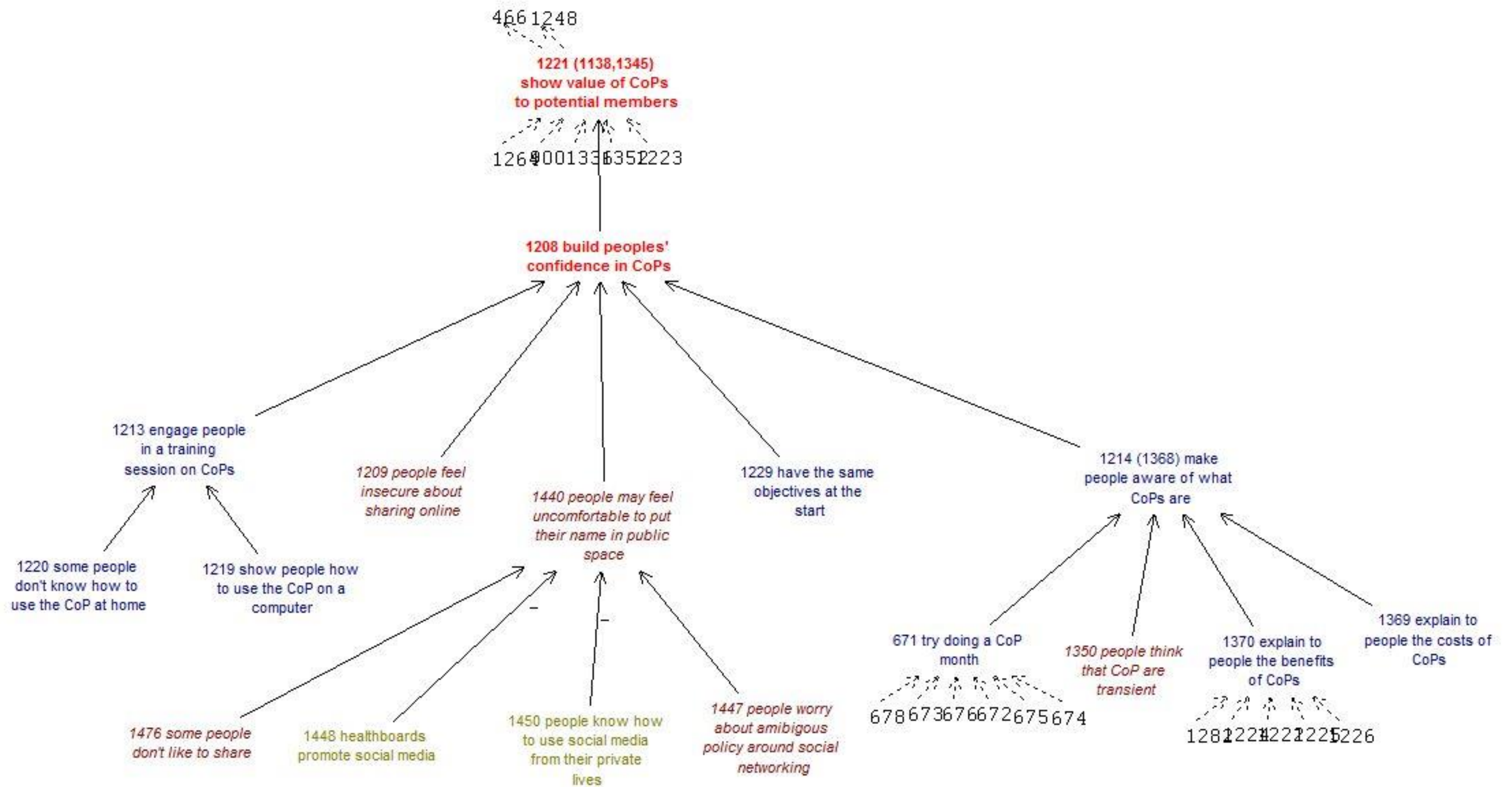


Figure 38: Dementia set - building peoples' confidence in Communities of Practice

According to the interviewees, a negative factor which could make people feel less confident about using the CoP site was that the discussion forum had been fully open to the public:

> "I think the other issue we have is because we've made it very open access, because part of it is about saying: 'this is what AHPs do'. But also people … don't have then privacy to post. You know, people have to feel confident to say: 'I don't know something', to post it. Cause I'm in other communities. We've got one for our leadership programme, for all the nurses and the AHPs consultants in dementia. And that is very closed. It's only us that can look at it. So there's discussion boards on that. So you could post a question, and it would only be the group that would see it. And I think that, that's the difference." (Jenny, AHP Dementia Consultant).

> "On the discussions maybe there's a lack of confidence that what you're gonna' say sounds stupid." (Lynn, NHS Lanarkshire Care Home Liaison Physiotherapist).

> "… They [the members] don't feel confident to put their name with their comment out there in more public space. And I think there's a reticence around that. In the National AHP's Dementia Network there's a reticence to comment on something because it's open … I'm only guessing that's one of the reasons why you don't see more conversation, choosing that as a vehicle for communication. I think people are communicating through the normal routes, but they are not using the CoP for communication." (Sandra, AHP Dementia Consultant).

Another factor identified by the practitioners as potentially causing lack of confidence in using the AHP CoP was that the idea of CoPs was strongly associated with social networking, and at the same time the social networking policy in NHS Scotland was seen as somewhat vague or difficult to interpret:

> "I think it comes down to this whole thing about the anxieties about the social networking, and just people feeling exposed if they put their name to something … But when we have those conversations, I remind people that when they're on here [on the AHP CoP], they are professionals. They shouldn't put anything on there that you wouldn't think that's absolutely right to see in an open meeting, or

to say to somebody's face. You know, you don't put anything on there if you think it's a bit stupid or whatever. Why would you do that for? You wouldn't do that in the meeting, so why would you … feel that you would do that there? You know, leave yourself open and exposed to people working at the edges in the CoP? But I think that has got something to do with it." (Sandra, AHP Dementia Consultant).

"I sometimes look at the answers on the forum, but I would never post on it. Particularly because there's a lot of guidelines to do with what we can access at work as well. And about social networking and things like that. We're not allowed to access that at work. So it makes it quite difficult, cause' you don't know if it's on the edge of social networking, you know. Although you can justify it as learning, some people may not view it as learning. And I think that's the problem. People are a bit of weary because obviously it does affect them." (Gillian, Specialist Dietician).

"If I was to go on my Twitter account now, and say, you know: 'having an interesting meeting about the community of practice'. If I said that, I would quickly get a disciplinary for that because I've done that during working hours. And I've said what I'm doing. And Glasgow Health Board says I can't sign into any social networking sites... I mean it is a really strict policy…" (Lauren, leadership role in the area of dementia).

"I suppose one of the other things, the barriers is, NES have put quite a lot of stuff on YouTube, or I don't know if they do Facebook. But they put it on YouTube, and we can't access YouTube from our computers …They send you something and you have to look at it at home, or on your mobile, because you can't go on there to see it." (Kirsty, leadership role in the area of dementia).

"There was an occupational therapist who travelled to America on a scholarship, Winston Churchill scholarship. She set up a blog. I wanted to follow her blog cause she was at the University of Southern California. I couldn't do it from work. And yet that would have been great… I got the alert which was lovely, sent to my NHS mail. So I've suddenly seen: 'oh, she's written something new!' I wanted to

do one click to see what she'd written. I couldn't do it. Organisation blocked it." (Heather, Team Leader Angus Dementia Liaison Team).

Furthermore, the participants suggested that people's confidence in CoPs could be increased by being more explicit in communicating what CoPs were and what their purpose was:

"I think in a way it's [the AHP CoP] trying to be everything. And it's maybe a bit too broad. But we do, we have got kind of smaller topics within the big community. But it's still, everybody can access everything …We want that, we want people to be able to just log on and anybody can look up for about what a dietician does in dementia. That's great cause people don't really know that. So I think that element of it is really important. But maybe we do need a different way to get people actually engaging in it." (Jenny, AHP Dementia Consultant).

"I think that we have to be quite explicit in letting people know what the value is and how it [the CoP] works".

"One of the reasons sometimes why people don't engage in things [in CoPs], they think it's transient. They think: 'oh this the hop flavour of the month right at the moment'. But soon they will move on to something else. So why I'm gonna' invest my time and effort in something right now that in three or four months will be gone and will have moved on to another way of thinking and another way of doing things."

(Heather, Team Leader Angus Dementia Liaison Team).

"It's [the AHP CoP] probably not used as much as it could be, and I think that's maybe just a little bit of lack of understanding about how beneficial it could be." (Alan, Dementia Services Manager).

"I often wandered that for what we just needed to do is say: take a month, and make it a CoP month. Do a lot, *a lot* of publicity in the run up to that month and say: 'check the date, there's gonna' be stuff going on daily'. And then just take a few of … us who are interested in it. And all of just say: 'right, what we gonna'

> do is check it on the daily basis … Make sure we're adding one thing maybe every day'. But even start, like, small discussions." (Lauren, leadership role in the dementia area).

What stemmed from the requirement of clearly communicating the purpose of CoPs was that community leaders thus needed to be aware of the considerable effort that would be required on their side while cultivating their CoP:

> "The challenge of the CoP is that they are a lot of work. If you're one of the administrators, I think, aren't they? You know, I've just been involved a tiny little bit in one, and I got well off easy with what I had to do. But, you know, to actually keep them up to date ... that's a big commitment and I think people who are doing that are very passionate and I take my hat off to them." (Lynn, NHS Lanarkshire Care Home Liaison Physiotherapist).

> "I can see from the conversations with you [with Igor], also from my own understanding of a community, and what my role would be [as a CoP leader] - that there's a lot of work for me in the initial stages of that. But it's about being able to see beyond that. So once that's established, you know, there should be… I don't like to use the term lots of work… You know, the level of input that I have to put should reduce over time as people engage in that community and take on the roles that you've already described." (Irene, leadership role in the dementia area).

The third issue leading to members seeing value in the CoP is that it also depends on whether managers support such ideas. That could be explained by the hierarchical structure of NHS Scotland, as discussed earlier in this chapter. The practitioners might therefore need assistance in justifying and explaining the potential benefits of CoPs:

> "You know, you said that they're [CoPs] not necessarily set up my managers, I think if they don't have some management support, in terms of time and resources, it's very difficult for people."

"I think managers want to know what their [the CoP members'] learning will do for their service. So yeah, they need to know that it's linked in".

(Jenny, AHP Dementia Consultant).

"It [the CoP development] would have to be negotiated with your operational manager. And again it's that balancing. So for some staff two hours a week would not be appropriate. You wouldn't be able to do it … So I think you would have to justify it. (Lynn, NHS Lanarkshire Care Home Liaison Physiotherapist).

"The management have to have an understanding of what a CoP is."

"You've got almost try something and then be able to say 'actually, this works'. You know, these are the reasons why we think it works. And then you kind of get buy into them and make something wider. But I guess it's about being quite particular about who you identify to have your conversations with around that. And I suppose that's something we're only just starting to do".

"I also think that the part about having some kind of two page, *sharp* document giving some evidence and background to CoPs. And highlighting some of the [pause] key improvements, should I say. Sort of after having a community developed, some of the stuff that maybe has developed out of that. Some of the key comments from members would be really helpful in terms of supporting the CoP agenda with senior management. I think that would be really good. But it would have to be really short, sharp, *concise*. You know: 'this is what the CoPs are, this is what our evidence tells us about what they do.'"

(Irene, leadership role in the dementia area).

And lastly, the whole idea of cultivating CoPs and working collaboratively needs to be introduced gradually to the organisational context:

"That's a huuuge leap of thinking for people in healthcare: to actually think about community. Communicating with people who actually on the surface might not have anything to do with what you're doing. And that you don't hold all the

answers yourself. Whoa… That's gonna' take a bit of time to shift thinking." (Heather, Team Leader Angus Dementia Liaison Team).

Facing technological challenges

I have now discussed one of the two main chains of argument explaining how it happens that people do not use the AHP CoP, i.e. they do not see enough value in it (Figure 37). The second chain of argument falling under it refers to the technological difficulties in using the AHP CoP site (Figure 39). It must be noted that many of those difficulties affected people belonging to different communities as well because they were all hosted on the same platform, i.e. The Knowledge Network in NHS Scotland, and thus they can be relevant also to the other cases discussed in this chapter.

One of the identified problems was that setting up alerts with community news was seen by the interviewees as too complicated Moreover, once the alerts were set up, the participant would receive the updates from all of the communities on the main library site rather than only from the ones they were signed up to:

> "Every time someone puts something on, I'm told. I've signed up for that obviously, but I think what I thought I was signing up for was within our CoP – not the whole Dementia Network. So my understanding is there's a space if you wanted to go on and put something on it - you could. But actually I've never visited that site because I can hardly do my job in 45h a week. And I'm only paid for 37 and 1/2h without spending more time looking to see what people are saying."
>
> " … It can end up feeling very much like another chore for my work. I have an email every other day telling me there's something new posted on the site … And I got to the point now where it's overloaded, I just ignore it. I don't even go and have a look".
>
> (Kirsty, leadership role in the dementia area).

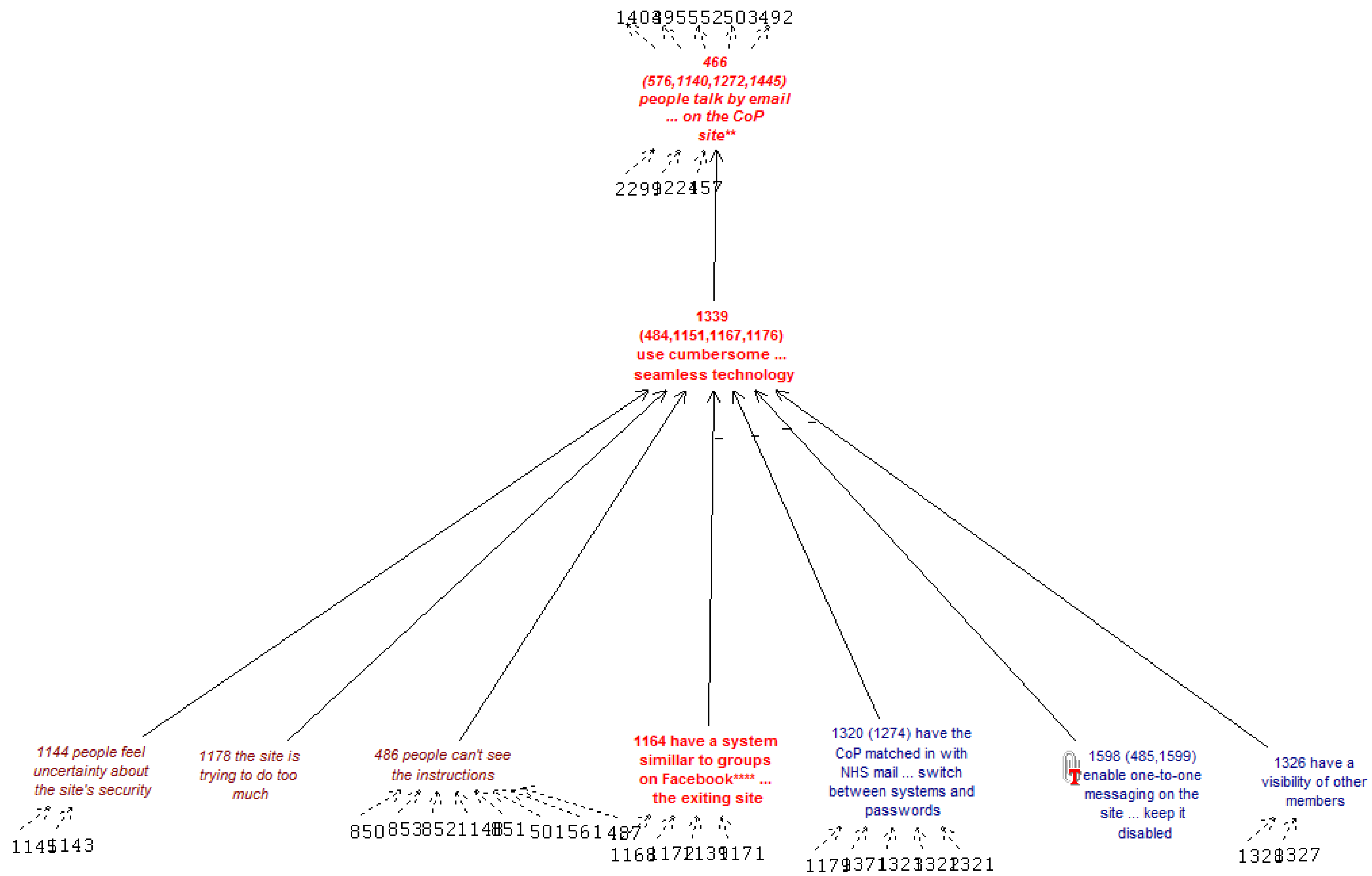


Figure 39: Dementia set - technological difficulties

"…You do get notified about everything. For somebody like me, I'm quite happy, because I like to be notified about everything. But there is something about that. People can switch off then because they think 'this is not really relevant to me." (Sandra, AHP Dementia Consultant).

"… If you put these prompts and alerts on, you're just becoming overwhelmed with alerts telling you that something else has been added. So it's very hard to know how to get people to look at it regularly." (Lauren, leadership role in the dementia area).

"I only recently have discovered that you can get the email alerts to let you know if somebody posts on it. The guidance they're using on Dementia MKN [the main site for all CoPs] wasn't that good. You know the actual way it is set up was a little bit complex." (Alan, Dementia Services Manager, NHS Shetland).

The Consultants also highlighted the inability to track the membership in their CoP because the system would only list members from all of the communities in dementia altogether:

"The difficulty with the new members was, we couldn't tell who were AHPs and who weren't, who were just generally joining the Dementia MKN [Dementia Managed Knowledge Network - the main site where all of the dementia communities are hosted]. So unless we look at them at the members list, I mean all people, we don't know how many AHPs have joined. We asked people to complete the little description of who you were. A lot of people just joined and stopped at that point."(Sandra, AHP Dementia Consultant).

"You can't tell who's on your CoP, for it's open like that. You just know the people who are on the Dementia MKN, that they've joined the Dementia MKN." (Jenny, AHP Dementia Consultant).

Furthermore, the participants who were using other dementia communities which were closed to non-members found the process of logging in to the CoP website too complicated:

> “I think the first thing what will put people off is the fact that you need an Athens password for some of them [the dementia communities]. It may put people off and many people may not have it - and certainly within the care home sector. You know there will be very few people who have it. All of them strictly speaking can get it, because they’re a partner in health. I think, you know, the actual process of getting one and having to log in. You know, if you can get in easier, just anyone could get in, people might access it better. But then how do you control who’s in and who’s not?” (Lynn, NHS Lanarkshire Care Home Liaison Physiotherapist).

> “It’s not as easy as it could be, unless you use it on a regular basis… You know I’ve got a kind off short cut to it on my desktop. So I just double click that - that will open up. But then I have to go to the particular CoP. That means clicking on another tab, and then clicking on another tab, and then logging in. And once I’m logged in, there’s *several* steps before you actually get into it. And then you get logged out automatically after a while.” (Alan, Dementia Services Manager, NHS Shetland).

> “You have to keep coming out, going into another system, another set of passwords. Another set of this and that - which expire at different times. And half the time I think people lose their passwords to Athens.” (Heather, Team Leader Angus Dementia Liaison Team).

Quite surprisingly, there was also no function of sending direct messages on the CoP forum which effectively was forcing the practitioners to email each other rather than to familiarize themselves more with the community site:

> “- I have an impression that people can’t easily send private messages to each other using the community space. (Igor). - No. (Sandra, AHP Dementia Consultant). – So that is another thing which needs to be fixed. (Igor). - Yes, I think that it would be a helpful thing because it’s like you have it on Facebook, you have it on Twitter: the ability to send a direct message.” (Sandra).

Lastly, the practitioners noted that many of the staff had insufficient access to computers at work to be able to access the online communities:

> "I think another barrier potentially for some people might be access to computer. So, obviously I've got one, and there are libraries which are, you can again go to the libraries. But again it might be physically having the time to go to a computer. It might be quite difficult for some members of staff. So I think time and IT equipment might be a problem." (Lynn, NHS Lanarkshire Care Home Liaison Physiotherapist).

> "Access to IT is a huge issue, certainly for staff in clinical practice. Because, you know, when you're speaking about one computer for a whole team who obviously have to do clinical work on that computer." (Irene, leadership role in the dementia area).

Overall there was a visible pattern with regards to the technology for online CoPs that the practitioners prioritised the simplicity of use:

> "It's [the CoP forum] a wee bit complicated to use and to find things that you want. But also to remember that it's there [laughing]. I'll be honest!" (Gillian, Specialist Dietician).

> "I think it's rather because we're trying to do too much on one site. You know the MKN [Managed Knowledge Network] includes a lot of information not just about our group, but about other closed groups as well and some open groups … and a whole lot of other information all on one site. I think that makes it a little bit unmanageable to try to find your way around it."

> "I think that if it works the same way as the closed group on Facebook works. I mean as far as I'm aware they're fairly secured and nobody else can access it unless they get permissions. And if they have been granted permissions from the person who sets it up there, I think that people would feel fairly confident with it…" (Alan, Dementia Services Manager).

I also received a comment about from Annette from NHS Education for Scotland - the organisation which oversaw the technology for online CoPs. Annette admitted that perhaps

the existing technology was not ideal, but the main reason why a community would not work well was the lack of commitment to the CoP idea on behalf of potential members:

> "… It would be really nice to do something about the discussion areas [on the CoP sites]. But … my feeling is that although it's not perfect, if there's a will to use it it's not that bad. They'll be able to use it. It's actually the will that's the problem rather than the actual technology. And it's easy to say: 'oh, it's because of the technology'. But actually no, it's not. It's because there's no will to do it. So I mean, I think working on that – and then people will be able to work out the technology." (Annette, Knowledge Management Coordinator at NHS Education for Scotland).

Action research intervention: dementia

As we could see, the interviews in the area of dementia unveiled a number of challenges with respect to cultivating CoPs in NHS Scotland. As a result based on my readings and based on my insights from the empirical work I prepared a series of concise documents about cultivating CoPs for the NHS Education for Scotland in Glasgow (NES) which were addressing those challenges. The aim of those resources was to explain to managers in NHS Scotland and to potential members what CoPs were and how they could be useful. The documents included a guide to facilitating CoPs, a member's handbook that could be handed out to potential members, an outline of the technological matters surrounding CoPs (as most of the more official CoPs in the NHS Scotland seemed to be online), and a reading list based on my literature review for those who wanted to explore those topics further.

Some of the main points made in those resources were the distinctions between different CoP roles such as CoP coordinator (who leads rather than manages the community) and CoP facilitator (who coaches the community and helps in solving community-related problems), the reminder that a CoP is a social structure and not the online tool which supports it, the need for building a community with a core group of genuinely enthusiastic people rather than unilaterally choosing a topic and then waiting whether people 'from the outside' would be attracted to it, finding 'the right rhythm' of shared activities, or making a clear distinction on online CoP facilities between a closed space (i.e. for members only) and a public space (where the members can share their experiences the non-members).

Those documents are now in use in NHS Scotland, and they have inspired building a new website about cultivating CoPs called *Example Community* where they can be publically accessed (Figure 40). Also, my emphasis on distinguishing between public and private space for members reflects now on the main page of the Communities of Practice in dementia (Figure 41).

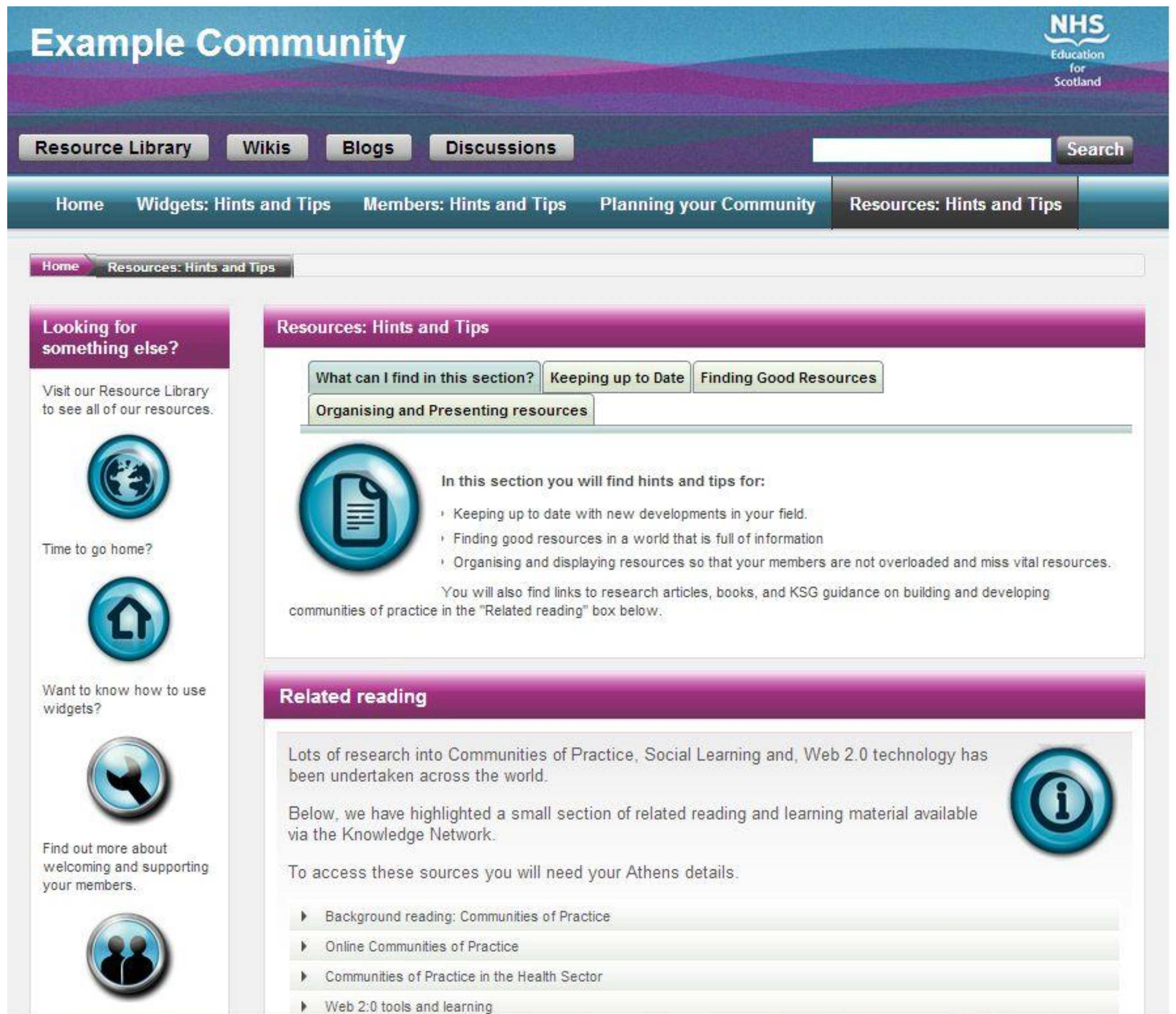


Figure 40: Example Community

Link: http://www.knowledge.scot.nhs.uk/example.aspx

Figure 41: Dementia Managed Knowledge Network – Communities of Practice

Link: http://www.knowledge.scot.nhs.uk/dementia.aspx

Furthermore, here is what practitioners in NHS Scotland said about the advice and support that I had provided to them as part of my action research:

> "It's been very good having your interest in supporting Annette [the Knowledge Management Coordinator] and her team [the Knowledge Based Practice Team at NHS Education for Scotland]." (Ann, The Director of Knowledge Management Programme in NHS Scotland).

> "I just think that what you're doing is amazing. Because you know, you're doing a PhD but at the same … you're giving something back all the time. Do you know what I mean? It's brilliant."

"Basically what you're doing is, you're helping me think. But you also kind of like helping me reframe some things of what I think and to present them in another way. So that becomes richer. But it also means that I can express things in a better way … [it] gives me a language then to actually use what I need to know … to bring people together."

(Sandra, AHP Dementia Consultant).

"- And in terms of the work that I've produced over Christmas - is it a useful background? Has it been useful so far? (Igor). - Oh yes. I mean we have completely revamped all our materials and our approach. We've gone back and I think we sorted out some of it before, but we kind of had lost it in time and staff changes and things. So it's allowed us to go back to where we were before. Incorporate all your material and your ideas. So we now have a much improved guidance and a much more improved approach to them. And we're always saying to them when people approach us. They always come in and then we say: 'you need to have identified somebody, you know, to do your website element, your technology element. But you, you know, you've got to get people's understanding what you are trying to do and to get this core group. So that you don't just have one or two people thinking this will be a good idea. You need to try to get there the others involved right from the beginning, or a small number." (Annette, Knowledge Management Coordinator at NHS Scotland).

"Traditionally I was kind of aware of, you know, CoPs I've kind of understood and that was part of my job to promote the idea of CoPs. But I think a lot of it was linked to the tool that we had – the community builder [a discussion forum generator]. And a lot of time we were going out engaging with people around initially showing them how to… Showing them what the tool was and how to use it. And maybe less so to take a step back and say 'what's the purpose of, why you want to do this'. The kind of the things we talked about today [in the team meeting which I attended]. So I think now when I approach that specific element, I'm very much mindful of… feedback from yourself, going to some training. Looking at the things that Jen's [a member of Annette's team] developed. That actually the key message is, you know, a CoP is the people and it's not the

> technology that’s kind of down the line.” (Derek, Senior Knowledge Manager at NHS Education for Scotland).

Following my field work in the area of dementia I attended a team meeting of the Knowledge Based Practice team in NHS Education for Scotland (NES). In the first part of the meeting I was asked by the team to talk about my reflections from the interviews and about the resources that I had developed (the team had already been familiar with them). That sparked a conversation about the challenges in operationalising the CoP concept in NHS Scotland.

One of the things that I then highlighted was that CoPs could not be instrumentally set up by a manager, but they needed to be nourished based on peoples’ genuine interests. The team admitted that it could indeed be a wider problem in NHS Scotland:

> “I think our problem is that too many of our communities in high profile areas are not actually voluntarily coming together. Somebody has decided that they will have a community. And that is not how they can evolve. And so you’ve kind of got this balancing act of the fact that somebody has come to you and say: ‘right, we need a community just to support this piece of work!’ But actually the members of the community aren’t saying necessarily that we need a community to support this piece of work. And even when they do, they’ll always… You know, it takes a long time to get that: to get those core people that think that it’s a good idea to actually start building it up.” (Annette, Knowledge Management Coordinator at NHS Education for Scotland).

> “- I’ve had these communities a couple of times when people wanted it really quickly because they wanted to have something to show. (Cath, Knowledge Manager at NHS Education for Scotland) … - They wanted to have something to show in an event.” (Derek, Senior Knowledge Manager at NHS Education for Scotland).

My other point was to ensure that practitioners did not confuse a community as a social structure with the technological tools which role was in merely enabling conversations. That led to a discussion among the team that in the past they had overemphasised the technology

aspect with respect to CoPs, and that they needed to promote a more consistent definition of what a CoP was:

> "I think the problem is… Although we've had that definition there, we're not very strict about using it. It's the IT [information technology] that has stepped in, because there's no question. People come to us … and their full focus is around about how they develop their IT [rather than a community of people]. Whether it was an old shared space or whatever it was, it doesn't matter. That became our focus, and that's what they come to talk to us about." (Annette).

Consequently the team members agreed to make a clearer distinction between websites which from the outset were aimed at being only repositories for codified resources, and between online community spaces for practitioners:

> "… - And that way we would separate the people who want a repository from the people who want the community. Because then you say 'OK, you want a community, you bring a core group of people, we all put the time into talking to you about building a community and not touching on the technology'. That's really what the guidance is starting to look like. You know, we've got quite specific guidance for the different answers." (Annette).

4.4. Training, official networks and community - can they go together?

In the second case of this chapter managers and educational leaders in NHS Scotland were trying to develop Communities of Practice (CoPs) as spin offs from formal training courses, or as part of broader institutionalised networks of practitioners. In all of the example in this case the alleged CoP leaders took a somewhat more intentional or prescriptive role in trying to bring a CoP to life, which could potentially lead to some new interesting insights about cultivating CoPs in professional settings.

Following the cyclical nature of action research I used the insights from the first case (dementia) both to inform how I conducted the empirical engagement in this case, as well as how I interpreted the resulting empirical material. Thus for example based on my previous findings I was assuming that it was important for practitioners in NHS Scotland who were interested in the CoP concept to focus on cultivating peoples' learning processes and the

learning partnerships rather than to impose on the potential members the desired shape of the community. By voicing these assumptions I was possibly changing the participants' minds, and that could have been affecting the empirical material that I was collecting. However, as explained in chapter 3, changing a participant's mind is acceptable and coherent within my methodological approach as for example it can allow me to explore whether the participant acts based on what they say.

Leadership Community of Practice

In the first example in this case the Scottish Government and NHS Education for Scotland (NES) organised a course for 14 National Dementia Consultants representing different professions. The course was aimed at preparing the Consultants to educating other practitioners about Promoting Excellence Framework – a document outlining the expected standards of care of patients with dementia (scotland.gov.uk, 2011b):

> "Promoting Excellence is a NES document for delivering care to patients with dementia in across, everywhere across all services. So part of my remit will be to make sure that staff in the ward are aware of the document, that they can benchmark themselves against it. And that they can then put a plan in place to achieve it." (Kirsty, leadership role in the dementia area).

In parallel to the regular formal sessions of the leadership training course, a 'CoP site' was setup online which was available only to the instructors and to the attendees, with the expectation that the attendees would form a community around the site:

> "Promoting Excellence in Dementia Leadership – that's the closed one [CoP]. This is the one where we are going through our leadership at the moment. So it's being used at the moment around leadership and our leadership development programme, but there's an expectation that this will go on and carry on being our CoP." (Sandra, AHP Dementia Consultant).

> "That CoP has all Dementia Consultants, but they're not all nurses. So it is a multidisciplinary site, but again, we try to work as a national group." (Kirsty, leadership role in the dementia area).

The attendees were allowed to freely talk on the Leadership CoP site however it was anticipated that they would also discuss there the course material. Furthermore, the instructors were using the Leadership CoP site to assign homework, to communicate with the attendees, and to upload the resources relevant to the course:

> "So the leadership development facilitators are putting the resources on there for us to look at, and questions for us to think about before we have our next leadership meeting. So that's being used more as communication with us all, and we comment on things and we ask each other." (Sandra).
>
> "I'm referring to the dementia CoP for the consultants. So it's used as a communication tool. It's not used to develop or explore issues or difficulties – so far anyway."
>
> "I think that the resources are excellent on it. And certainly if I'm looking for anything, if I was looking for any literature or anything like that, it would be the first place where I would go."
>
> (Kirsty, leadership role in the dementia area).
>
> "- Is the administrator someone who is also involved with sharing knowledge, so could that person be called also a member of the community? (Igor). - Yes, yes. They are members of the community. So that's where they let us know what learning we've to do for our next session. That's where they update us on anything that … So they'll summarise our event: 'It was great to see you all today, and this is the summary of what we did'. And then there will be another post to say: 'here's the work we want you to do in advance of our next session'. So they're on that and they've access to it. And they can read everything that we've been doing and saying [in a sceptical tone]." (Anonymised).

At the same time, similarly as it was within the AHP CoP in dementia discussed previously, there were not too many conversations happening on the Leadership CoP site:

> "Value is limited. I can see the potential of it, but it's limited because none of us are using it." (Anonymised).

> "I mean I'm part of the community [the Leadership CoP] where it is all completely private as well. And people don't post any better on it [than on AHP CoP]." (Lauren, AHP Dementia Consultant).

> "I am very keen and interested in CoPs but I can honestly say that I *do not* access my [Leadership] CoP as often as I should. And I get the … updates. So if there's anything put on the MKN [Managed Knowledge Network – the main site for the communities] - I will get an email. And I will look them up every day and I will go 'oh, that looks really good, I must go and look at it'. So there's a bit there about why don't I? I've got a computer here. *Time*."
>
> (Irene, leadership role in the dementia area).

One problem with the Leadership CoP highlighted by the practitioners was that shortly after the launch of the community the fragments of the conversations in the closed member area were showing up in Google searches, causing their distrust of the site:

> "I think there once was a little bit of a problem early on when the network was set up. And it is supposed to be a secure site. However somebody was able to access the conversations on that site. I think that has put a little bit of uncertainty to some of the members about the security of it. You know, there was a discussion taking place about a particular topic. And somebody has been googling this particular topic and has found access to the thread in that conversation through the fact that it hadn't been properly secured. So I think that it kind of upset a few of the people early on in the network. And I think that it's never quite got that trust back yet." (Alan, Dementia Services Manager).

> "You know, there's a leadership community. And I have commented to a thread of a conversation, which when I went Google searched my own name, it came up. And that was an issue with the community, and that was addressed to make it more secure. Cause it should have been. But if you still Google search my name

now, they tell me there's no way of… You can read the first sentence. Cause it picks me… You then click on it, and it says 'access denied'. But my first sentence of any thread will appear. So I'm now very conscious of what I say in every thread." (Irene, leadership role in the dementia area).

Some, albeit not all, of the interviewees also felt that the instructors who were running the Leadership course were trying to impose too much control on the CoP 'to be'. Furthermore one anonymous member said that they felt uneasy about the fact that the instructors were able to see the members' conversations on the forum. The interviewee felt that they could be judged based on what they write and that the fragments of their discussions could be reported to the representatives of Scottish Government. Whilst the interviewee would not have had a problem to post there neutral questions, they would not have felt completely safe to express their opinions. Meantime the instructors were disappointed by the small number of conversations taking place on the CoP site and they asked the attendees to explain this to the Minister at the Scottish Government. That understandingly led to even less trust and it further amplified the vicious circle (Figure 42):

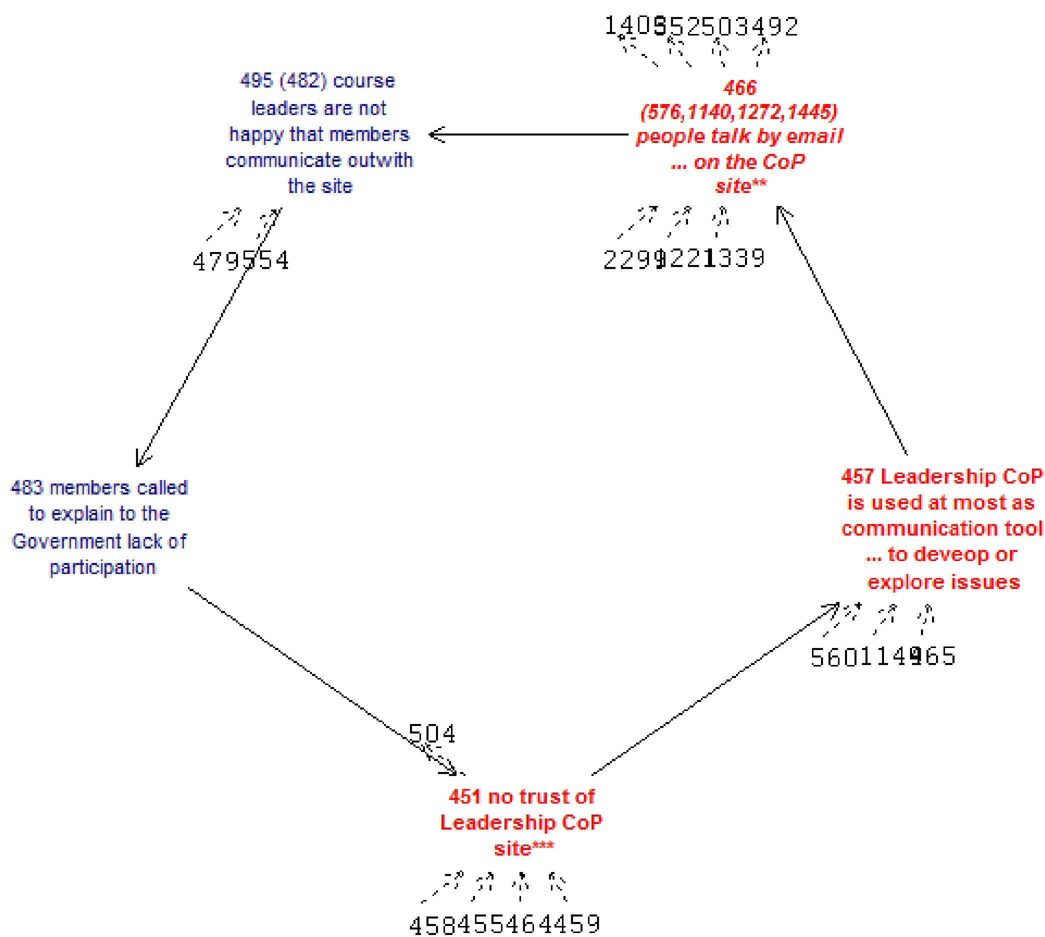


Figure 42: Leadership community - loop

“There isn’t one comment on that site about our course. *Not one comment* about on what a great day we had today, what a rotten day we had today, because there’s no trust. There’s no trust. And the people who are leading the course can read it.”

“This is a private space. It’s not public that you can access what we’re talking about without the administrator giving you rights to access it. So it is a private space. However *how private is private* when the people who are administering it have access to the government? And are expected to report to the Government?”

“They [the course leaders] have to make sure that what they’re doing is working. And I have to be able to deliver within an acute directorate. And as soon as I swing away from their agenda, they’re gonna’ know I’m swinging away from their agenda … and then have the ability to talk to other people. To maybe bring

me back into their agenda. Now it's a bit like Big Brother watching you. And I'm not paranoid about it. I don't have any real idea that I do want to move away from the agenda. But that's what I feel about the CoP site. We're sit in a leadership course by two people who have full access to *everything* the course participants say to each other. And that doesn't sit nicely with me."

"We had a meeting at our last leadership day where the girl who's the leader for us, who works for NES, or is employed by NES … told us that she is a bit concerned about the lack of communication that's happening between us as a group. She didn't say those words so this is my interpretation of what she said. I kind of mentioned that we actually had been in touch outwith the CoP, and you can tell she wasn't happy that we were communicating outwith that space. But that to me is the bit that concerns me about the control. So we have a meeting with the Minister … It's been arranged because … My understanding is because she is unable to report back on the impact of our communication with each other in relation to this course, because we are not using that CoP. And *that's* the bit that causes me the distrust."

(Anonymised).

"We were kind of saying: 'wait a minute'. There's a bit of almost rebellion beginning to happen. And what's happening is, people are then coming out of there, and we're having email conversations ... There is a lot of control." (Anonymised).

On the other hand Alan, one of the attendees, did not perceive the fact that the course leaders had access to the conversation area as an issue:

"- Do you think that it could also be the case of another problem, that people are afraid that someone who is maybe on a higher kind of level in the organisation, like in the hierarchy, that they would kind of see what they're saying and they would maybe judge them? (Igor) - Personally not from my point of view. I don't think. But then, you know, I don't know, I don't know how other people might think. That might be an issue for some folk. I think that if it was me, I wouldn't

> particularly worry about that myself - I don't think that's an issue. I think what another thing is, we do know who has got access to the site. And there are like the moderators that would be involved there, who are not actually the part of the nurse consulting group, but who would be included to the conversations that we're having." (Alan, Dementia Services Manager).

However for Alan the biggest problem instead was that the domain of the potential Leadership CoP was too much about the topics surrounding the course rather than about the real-life problems that would be stemming from the attendees' practices:

> "... I think the topics of the discussions on it have focused mainly around about the issues to do with the course rather than just general issues which I would have thought that's what the site could have been useful for. I think general topics have tended to be emailed out to folk. You know, somebody is looking for a particular type of care plan, some of that. You know, they'll put this as an email posted to the group. But with that I was looking for information about the particular type of assessment tool, and I put it on to the network and nobody has got back to me on it yet. So I'm probably gonna' actually just have to just post it as an email sent to the people which is a bit of a shame." (Alan, Dementia Services Manager).

Meanwhile some of the attendees were finding their learning partnerships established during the running of the course as being potentially useful for their work. Nevertheless they were much more willing to communicate outside of the CoP site about each other's practice-based problems, both online and face-to-face:

> "I think that the nurse consulting group tend not to use the CoP site to post questions to one another. They would tend to just post it as an email to the group. Which I think is a bit of a shame because if you're doing it in the CoP and in the Managed Knowledge Network then you get a thread there. I posted a question there and nobody has got back to me on it. However I'm quite certain that if I put that as an email to the group, I would have got a lot of replies. I think that it's not used properly because people don't understand exactly what it can offer and how it would work." (Alan, Dementia Services Manager).

"In our leadership CoP we actually do have a buddy. So I have somebody, and I'm actually buddied with a Nurse Consultant in Shetland. So we phone each other, and we have conversations about what's happening. He's doing a piece of work so I said: 'I can help you with that, I've got some stuff here that I can send you up'. So we do have those conversations and we've agreed that that's how we work. But we communicate outside that CoP at that point of time we have our buddy. And the rest of that group have been encouraged to the same, so that we have somebody whom we can talk to. Because I know we've met face to face as well, we meet as a group, and we are sharing leadership development, I feel very confident about replying to anybody, about putting a question out for folk - because I'm … very comfortable within that group. And I know the individuals. Even if I hadn't met them face-to-face I would still feel confident because I feel we're all engaged with the same thing."

"But certainly with the leadership CoP, I'm very comfortable in there, and we do have the odd question, and we do reply to each other. But again, some more than others, some people aren't so engaged. And others are quite chatty."

(Sandra, AHP Dementia Consultant).

"I would rather contact them just by email [the other course attendees] if I want to ask a question."

"… As a national group that CoP would be good to keep it for us I think. Or at least for us to have a dedicated space that we can use, that then feels secure. And it's not that I'm looking to put anything on it that is controversial, well I'm not. But I would like to have the idea that what I'm saying isn't being reported back."

(Anonymised).

Curiously, there actually was a community but out of sight and with no respect to bureaucracy and evidence.

Leading Quality Network

I the second example in this case I talk about the Leading Quality Network which connects the people in healthcare and social care who have special interest in the topics around quality improvement and leadership. The Leading Quality Network is organised around a central website which comprises of a number of online CoPs. It also offers training, events, and online resources (knowledge.scot.nhs.uk, 2014). The network falls under NHS Scotland Quality Improvement Hub which "is a national collaboration among special health boards and Scottish Government Health Directorates which aims to support NHS boards with implementation of the Healthcare Quality Strategy [I have discussed the Quality Strategy in section 4.1] through effective partnership working between the collaborating organisations" (qihub.scot.nhs.uk, 2014). As part of that collaboration NHS Education for Scotland (NES) are keen to work with the Network on developing their CoPs:

> "The Leading Quality Network is *definitely* the one that we *have* to put our energies into … It's such a high profile. And we have to make that work … It's not totally within our give to make it work but I think that we need to try and influence it as much as we possibly can, and how they do that. And there are a number of communities underneath that that are within that network. And I think that's OK. But it's just trying to help them make it be OK ... And you know, just trying to support them. I think it would be the most beneficial use of our limited resource." (Annette, Knowledge Management Coordinator at NHS Scotland).

Thus the NES representatives put me in touch with Mandy Andrew, Programme Manager of the Leading Quality Network, so that I could advise her about CoPs. A few weeks before speaking with Mandy I had talked to her colleague who had informed me that they had problems with insufficient engagement in their online communities. Therefore Mandy wanted to discuss with me the possibilities of addressing those challenges and making their communities better. In our conversation it quickly came across that Mandy's perception of CoPs was that of an online social networking tool which one could set up (and that perception was similar to what I had heard from my earlier interviewees). She also informed me that she had been asked by a group of individuals within her network to 'create a CoP' for them:

> "It's just an interesting way, the way that you've described that [that a CoP can exist both online and face-to-face], there is maybe something… There is maybe a learning point for us in how we market [it]."

> "You've just said something there that's made me think 'hmm'… In that you were saying, you know, CoPs which you are right – I'm not disagreeing, it can be the online forum or it can be face-to-face. But I would say, and I don't think that I'm alone with this. But my perception of CoPs are: they are this online… So what tends to happen, if I think of a group that I have just now called the National Improvement Advisors' Network. We've got them together face-to-face. Now, they're an interesting group of people who are coming with … a similar job title but different personalities, different approaches to their work as individuals and as teams. And it was: 'let's *create* a CoP'. So their perception is, you know, they're playing out, if you like, my perception. We get together as a group. But what we then want is, we want a CoP. So they kind of see the CoP concept as being the *online* part. They don't see themselves getting together face-to-face as part of that CoP. It's a bit like, the group get together face-to-face and the CoP is a bolt on." (Mandy, Programme Manager of the Leading Quality Network).

In response to the mentioned group's request of 'having a CoP', Mandy asked the NHS Education for Scotland (NES) to set up an online forum labelled 'CoP' for them. However the group members seemed to expect from Mandy to administer the site instead of spontaneously starting the first conversations using their new tool:

> "... So we created the CoP. Jennifer from Annette's team [Knowledge Based Practice team at NHS Education for Scotland] came down, explained to them, told them how to join. Now, Igor these are intelligent people. She took them through it. She gave them information to take away. I would say 70-80% of them came back and said: 'right, Igor, just add me to, get me into the CoP'. It's like 'no, *you* have to join in yourself; it's not for us to put you onto a list'. So that's interesting." (Mandy).

Consequently Mandy felt that there was not enough engagement on the CoP site, and during the conversation with me she seemed to be re-evaluating the time and effort required for developing productive and self-governed CoPs:

> “I kind of feel at the moment that it’s a bit of an uphill struggle because you say to people, you know, like the National Improvement Advisors: *you* wanted a CoP. I mean, you should have seen them. They were literally buying the table. You know, ‘we want, we want’. And it’s like, we’ve given you, we’ve developed, or created a CoP with Annette’s team. But the engagement in it… I’m wondering, I’m questioning myself. I’m not doubting you [in saying that a CoP is not a tool], I’m doubting myself more about the time required to actually follow through and build up that level of engagement … for people to really be self-sufficient within the CoPs so that you can then step away and they’re going to still, you know, build it and tend to it etc.” (Mandy).

Furthermore, I also had a conversation with Ali McPhail, L&D Adviser, who led one of the sub-networks in the Leading Quality Network called the Manager’s Development Network (Figure 43) which was aimed at middle managers across the country. Similarly to Mandy, Ali wanted to meet with me in order to talk about the possibilities of fostering peoples’ engagement in her network.

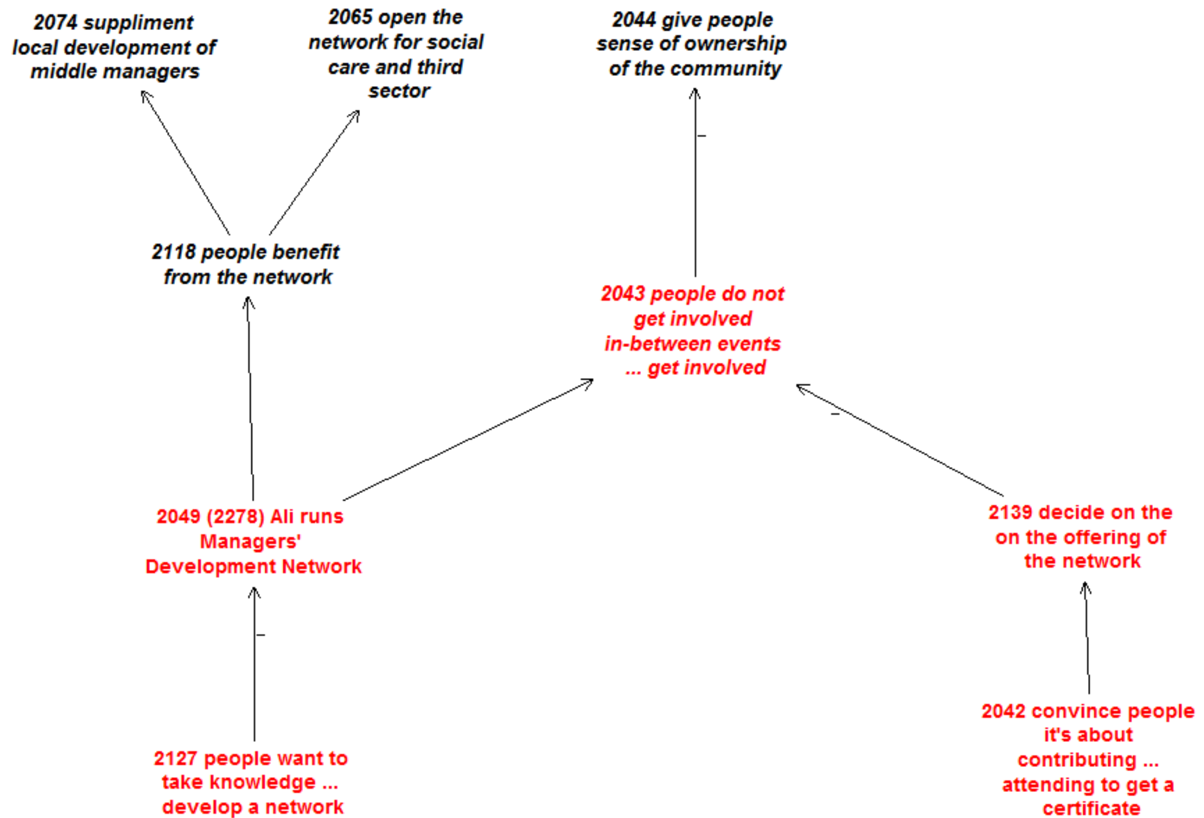


Figure 43: Manager's Development Network – goals and issues

The Manager's Development Network was initially run in the form of workshops organised by external consultants, however after the budgets were cut the network had to be organised internally and Ali became its lead, who then had to find ways of sustaining it with less money available:

> "The Managers' Development Network started about 6 years ago where a lot of money was given to an external consultancy to run workshops, sort of 2-3h workshops in six different regions to cover the whole of NHS Scotland. That run for about 2 years - very successful. But then budgets got cut. So the external consultancy disappeared. And we brought it in-house and it's ended up with me. So I have a much much smaller budget and it is about 10% of my time. So I don't have the resources to be the central figure for the community in the same way that Mandy is the central figure for that community, because that's her whole job. So what I did was try to continue what was working well with the community, which was regional events run 3-4 times a year in various locations so that people can access it. It is multidisciplinary, it is across all of the health boards, and now we're

trying to be open to social care and third sector colleagues as well. On our community website there are 175 members. But I've had maybe about 700-800 people attend events over the last couple of years." (Ali, L&D Adviser, National Leadership Unit, NHS Education for Scotland).

However while so many people were signed up to the website, they did not seem to use it very much, and that was not in line with Ali's aspirations with respect to the network. That was also one of the highest ranked issues in central analysis in Decision Explorer (Figure 44):

"It is to make the network a point of contact. So that people, like you're saying, someone has a particular challenge or problem, they can say 'oh, I'm gonna' post a question on the MDN [Manager's Development Network] community space and see if anyone else knows how to deal with that'. That's what I would like them to do. And I've started discussion forums on the Website, and email about it all the members, and said: 'I've got a question, can you help me?' Nobody. And I start maybe five or six discussions every year. Nobody ever replies." (Ali).

Cent Scores Calculated...

Top 10 concepts in descending order.

2049 (2278) Ali runs Managers' Development Network
31 from 64 concepts.

2076 the network is aimed at middle managers
22 from 51 concepts.

2043 people do not get involved in-between events ... get involved
22 from 50 concepts.

2127 people want to take knowledge ... develop a network
19 from 43 concepts.

2042 convince people it's about contributing ... attending to get a certificate
17 from 34 concepts.

Figure 44: Manager's Development Network – central score

As part of the network Ali run a series of events and presentations on manager's development, but she had found it difficult to nurture a sense of community around those training sessions:

> "My community [pause], they think that it is a source of training courses. And so if I don't put on training courses, they don't do anything. But I have to put on the training course. So it's all… about taking something, but it's never about giving something. So there's something interesting about it because they don't feel the ownership."
>
> "So the idea was to supplement what development they could get locally. So as a result I've tried to focus on topics that are best focused on the national level. So I've had people from the Government do presentations on the strategic context, on the political context, the financial context, done podcasts, we've done events. And they've all been quite successful. But like you, I don't think that a network is about turning up to an event twice a year and then going away with your set of slides and saying: 'I know what I'm doing now'. I just don't think that that's enough. And I'm wondering if… Based on what you've said this morning, I'm wondering if it's because I'm trying to replicate the model when there was lots of money and lots of people working on it, and I'm wondering if that's where I'm coming unstuck."
>
> (Ali).

Moreover, the potential audience of the network was so large because it focused on a very broad topic of supporting line managers in NHS Scotland:

> "So actually because it's such an inclusive network, it's really difficult to define who my audience is. I have had band 2 porters, ambulance service paramedics, all the way through to non-exec directors and chairs. So actually I can't define my audience by grade either. The regional intention of the network was to offer development to middle managers and no one can define what a middle manager is. It's not at the top and it's not at the bottom [laughing]. So the idea was, people who didn't necessarily have access to development from other sources … This is for every man, this is for the guy who has 24 people reporting into him, no budget, but he has to report to lots of other people. So it's for the person that doesn't necessarily have the authority to change the context. They don't

> necessarily have control over what their organisational objectives or operational plan is. But they have to make the best of that situation." (Ali).

It also appeared that a problem was that the local educational support which the networks' participants were receiving was too generic to be very relevant for their day-to-day work:

> "All of the local boards tell me that they provide development for that middle manager community. And then when I say to them 'what do you offer them?' – change management, time management, absence management, kind of HR…It's just...sigh… that's great [sceptically]! But where's the spirit? Where's the challenge? Where's the thing that gets them talking to each other about what's really important?" (Ali).

I then advised Ali that perhaps instead of focusing on developing her network into a CoP, she could rather concentrate on real-life problems of the members, and try to foster the discussions around those things that they said that they genuinely cared about, which idea she welcomed enthusiastically:

> "…You would need to think about what you really want to achieve by your work. If it's network building then it's enough, maybe you don't need to create a CoP. Maybe the network is enough where you are. But then it will be useful to see what type of learning partnerships, what types of communities are happening … But it won't work in a way that you're saying to them 'let's build a community'. It won't work." (Igor).

> "- What you can be doing is trying to give them many opportunities to talk about themselves. (Igor). - Yes, people *love* talking about themselves. (Ali). - So every session would be for example like a… 'My Practice'. And you give people an exercise: one person per month, or per session, has a homework that they need to create maybe a video or a short story about themselves – about their practice, in their own work. (Igor). – OK. Oo, yes [seems to be liking the idea]. (Ali). - So what their life is as a practitioner, what it means, how they're evolving, the problems they face, the challenges, what the problem is today for them. It's an opportunity for other people to jump in and to maybe help them with some of

these real-life problems. – Yep (Ali). - And this is one of those ways in which you can emphasise very elaborate social learning. (Igor). - That's fantastic [taking notes]. It's a really good idea. Cause one of the things that I wanted to explore was it if it's a multi-disciplinary network. How do we make sense of other peoples' roles. So I don't understand the jobs that everyone else does. And they don't understand everyone else's job, so how can we share that. Yeah. But that's a lovely idea though – you get them to do a short piece and I can help them with their recording if that's what they need." (Ali).

"And I might even head it up 'learning partnerships'. So that it signals the change. That this isn't about doing things for you. It's the partnership that we both work at it." (Ali).

Interestingly, it appeared to me that Ali regarded it as a relief that developing a CoP did not necessarily have to be an indicator of a successful learning space. A few weeks later I was informed by people from NES (NHS Education for Scotland) that Ali was happy with my pieces of advice and that she took them on board. Also, with respect to the conversation with Mandy, I referred her to the materials about cultivating CoPs which I had prepared for NES (as described in the dementia case, section 4.2). As I am finalising this thesis, Mandy has expressed interest in further collaboration beyond this project.

Learning Disabilities Nursing Network

Through my contacts in the NHS Education for Scotland (NES) office in Glasgow I also met Hazel Powell, Education Projects Manager, who was based in the Edinburgh office of that organisation. Hazel had prepared a review of learning disabilities nursing in the UK on behalf of the Scottish Government, and at the time when we spoke she was leading an implementation of the educational recommendations of that review (i.e. its implications for the education of nurses specialising in learning disabilities). As part of her work she had decided to establish a network of academics in that field (Figure 45):

"One of the recommendations … was to set up an academic network. And what we realised is, there's a wealth of kind of expertise in terms of Learning Disabilities academics across the UK. And they're not really connected, and they're not really working together at any national strategic level ... So because I

> came from an academic background, I've kind of taken a bit of a key role in setting that up. So we set up a committee, we wrote our terms of reference. I'm currently vice chair. So we have this academic network which currently has something … about 200-300 people involved in it … It's really good work kind of joining up across the UK around that. They were looking at how we support learning and disability nurses pre-registration, we're looking at how we get some data to know where student nurses are going and what jobs they're working at, and all that kind of stuff. There's some good work going on." (Hazel).

Apart from holding a few networking events per year, the network leaders hired a professional web hosting company to maintain their website and to send out monthly mail shots with updates to the registered members. However that was seen as a too expensive option and therefore the leaders started to look for a cheaper alternative. As a result, they thought that it would be a good idea to move the network to one of the CoP websites hosted internally by NHS Education for Scotland (NES):

> "[The professional web hosting company] … is not really a long-term option because she was looking for something like £6000 a year to host it. And I thought that we would never gonna' get that year and year - which made me think of the CoP and the Managed Knowledge Network. Which I've been a little bit involved in my previous post sitting on one of the steering groups…"
>
> "We decided that what we needed was a sustainable network. That was kind of sustainable and could move forward without a lot of investment. In terms of money it had to be more or less self-sufficient."
>
> (Hazel).

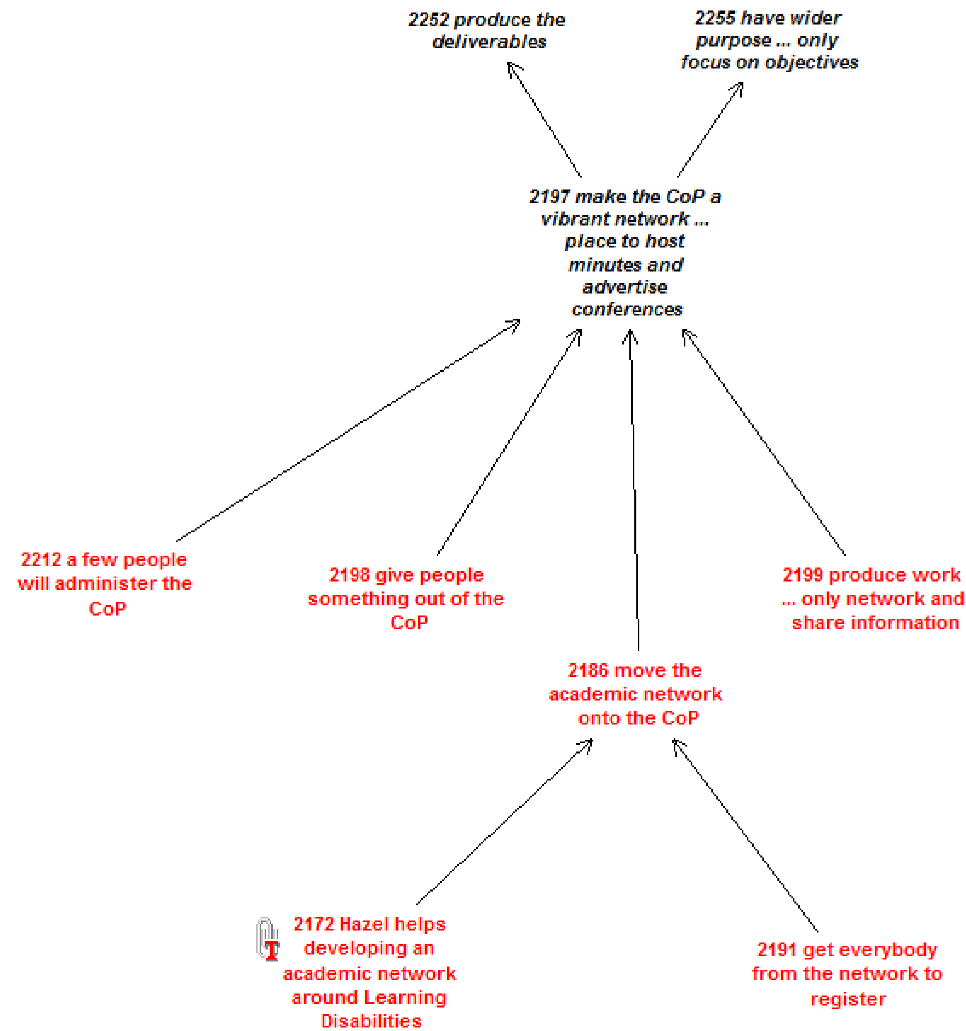


Figure 45: Learning Disabilities Network – goals and issues

Moreover, because the network was funded by the Government, it had a number of deliverables to achieve:

> "… It's a community who as well as sharing information and generally networking, should also be actually producing stuff. They have a fairly clear work plan with aims and objectives that we have been given a lump of money from the Scottish Government to deliver on. So there's that kind of side to it. Which maybe makes me slightly different from some of the CoPs which are more like just common interest. We actually have bits of work we need to deliver on as well." (Hazel).

Hazel's goal was to make the CoP a place of engaged conversation rather than just a resource library. She thought that it could be achieved by building on the existing sub-groups from the original network:

> "[We're] … trying make it quite vibrant, a quite a busy network. I want it to be somewhere that people want to go to and get something out of. I don't really see it as somewhere just to kind of host minutes and advertise conferences. I'd like it to be a little bit more interactive. And some of the work that the sub-group are working on, to try and use wikis … to kind of develop that …" (Hazel).

The first challenge which Hazel faced was to encourage people who were signed up to the original network, to 'move onto the CoP'. However, the members were not signing up to the CoP site as quickly as expected. Hazel felt that the problem was in the fact that people were busy, and that the process of singing up to the CoP website was not easy enough (as already highlighted in the dementia case):

> "We sent out warning mail to everybody, we sent out an email to the committee [the five individuals who had agreed to dedicate a few hours per month to coordinating and leading the network] saying 'right committee, you guys, here's how to join up - you get yourself joined and then we'll ask the wider group to join up.' And they're very slowly are they coming through. We've sent out a wider email to the wider network … But I don't think that we've had many people joining. So there's a bit about 'how we get the people that *are already in the*

> *network* to realise that they need to just do these couple of steps to join the CoP … I know people are very committed to the academic network. It really is, just people are busy, and I don't think it's the easiest thing to do to register for an Athens … Because it's a UK-wide community, a lot of people won't be eligible for an Athens password." (Hazel).

Another challenge was to connect the various sub-groups already belonging to the network and to get them mutually engaged. Thus the turn from the network to the CoP appeared to be not merely as a transfer to the internal hosting service (which was my original feeling), but it was a symbolic point of trying to further integrate people across the different parts of the network:

> "There is a sense of enthusiasm and drive. There is a core group in the sense that there's a committee. And there is a sense of shared direction and kind of drive and enthusiasm around it. And then there's the wider network who are that peripheral group. They want to be involved .... And some of the wider network are involved in the sub-groups, but they are not involved in the committee as such. So basically we just put the information out saying … 'there's opportunities here, who wants to get involved, and who wants to do what?'" (Hazel).

Moreover, Hazel believed that a good starting point for building peoples' engagement were the monthly mail shots with news sent out to the whole network, as well as the ongoing learning of the separate sub-groups:

> "Well, each of the sub-groups is a kind of driver. And there's a few people involved, and there's people that's stepping in and out ... But it's how we then turn it into a CoP … information sharing is already happening because we have these monthly mail shots that come out. And anybody can feed in information." (Hazel).

When speaking with Hazel, based on my experience from the previous cases, I was trying to stress the importance of establishing a core group around the CoP site capable of thinking together about some real-life problems that would attract people from those different elements of the network, rather than resorting to indirect information transferring. I also

warned her that putting too much emphasis on the formal deliverables imposed on the members could potentially happen at the expense of the purpose of learning of the community. She seemed to take those pieces of advice into consideration, as she concluded our conversation as follows:

> "… I think that we have that [the core group], we just need to be clearer about who is doing what within that I think. We have focus, we do have topics. We need to make sure there's a wider purpose and we don't focus too much on the objectives." (Hazel).

In this example at first it seemed that there was some conceptual confusion around the CoP concept. The leaders wanted to move the network from a fairly expensive website to a free CoP discussion forum hosted internally by NHS as if the main advantage of developing a CoP was its low cost (it is usually exactly the opposite). However the leaders still saw that change as an opportunity to mutually engage the participants of the network. Interestingly, it was actually the respective sub-groups that it could probably make sense to regard as CoPs.

At the same time what was labelled a CoP in this example was a website which served as a possible connecting point for a larger network comprising of a number of CoPs. Hazel was right that there was a good possibility for developing a CoP at the heart of the network with a domain in shared problems relevant to them all to a bigger or smaller extent. Nevertheless that would have required a lot of coordinating effort so that the right people were targeted with the right problem domain, and hence that called for treating CoP development as a considerable investment with a long term payback.

4.5. Educating about sepsis through social learning

The Scottish Patient Safety Programme

The third case in this chapter took place in the area of sepsis, which NHS defines as follows:

> "Sepsis is a common and potentially life-threatening condition triggered by an infection … In sepsis, the body's immune system goes into overdrive, setting off a series of reactions including widespread inflammation, swelling and blood clotting. This can lead to a significant decrease in blood pressure, which can mean the blood supply to vital organs such as the brain, heart and kidneys is reduced …

> If not treated quickly, sepsis can eventually lead to multiple organ failure and death … Each year in the UK, it is estimated that more than 100,000 people are admitted to hospital with sepsis and around 37,000 people will die as a result of the condition." (nhs.uk, 2014b).

Sepsis has been prioritised by NHS Scotland in the recent years through its high profiled Scottish Patient Safety Programme. The programme is a "national initiative that aims to improve the safety and reliability of healthcare and reduce avoidable harm, whenever care is delivered", and its key points of focus include "leadership, communication, safety culture and safer use of medicines." With respect to sepsis, the Scottish Patient Safety Programme works on improving the recognition and "timely delivery of evidence based interventions for patients in acute hospitals" (healthcareimprovementscotland.org, 2014b, scottishpatientsafetyprogramme.scot.nhs.uk, 2014a).

The Scottish Patient Safety Programme is coordinated by the Healthcare Improvement Scotland (scotland.gov.uk, 2014b) which looks for research evidence to inform better care, works with staff to put that evidence into practice, and evaluates how practitioners follow that advice (healthcareimprovementscotland.org, 2014c). In their work, the Scottish Patient Safety Programme follow the Model for Improvement (scottishpatientsafetyprogramme.scot.nhs.uk, 2014b), which Dr Ann Wales, The Director of Knowledge Management Programme in NHS Scotland, briefly described to me as follows (Figure 46):

> "Currently in the NHS Scotland, and it's spreading a little bit to the social care now as well. There's a … pretty well defined central improvement model that's been applied. This model for improvement that depends on carrying out success of cycles of testing of new approaches, measuring their effectiveness, and then continually refining and improving the approach." (Ann, The Director of Knowledge Management Programme in NHS Scotland).

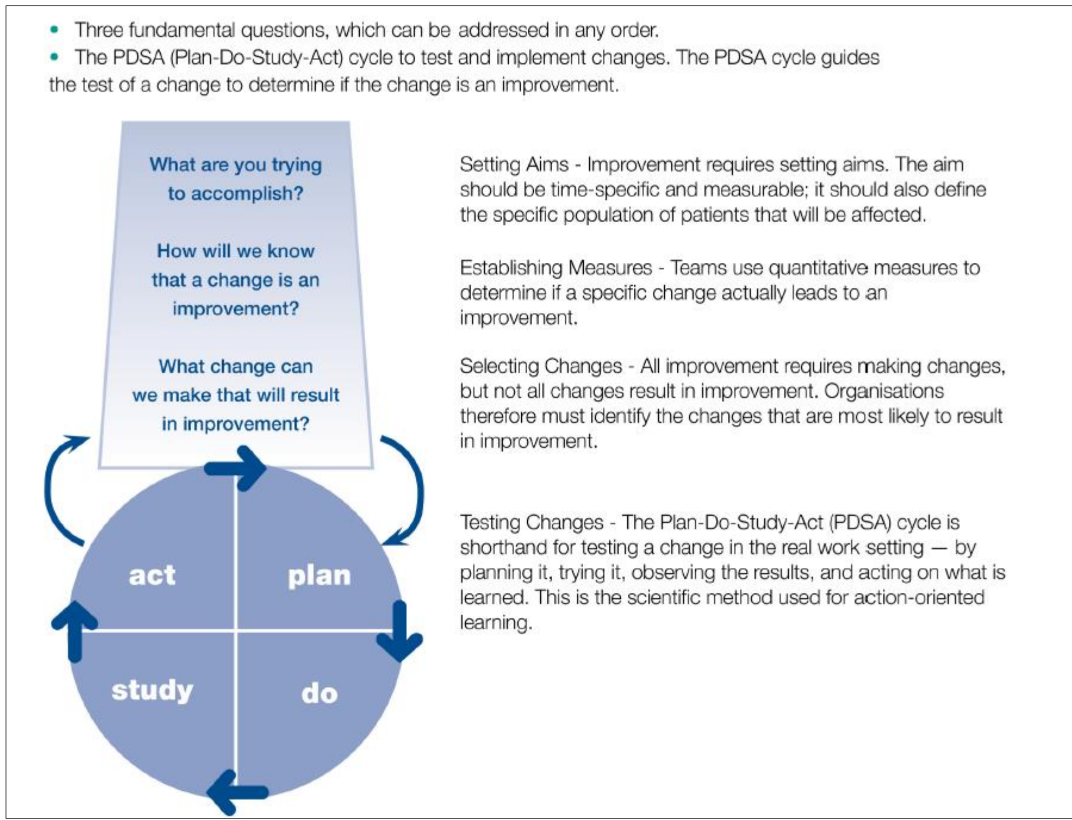


Figure 46: The Model for Improvement

Source: (scottishpatientsafetyprogramme.scot.nhs.uk, 2014b)

As part of the Model for Improvement local interdisciplinary sepsis teams send their representatives to the national learning sessions where they share with each other their experiences. Such meetings are called the meetings of *collaboratives* (scottishpatientsafetyprogramme.scot.nhs.uk, 2014c, ihi.org, 2014). Interestingly, Dr Ann Wales believed that the CoP concept might fit very well with the Improvement Model as an approach to fostering knowledge sharing among the collaboratives:

> "… The meetings that the collaboratives have are all about sharing experience of trying to apply their improvements locally. And as you've identified with the sepsis group, the CoP method is an effective improvement method in itself. It's an improvement approach and implementation approach to help with spreading and applying knowledge. But it's not currently being fully recognised and embraced, if you like, as part of the portfolio of improvement tools and methods. But you can quickly see how much it has to offer as a well-defined, but still flexible and rigorous approach to ensuring that knowledge exchange happens through the

> people who were involved in the change. That it works across boundaries, so you get the spread of improvement. That's one of the big challenges they have to face just now. And it lends itself very well to measuring - how practice is actually shifted and changed as a result of the exchange of knowledge and the creation of new knowledge. So I feel there's a very strong sort of kernel of commonality between the CoP approach and the Model for Improvement. And I think the potential of CoPs as improvement model becomes even stronger as the improvement effort in Scotland moves out beyond health and into social care where there aren't existing well-defined mechanisms of communication and interaction and integration because of all the other boundaries that exist across the organisations." (Ann, The Director of Knowledge Management Programme in NHS Scotland).

Because of an apparently good match between the aims of my project and the work undertaken by the Scottish Patient Safety Programme, Annette Thain, Knowledge Management Coordinator at NHS Education for Scotland, introduced me to Alison Hunter, National Patient Safety Facilitator, and David Butterfield, Senior Project Officer at Healthcare Improvement Scotland. After our initial conversation in their Glasgow office Alison and David agreed to organise for me a few interviews in the area of sepsis so that I could explore the improvement work in different settings from the perspective of social learning and CoPs.

In those interviews I was looking to see how sepsis practitioners shared knowledge in the local improvement projects piloted by the Scottish Patient Safety Programme, and how they translated that learning into the national community and vice versa. I now compare the experiences of engaging in the programme from the perspectives of two practitioners at different stages of their careers. Sofie Singh, Infection Control Nurse, is a young and a relatively new practitioner. Her journey with the programme began when she was asked by her manager to be responsible for data collection for the local improvement project as part of the interdisciplinary sepsis group which was being formed in her hospital in Dumfries:

> "… There was a project going on about management of sepsis. And my manager asked me if I would help with the project because I've got a background of working in ICU [Infection Control Unit]. And I had a sort of interest in sepsis and

its management. So I've got asked if I would be involved in the project and as a result of that I've taken on the lead of data collection for the project." (Sofie).

Having a role in the improvement project allowed Sofie an opportunity to attend the annual national events where she could share her experiences of the local improvement work with people from other health boards, which in her opinion was a source of an exceptionally valuable learning:

> "…What I found the most useful is the learning sessions ... that Patient Safety put on. I've been to one just recently in Glasgow … We heard from sort of people high up in Patient Safety like Kevin Rooney [Lead Clinician in Critical Care & Scottish Patient Safety Programme] and Alison [Alison Hunter, National Patient Safety Facilitator]. And they kind of spoke and set the tone for a day. And then it was very interactive. And in the afternoon session I spoke about the improvement work that we've been doing in Dumfries with one of the doctors that's leading for the project here. So we did a presentation. And it was three other boards that'd done presentations about the work that's been going on in Scotland. And then that generated discussion and it was an open floor where everybody sat in their board tables and we could all just talk about the different things that we were doing … So it was really helpful to hear, take ideas from other boards and implement them in your own boards…" (Sofie).

Eddie Docherty, Nurse Consultant, Acutely Unwell Adult, is a seasoned professional who represents Ayrshire and Arran on the national forum as a sepsis lead. He attended the same national events to explicitly look for relevant problems, ideas, and solutions that he could put to work:

> "I routinely go to all the learning sessions for sepsis, A – as sepsis lead, and B – as a SPSP [Scottish Patient Safety programme] fellow facilitator. And I encourage one or two people from each sub group to go along as well so that they can transfer that back. And normally I will take one of my kind of band 7 nurses, the other lead – one of my Clinical Managers, so we can mix and match because A – I cannot go to everything, and B – we can both be sitting at a presentation, at a discussion, and take very different things from it. So it's trying to ingenerate as

> much information and learning as possible to take back to say: 'well, Forth [health board] have done this really really well … 'Right, OK, what can we change or adapt to work locally?'" (Eddie).

While the face-to-face conferences would happen once or twice per year, the national sepsis community maintained regular contact by monthly Webex'es (videoconferences) with around 150 participants and through the community website:

> "We speak on the Webex on the monthly basis. And that's all sort of key members from each board that are probably at these events … The Webex is about an hour long, once a month. And we'll get sort of an update from Kevin or Alison, or whoever. And then there's usually a board that presents a presentation. And then each board will then get sort of five of ten minutes to have their say, or any new ideas or anything new that they're trying. And there's a community website as well where we can upload information or things that we're trying … We've got that poster, and lots of other boards really liked it. So we've uploaded that so that other boards can use it. Same with our care pathways – we've uploaded that so that other boards can take things from it." (Sofie).

Concurrently to attending the national events, both practitioners were busy trying to implement the improvement model of testing small changes in their own settings. Sofie helped to organise the local monthly sepsis meetings dedicated to that work, and she would collect and prepare the sepsis-related data for discussion:

> "It's probably 3-4 people who are key to the meeting happening. And then there's people who work in the wards or pharmacists that are involved in it who are also joining."

> "At the moment I do take some responsibility because I collect the data, collate it all, and then present it prior to the meeting so that it's organised - so that everybody has a full set of data for going to the meeting so that we can then discuss it."

> "We've got a monthly sepsis team meeting where … we'll go through all the data for the previous months. And we'll discuss each detail and find a point why we've done well. And how to keep it up, or what we failed at and why that was. And we would do like case note reviews of maybe things that that went wrong and do it a bit of learning: this is what happened, and this is why we won't do it again … And then each person gets actions of things to do for the next meeting. And that might be, like the doctor might get 'go over sepsis on a ward', or do a scenario with the junior doctors. Or I might get an action to go and do an informal session with the nurses. Make posters, things like that. Do leaflets. And just small tasks, and then we meet up again at the next meeting and we go through the data, the actions, and any other business. And we also have a meeting after each of the national learning sessions that we go to, to discuss what we've learnt and what we're gonna' do as a board – and take on."
>
> (Sofie).

Moreover, unlike more traditional team meetings, Sofie's sepsis group meetings had a rather loose and informal character:

> "The meeting is quite informal. I mean we have an agenda, but anybody is allowed to put any issue that they want on the agenda. It's a kind of an open agenda. We just email the person that organises the meetings and we say: 'can we discuss this', 'can I discuss this'? And then it's very informal. There will be someone chairing that, but it won't be sort of hierarchical. It will just be someone to time to keep time to make sure that we are not running over the meeting. And then it will be somebody taking minutes and just a list of the actions. But everybody gets their say, definitely." (Sofie).

Similarly, Eddie would chair a local interdisciplinary (medicine, nursing, pharmacy, infection control) group of 8-10 people where they negotiated the issue of 'this is how we do things around here' with respect to sepsis:

> "Mirroring how that's worked [the national sepsis community] myself and my colleague run the local sepsis group which is multidisciplinary across all aspects

> of the organisation with a round-robin approach [roughly sequencing tasks in small steps] of ‘where are you?’, ‘what are you doing?’ And trying to get to some consensus without me dictating what, say A&E [accident and emergency], need to do. That’s engaging with the A&E and all of us pushing each other up to continued improvement.”
>
> “You’re not looking for complicated understanding of human psychology and educational pathways. It’s about: ‘right, I’m doing this, what do you do, what are you doing, I’ll have that, that may work for you’… And that feels about right. You’ve almost done it in the playground as children with that informal networking. And this is I think a more formalized method of ‘right, what you’re doing, how you’re getting that to work.’”
>
> (Eddie).

Eddie stressed that the team meetings were essentially oriented at real-life problems rather than at general topics about sepsis, which at first was seen by the attendees as somewhat unfamiliar, but with time they started to appreciate that approach:

> “I really enjoyed that system, and I found it quite invigorating. So taking that to a local level was [pause] not easy, but I suspect easier for me having quite a high level of exposure to it [to the Improvement Model at the national level]. Quickly trying to get my colleagues to understand what this was about. It was not about a classically chaired meeting where we sit and talk about sepsis. It’s: ‘what you’re doing for sepsis? What *you’re doing* for sepsis? We’re doing this, we’re doing that. I can help you with this; I can physically come and support you.’ They’ve found it unusual but very very helpful.”
>
> “It posed the usual challenges when getting people around the table. And it took some mild thumb twisting. But after the initial getting the right people at the table, everyone’s engaged with it. And now we usually have a pretty good turnaround and a pretty good exchange of information, relatively quickly. And one of the good things about it is, classic meetings can take 2-3 hours. We’re usually done in about 40min. And people like that. They don’t like ‘we have this laborious

agenda'. It's not like that. It's: 'let's all meet together, where are you, where are you, where are you – great – I'm doing this, I'm doing that, take it back.'"

(Eddie).

Both Eddie and Sofie acknowledged that they had reaped considerable benefits through their engagement with the Scottish Patient Safety programme both at the national and at the local level. For Sofie it was a chance to be learning in practice from more experienced practitioners:

"Through this community there's like a wide range of people. There's like really high up experienced that have been doing it for a long time, like Alison and Kevin. And then you've got people who are sort of in the middle stage of their improvement journey who are trying to get there. And then you've got me who is relatively new, who is just absorbing all the information as a goal. So they are really valuable." (Sofie).

It seemed that as a result Sofie was feeling more confident both about sepsis and the improvement model, and more generally as a practitioner:

"Sometimes I had maybe like a wee bit of uncertainty, but going to the national meetings and being able to speak to people, I know that I'm getting there and that we're all kind of moving towards the one common aim. So I do feel definitely more confident about that." (Sofie).

The participation in the programme helped Sofie in building her identity as a practitioner as she was becoming identified by other practitioners as someone who could advise them about the ongoing improvement work and about the novel approaches in sepsis:

"I'm identified … within the board as sort of one of the people that's leading on the project. So people can come to me if they've got questions, and people do come to me - which is quite good. And maybe I sort of influence other people's practices as well." (Sofie).

Meanwhile since the national community included practitioners at very different stages of their career, Eddie could also find there opportunities for learning new things. For him as a leader it was very valuable to be able to benchmark his team's efforts with what the others were doing in the country:

> "… Having that link with people across the country and learning from what they're doing. So it's very much an action learning point. It makes a *massive* difference. So you're not plugging away on your own and then having to email colleagues. Proactively, you've actually got the ability to engage nationally very very quickly and get *the best* of the work. And also benchmark, as everyone's presenting their work on a rotational part you think: 'they're ahead of us, they're doing this right, I need to then push my system a wee bit harder to get that kind of result.'" (Eddie).

In the national community Eddie established learning partnerships which helped him to mutually improve each other's practices:

> "Having conversations with people in Dumfries and Galloway and leads in Inverness at the same time every couple of months, or whatever - I mean it's just *a phenomenal* opportunity … There was that bit of 'I'm presenting my stuff and me feeling quite exposed by that'. That's all gone, now it's the case of 'oh right, that's great, what are you doing? Oh no, we've not decided to do that because of X…' And the fruitfulness of the conversations is great. I mean it's changed an awful lot of what we do and made it better, more effective. So I'm a convert and I'm really heavily supportive of it."

> "Quite commonly you hear about great innovations and you may read about it. And that's excellent. But … you need to go and actually have a core understanding of what that means to work in that before you can think about trying it in your own area. And that's one of the good things particularly as we're all starting it relatively from scratch. We're all learning and developing together. So we all have a feeling as well, as well as an intellectual understanding. We have a feeling for what things are like. And that combination seems to be much more powerful." (Eddie).

Additionally, Eddie's local sepsis group was making an impact by inviting various departments to thinking more reflexively about the good ways of treating sepsis:

> "And you can see now, we had problems with our A&E department coming on board with sepsis. And then we've got this kind of meeting and it's a non-threatening support of education-type of meeting. A&E really bought into it, and I'm moving this service quite quickly forward."
>
> "A lot of it is learning from everyone else's mistakes to say: 'I've tried that and it didn't work because of X, and may work for you' - but it didn't work because of this. And the time saving involved in that, and breaking that cycle of 'head down, push through' – you know, sometimes that's actually not the best way to do. Just step back, have a think about it, talk to people. And it is talking to people, it's engagement, it's human. And it's organic. And that makes such a difference when you're working on these things."
>
> (Eddie).

In both examples the manager's legitimation was clearly necessary for the sepsis work to take place. Sofie participated in the project because of her genuine interest in sepsis and because of her manager's support for the sepsis work and for her self-development:

> "I do it as part of my day-to-day job, although sepsis doesn't really fall under infection control's remit, because … it's not a communicable disease. So it's something that my manager has kindly allowed me to still do within my day-to-day work. If it became something that was taking over the day and it wasn't allowing me to do my other infection control job, then it would be something that I would have to then do in my own time. But it is something that I enjoy doing and I would be happy to do it in my own time."
>
> "I used to work in Intensive Care in the hospital and they were not overly encouraging with learning. They were happy if you've done it in your own time, but they certainly weren't willing to pay for any learning sessions or days away. Or it was always the same people that got to go on sessions. So I feel like since

the start of my job here, it's been actively encouraged and I'm learning every day doing the job, but I'm also allowed to go away on study days and things like that. And I have no problem asking my manager and she's happy to let us go."

(Sofie).

On the level of NHS Scotland, Sofie's local sepsis group was supported by the national Patient Safety leaders who not only coordinated the events and videoconferences, but who also conducted site visits to support the involved practitioners with their projects:

"… We've got site visits. And I think that they either happen once or twice a year, just depending on demands. And that's when the National Team … will come to each board and do site visits and talk through each board's data and the measures that they're doing and the interventions. And they'll all maybe suggest new things that we could try, or say: 'or say. We were in Lanarkshire last week and they were doing this: 'why don't you try it'? …" (Sofie).

Similarly Eddie's sepsis group could come to life because as a leader he was legitimatising the practitioners to attend it, and because he was facilitating the group's work.

"I think it's facilitator - that's kind of my role. It's to allow that cross body functioning. And make it happen rather than passively expect them to pass over information. (Eddie). - And for the participants, is it also during their working hours? (Igor) - Yes … Some people do come in their own time … I'm very supportive of making sure the nursing staff involved always get a time back … (Eddie). - Do you feel that this is something supported by the wider organisation? (Igor) - I'm not sure. There's an element of the wider organisation kind of just to have tasked myself and my colleague to sort sepsis. And how we go about it is our own discretion. So I don't think that they know how we're doing it. (Eddie). - So basically they trust you and you're empowering this opportunity? (Igor). - Yeah. That's one of the great things about this organisation: if they have confidence in you, they tend to give you quite a broad brush. And that tends to work well for this kind of thing. Because it's then not management-led dictate. It's what we as the clinicians think that needs to take place." (Eddie).

However for Eddie the facilitation of the learning group was expensive in time and effort, and it also involved gradually convincing others that it was a valuable thing to do:

> "The outcomes can be quite time-consuming for me if I'm facilitating the work across the group. Initially it was quite hard to get everyone just round the table to understand what we wanted to do. So it was that initial engendering interest. Particularly when there is a perception of 'we're good at sepsis, so we don't need to get involved with you'. So it was then a classic management of change, of trying to get big hitter influencers to go back and say 'no, we need you to engage'. So that took us a bit of time and a bit of development." (Eddie).

Based on these two different perspectives we can see that the participation in the sepsis part of the Scottish Patient Safety programme was a meaningful experience for both Sofie and Eddie. For each of them the main goals were somewhat, but not entirely, different (Figure 47 and Figure 48): Sofie was becoming socialised into being a practitioner by getting national access to the practices of people who were more experienced than her, and she could use that new knowledge in her main job. At the local it also gave her a chance to grow as a practitioner by engaging in sepsis work in fulfilling ways, i.e. she could take on new responsibilities that mattered to her and to others. Meanwhile Eddie used his involvement with the programme to actively search for new tools and methods that he could use to facilitate positive change in treating sepsis in his local setting, as well as to convince people to thinking more reflexively about sepsis. It was also a chance for him to bring the representatives of different departments to sit at one table in order to agree shared ways of doing things with regards to these topics.

The management's legitimation was clearly a very important condition for all of that to happen in first place. Such legitimation was possible because of the national recognition of the Scottish Patient Safety Programme, and because of the relevance of the real-life problems (sepsis) that the national and local communities dealt with to the wellbeing of the respective health boards and local units. In fact Eddie himself was legitimising his local group in that it was seen by the practitioners and their managers as worthwhile to attend the meetings and to think together about sepsis so that the local improvements could be brought into life.

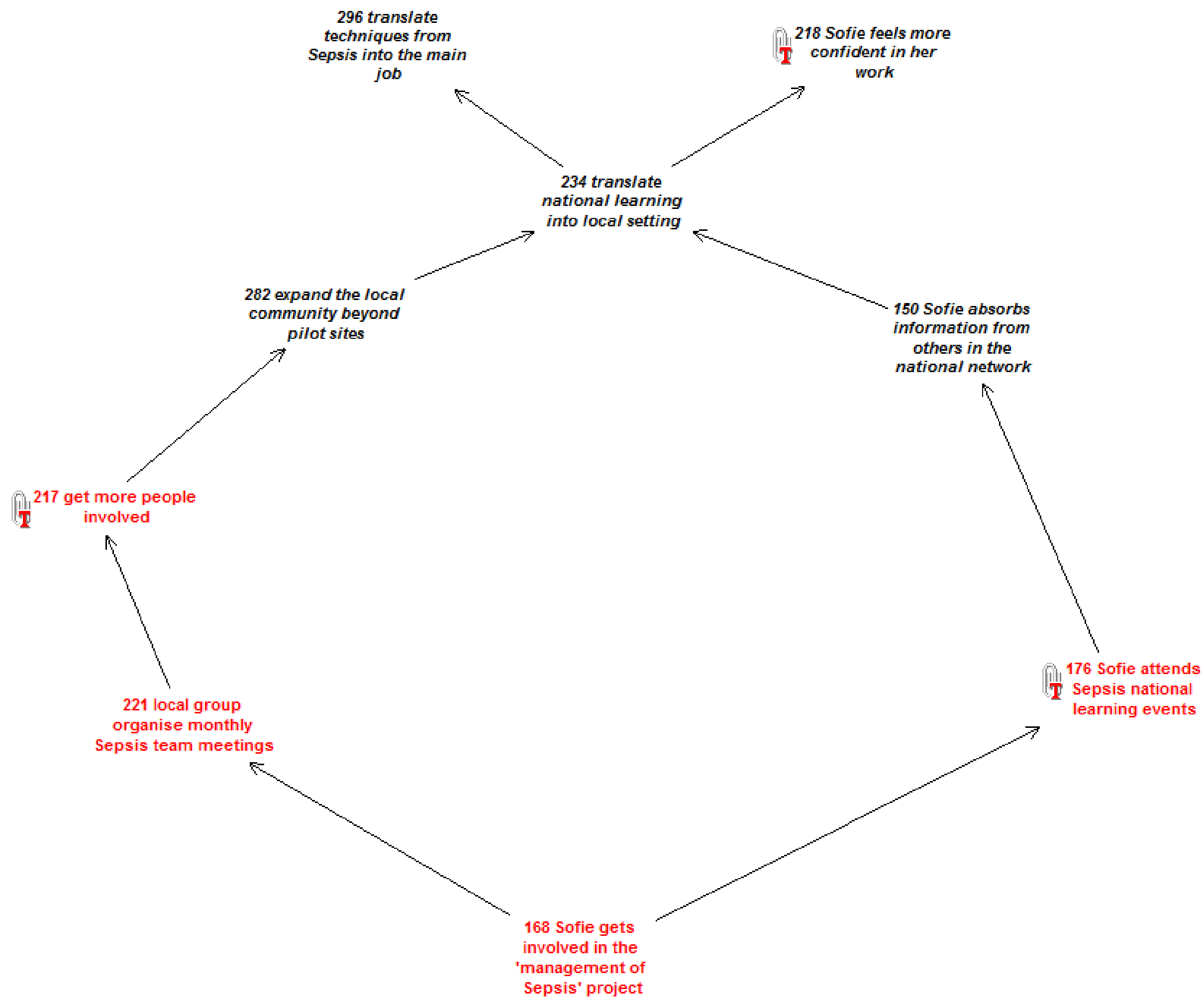


Figure 47: Sofie's goals and key issues

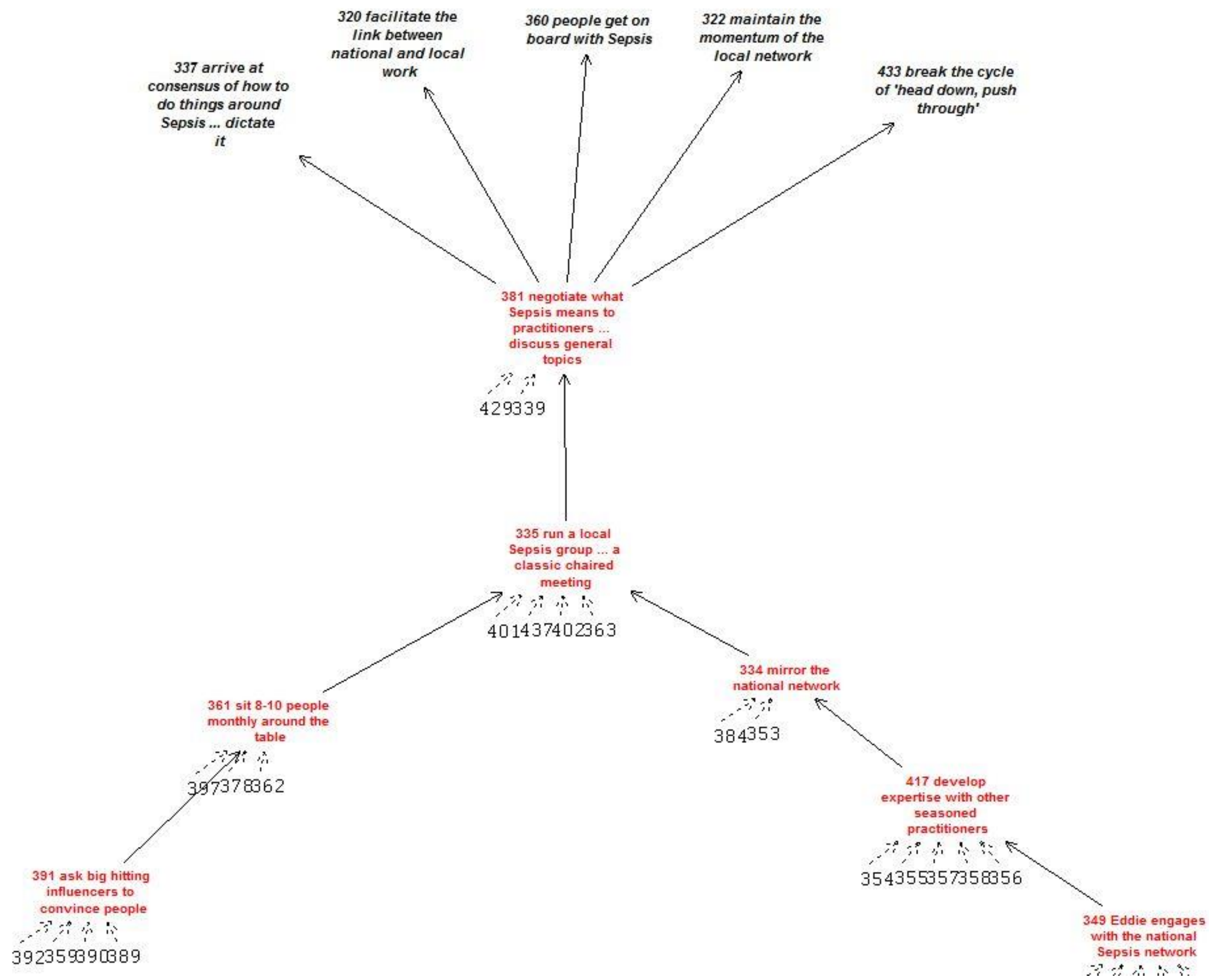


Figure 48: Eddie's goals and key issues

The Critical Care Outreach Team

In the final example of this chapter I describe a team specializing in diagnosing and treating sepsis called the Critical Care Outreach Team (Figure 49). The team and the General Borders Hospital in Melrose where they are based have been recognised both nationally and internationally for the quality of their work (Figure 50):

> "Analysis of the results has seen Borders General Hospital Intensive Care Unit record some of the lowest patient figures for out-of-hours admissions, length of stay, need for ventilation and need for renal replacement therapy in the country. On top of this the number of cardiac arrest calls at the hospital saw a remarkable reduction from 465 in 2000 [when the Critical Care Outreach Team was established] to 48 in 2013 (healthcareimprovementscotland.org, 2014a)."

Figure 49: Critical Care Outreach Team from General Borders Hospital

Picture sourced from Ronnie Dornan's Twitter account and used by permission:
https://pbs.twimg.com/profile_images/3639462743/85d6d50cf6deb0b54b64b6f6b2da133e.jpeg

Figure 50: Critical Care Outreach Team receiving Quality Champion of the Year Award at the Scottish Health Awards ceremony 2013

Picture retweeted by Ronnie Dornan and used by permission: https://pbs.twimg.com/media/BYn0m8LIUAEYTin.jpg:large

Following their successes, in 2014 the team inspired a public debate in Denmark about improving patient safety in hospitals after being featured on the Danish public television when Dr Jens Stubager's, a consultant at Kolding Hospital in Denmark, visited the Borders Hospital:

> "My study visit to Borders General Hospital has been truly inspirational. The methods of dealing with the deterioration of patients that Ronnie [the team's leader] and his team have developed are quite ground-breaking and evidently provide outstanding results. Since appearing on our national news, the methodology has created huge debate around the whole country and politicians are now looking to take patient safety more seriously" (scotsman.com, 2014).

One of the main reasons why the Outreach team was so successful was due to the fact that they had been effective in managing what they knew: learning, teaching, and sharing knowledge. Because of that it seems plausible to take here a CoP (Community of Practice) perspective to better understand what it is actually that the team are doing that they are performing so well. This then leads us to some more general insights about good ways of fostering CoPs.

The origins of the Outreach Team can be traced back to when Ronnie Dornan, Clinical Nurse Specialist, was working in intensive care where sepsis was traditionally dealt with, and he realised the need for recognising and treating sepsis earlier than it was taking place:

> "My job title is Clinical Nurse Specialist. And my background was in intensive care. When I was … a Charge Nurse in intensive care … one of the things I was aware of was that when patients were getting to intensive care, they were getting there very late. And their disease process, the sepsis had progressed down to a stage when they were critically ill. And we knew that we wanted to get people much much earlier at the stage that we call systemic inflammatory response [early stage of sepsis] … That's the time when you want to recognise people and start to treat them." (Ronnie).

Thus since Ronnie believed in the crucial immediacy of treating sepsis early, he was actively searching for novel ways of doing things, including using more precise language for talking about it:

> "It's time-dependant … if someone has sepsis, severe sepsis… For every hour you don't get an antibiotic, your mortality will go up by 7%. So you need a precise time-dependant communication. You want things done by a certain time. So you have to be very very specific." (Ronnie).

He was also convinced that the much needed change was to spread the active responsibility for diagnosing and learning about sepsis beyond the intensive care. The reason for that need was because sepsis could occur anywhere in the hospital and therefore it was very important that as many practitioners as possible were confident about recognising the symptoms early:

> "Everyone has got a part to play in this. When it comes to the practical aspects of doing this then that is usually just nurses and doctors are doing this part: the taking of bloods, and the giving of antibiotics … So physiotherapists, they're more in the recognition. They can recognise and then they can escalate up and they can let people know … Someone could become sick at any point. And if a patient is in hospital, quite stable, and they do a series of observations. And the observations have been normal, absolutely normal - then you'll reduce the

frequency of those observations to 4 hours for example. So I do a series of obs [observations] on you just now, they're all normal. Because they're normal, we say 'right, we don't need to do another step in 4 hours'. But you could become ill within that 4 hours ... So within that 4 hours if you become sick, you might not tell anybody that you're not feeling well. But maybe the physiotherapist will be in the ward that'll escort you, or a pharmacist, or acute pain team. They'll think: 'this person doesn't look well.'"

"I couldn't do that from the intensive care [meet the goal of early recognition]. So what I hoped to do was get out of the intensive care to the ward areas, to help people identify these people earlier. So, how do I go about it?"

(Ronnie).

In order to meet his goal of improving early recognition of sepsis, Ronnie wanted to help people in the wards in dealing with sepsis, to educate them, to provide them with supporting tools and systems, and to improve their communication about sepsis. That was stemming from both the collapsed view of goals and key issues (Figure 51) and the central analysis (Figure 52) which were based on the cognitive map constructed from the conversations with the team (which however were conducted mainly with Ronnie).

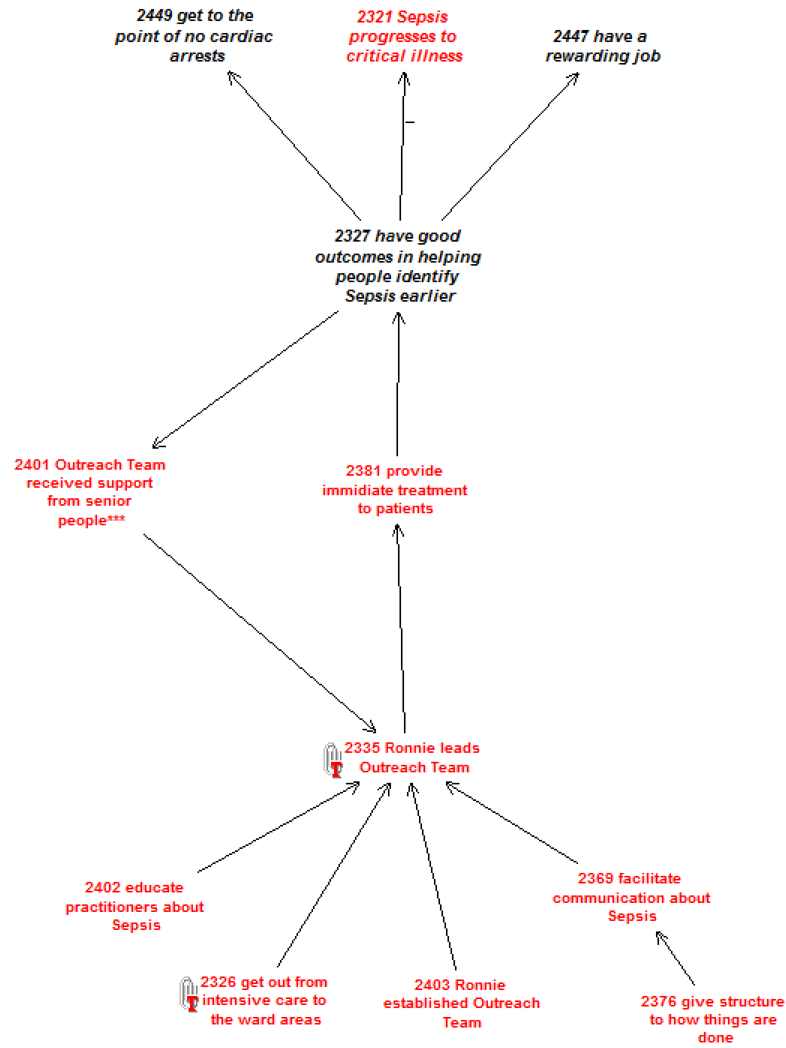


Figure 51: Outreach Team - goals and key issues

Cent Scores Calculated...

2335 Ronnie leads Outreach Team
41 from 102 concepts.

2369 facilitate communication about Sepsis
31 from 76 concepts.

2403 Ronnie established Outreach Team
24 from 52 concepts.

2401 Outreach Team received support from senior people***
24 from 52 concepts.

2406 Outreach Team organise Sepsis meetings
23 from 53 concepts.

2402 educate practitioners about Sepsis
23 from 54 concepts.

2326 get out from intensive care to the ward areas
22 from 50 concepts.

2381 provide immidiate treatment to patients
21 from 50 concepts.

2376 give structure to how things are done
18 from 36 concepts.

Figure 52: Outreach Team - central analysis

One of Ronnie's first ideas was to pay a visit to a hospital which had an educational programme about sepsis in order to get some new ideas how to achieve his goals. He was then advised to involve as many different professions as possible around early recognition of sepsis:

> "The first thing I did was I visited a hospital in Nottingham called Queen's Medical Centre because I knew that they had set up an education programme within the hospital. And I knew that the figures were quite good. So I went to spend five days there. Some of the advice they gave me was – If I'm gonna' start to teach people about how to recognise people earlier, I shouldn't try to do it all by myself. One, I should get as many different disciplines involved as possible: nurses, doctors, physiotherapists, pharmacists, and student nurses, medical students. And the people that teach the subjects about sepsis early recognition – that should be multidisciplinary as well. So that was my starting point." (Ronnie).

Subsequently Ronnie established an interdisciplinary and non-compulsory course about sepsis comprised of mini-lectures delivered by experienced practitioners (Figure 53). Because of its increasing popularity it soon grew beyond its initial target audience. Importantly, its success was due to the fact that both the teachers and the attendees had a genuine interest in the real-life problems that were talked about: the teachers could raise the awareness about the things that they wanted the others to know, and the attendees were learning about those problems that were directly relevant to their every-day work (in facts some of them would come to attend the course during their days off):

> "We knew that there was skills that people had who did intensive care … that would be good to have nurses in the wards with those skills. And we decided to set up what we called a high dependency course [high dependency refers to one level of immediacy before intensive care]. And it was an education course for ... Initially it was just for nurses in the wards. But then we expanded it because people started to say: 'could we come?' And it was junior doctors that asked if they could come. It was student doctors, student nurses, and then physiotherapists. And then we basically said: 'well, it's for anyone who has an interest in the patient'. And the successful part of this, and it has been very successful. Is that we get *lots of* different people to teach. And the people who come and teach, they're all giving their own time. But it's a good opportunity for them to get the messages across that they want to get across." (Ronnie).

> "I think that's why so many nurses do want to come to our courses, especially on their own time. Because they do care about patient care and about doing the right thing, and they want to know what we're doing, why we're doing it. You know, how we get these outcomes in this hospital. And they want to keep it up, you know. Because they do care." (Jennifer Morrison, Clinical Nurse Specialist, Clinical Care Outreach Team).

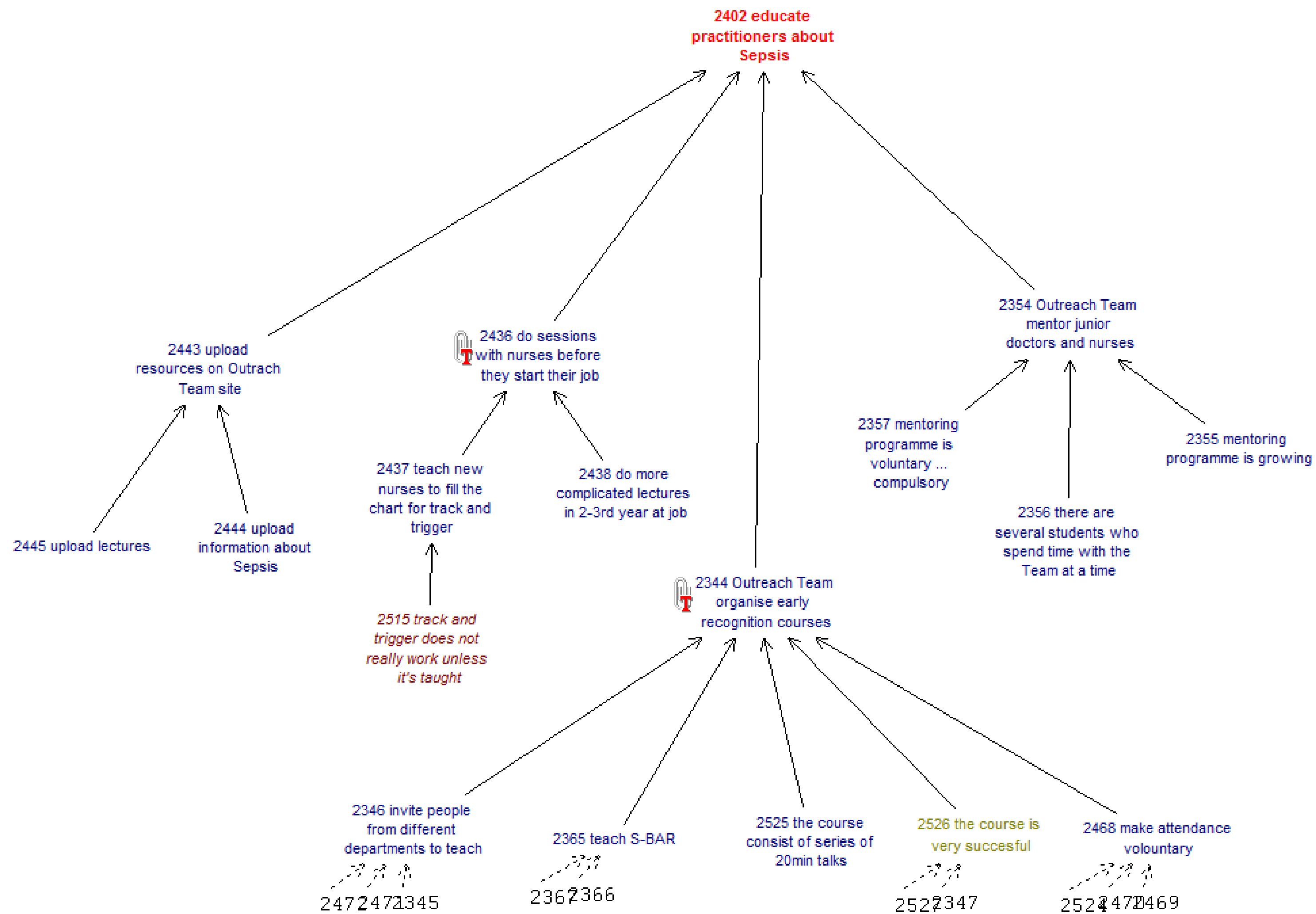


Figure 53: Outreach Team - educating about sepsis

At that time Ronnie also established the Outreach Team which comprised of experienced nurses whom he had already known from work and who all shared genuine interest in sepsis (Figure 54):

> "I lead a team called the Outreach Team. And there's five of us. And they're all fairly senior nurses, up to what we call band 7. Clinically called Nurse Specialists, probably an equivalent of a Ward Sister – about that level. And they all have to have a certain length of experience and certain educational requirements, like educated to a degree. And have previous experience in the intensive care. But I mean that could be open, it doesn't have to be."
>
> "The other advantage I had when forming this team was that I already knew Jenny, Hazel, and Lisa. Cause I'd seen them working. So I already knew they were exceptional people. And I also knew that they were already very very good team people. I also knew that they were very very interested in what I was doing. Because they all came and spent time with me. And not everyone wanted to come, but they did. And they really enjoyed it. So when I had jobs that I could advertise, we didn't really need to interview, but we did. Cause it wasn't like a stranger: I knew that I was getting *the perfect people*. And not everybody gets that opportunity to choose people … So, you're taking a chance. You're taking a chance whereas I wasn't."
>
> (Ronnie).

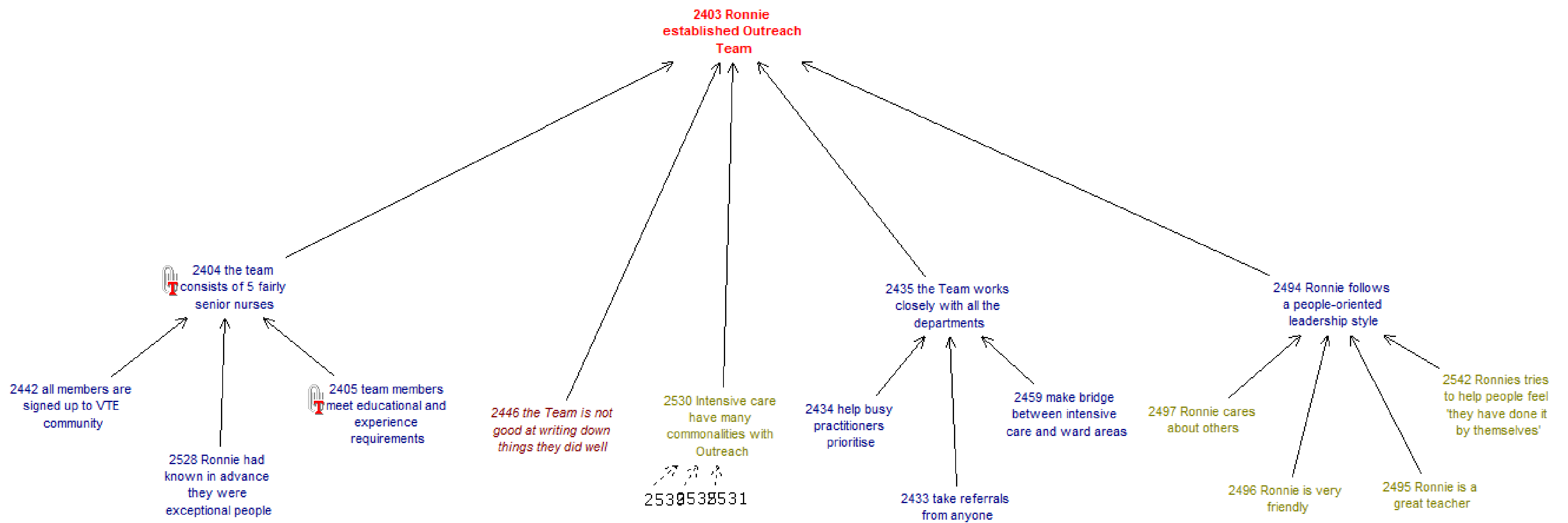


Figure 54: Establishing the Outreach Team

The main purpose of the Outreach Team was to educate practitioners about early recognition of sepsis, and to provide an immediate contact point for anyone once a septic patient was diagnosed:

> "When a nurse identified a patient who had possibly sepsis or SIRS [early sign of sepsis], we would be a contact point. If the patient was really sick I would have immediate access to very experienced doctors in the intensive care. I could get them out and we could do things really quickly."
>
> "When we started the Outreach service we encouraged people to call us for any concerns at all about a patient. And we had a very very, sort of strict motto that we would *never* be judgmental and that we would respond to *every* call as a call for help. And if you treated it like that, then people were more likely to call again. Whereas if you got angry with them, they wouldn't call you."
>
> (Ronnie).

Thereafter Outreach Team started to gradually bridge a gap between the intensive care and the ward areas by exposing the practitioners to each other's work:

> "We are a bridge between the intensive care and the ward areas. Historically an intensive care was quite a secretive place. It was an inner sanctum that patients came to and then the nurses didn't see them again until they come back out again. And there wasn't any sort of joint working. And back where we started there was a nice term come out that 'we should change and it should be critical care without walls'. Not physical walls, but metaphorical walls. And that was our starting point. There was lots and lots of different things. We got nurses who were in intensive care to go out and spend time in the wards to see what it looks like. And we got nurses from the wards to come spend time in intensive care. And that served a lot of useful things. People get to know each other." (Ronnie).

Additionally, the Outreach Team were also mentoring junior doctors and junior nurses who were allowed to spend time with the team:

> “And then we saw an opportunity for another sort of learning that if student doctors, student nurses, staff nurses came and spent time with us and see what we do, that would increase their learning. And to this day that’s growing and growing. So several student nurses as part of their training now they’re asked come and spend their time with us. And the student doctors as well.” (Ronnie).

Nonetheless initially some people were unconvinced about the usefulness of the presence of the Outreach Team in their wards. Ronnie managed to overcome that resistance by proving the value of the team as an immediate and non-judgmental contact point for nurses in the ward areas:

> “The beginning is a very fragile time … You know, some people would say: ‘you’ve never been here before, why come now?’ And then some people would say: ‘what value can you add, what extra value can you add?’ But one of the really really supportive people were the nurses on the ward. Now, nurses in a ward come across a sick patient. And their first point of contact is a junior doctor, a very very junior doctor who might have just left University. And they’ll say to the junior doctor: ‘what should we do?’ And the junior doctor is looking at the nurse and thinking: ‘what should we do?’ So that’s their level. Whereas my point of contact as a Consultant is a much much more experienced person. So the nurses in the ward, they know that we’re there to get things moving and happen if need be. But they also know that we’ve got a direct line to Intensive Care. And some of them when they’ve got a sick patient and they’re quite experienced, they’ll think: ‘this patient shouldn’t be here’. At the beginning you’ve got to be very very diplomatic. That you don’t go on and criticize what other people are doing.”

> “It’s possibly one of the reasons that a team like mine exists. People are busy but it depends what you’re busy with when you’ve got to prioritize. So if you’ve got two things to do, and one is to take a patient for a shower, and you’ve got a patient that looks very unwell, then you prioritize - shower can wait. I mean people are busy and I think that’s where a team like ours helps that we try to keep our response time to about… If there’s someone says ‘come now’, we’ll come. And if I can’t come, I would send someone else.”

> “We don’t like getting in and taking over. That’s not what we’re supposed to do, really. And if we go in and we see a situation where the nurses and the doctors, and *everything* is happening exactly as it should be. Then one of our skills should be to say: ‘this has been managed, we step back, and let them go.’”
>
> (Ronnie).

> “Cause you need to have a certain personality to go into the wards and not be intimidating. Be tactful, and not take over. Be friendly.” (Jennifer).

Moreover, the team wanted to aid doctors and nurses in talking to each other about sepsis, as they tended to speak a somewhat different language:

> “Doctors speak a certain language and nurses speak a slightly different language. And we’re getting closer to speaking the same language. Doctors like numbers, they like facts, figures, and they like quite precise definitions. Whereas nurses are maybe just a little bit more vague or nebulous. We know what it means, but a nurse may phone a doctor and say: ‘I’d like you to come to see this patient, they don’t look very well’. And the doctor says: ‘well in what way?’ And they say: ‘Well they don’t look right and they look a bit hot’. And they’ll say: ‘well, what’s the temperature? What’s the blood pressure’? And they want specific… They want numbers to start to formulate, so they can prioritize how sick is this patient.” (Ronnie).

The team thus introduced a number of standardised tools and techniques for the recognition and communication of sepsis (Figure 55). One of them was a track and trigger chart (Figure 56) using which a nurse in the ward would tick the possible symptoms of sepsis and then calculate the score of how sick the patient was:

> “The next thing that we had to do was to develop some sort of system of trigger that people could use to identify these patients early. So we developed a chart when a nurse does the patient’s observations, there will be very early signs to tell us that the patient had SIRS of sepsis. And these signs where: their heart rate going up, the temperature going up, their white cells going up as a sign of

> infection, their respiratory rate going up, their blood pressure going down, urine output going down, and we would assign a weighting. So the more ticks you had, the more ill the patient was. And that is effectively called a track and trigger system now." (Ronnie).

However the team also needed to educate people in the hospital how to use the track and trigger system, and that eventually allowed the practitioners to feel more confident when talking about sepsis:

> "You hear about the early warning triggering systems … That's a fairly recent thing. But we have developed one here 17 years ago. And it was out in the wards, but no one was there to do any education on it. So it didn't really… work. So then when I started post, I could develop some time to that. To get nurses in the wards to actually use this system the way it should be used." (Ronnie).

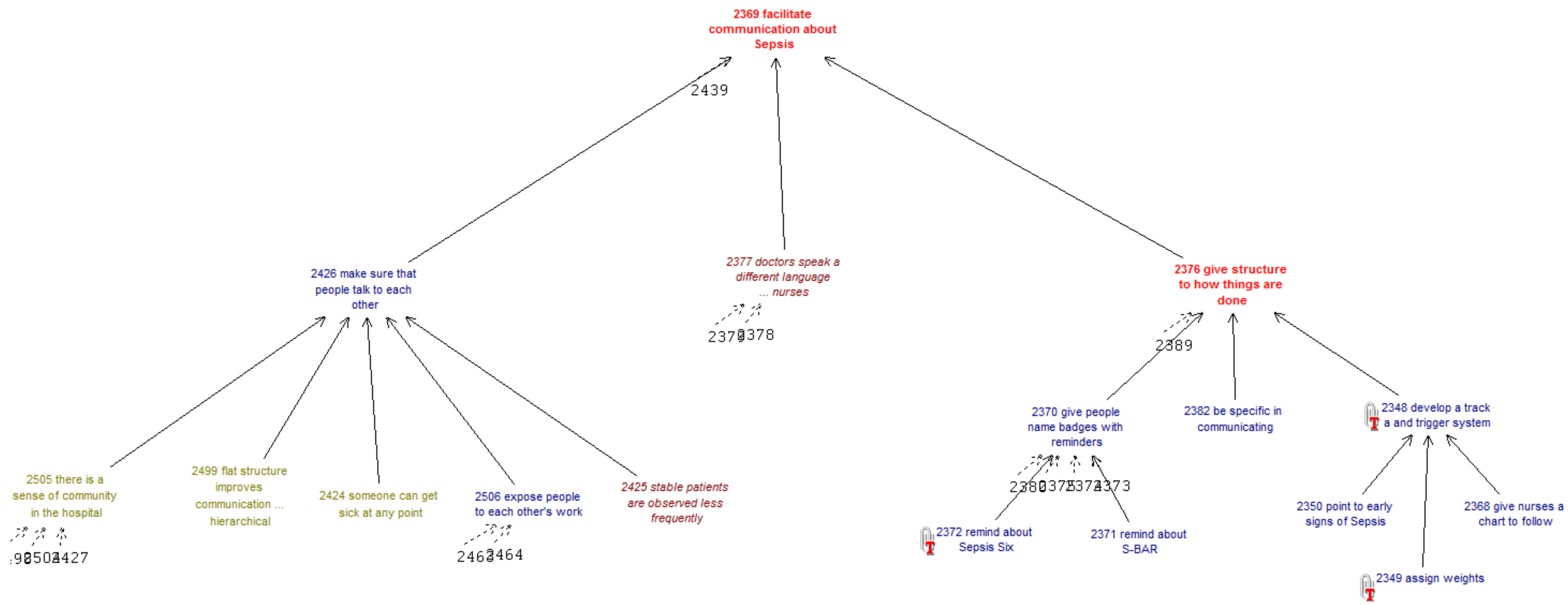


Figure 55: Outreach Team – communicating about sepsis

Monitoring Chart

NHS Borders MONITORING CHART

NAME OR ADDRESSOGRAPH

DATE:
DATE OF ADMISSION:
CONSULTANT:

HT

WT

BMI

SPECIMENS
RSOU
MSU
BLOOD CULTURES
SPUTUM CULTURES

If any 2 scores cross into shaded area – inform Outreach Team
– check Arterial SaO_2 Base Excess urgently
– inform Medical Staff

SIRS + SUSPECTED INFECTION = SEPSIS

SEPSIS 6	
1	Start on high flow oxygen
2	Take Blood Cultures
3	Give Antibiotics
4	Give Fluid Bolus
5	Check Lactate (consider ABG)
6	Measure Hourly urine
ALL WITHIN ONE HOUR	

PREV DAY INPUT	
OUTPUT	
BALANCE	
CUMULATIVE	

01:00 02:00 03:00 04:00 05:00 06:00 07:00 08:00 09:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 24:00

TEMP 200 40, 190 38, 180 36, 170 34, 160, 150, 140, 130, 120, 110, 100, 90, 80, 70, 60, 50, 40

FiO_2
SaO_2
RR
Systolic BP
Diastolic BP

WCC >12 or <4, 4-12
HR >100, 60-100, <60
RR >20, 9-20, <9
Temp. >38 or <36
BP Sys >100, <100
Peripheral Hypoperfusion + –
Urine >40, <40
Sweating + –
Confusion + –
SIRS Score

INPUT
Total
OUTPUT
Total
Balance

11

Figure 56: Outreach Team – sepsis track and trigger chart

Source: (nhsborders.org.uk, 2013)

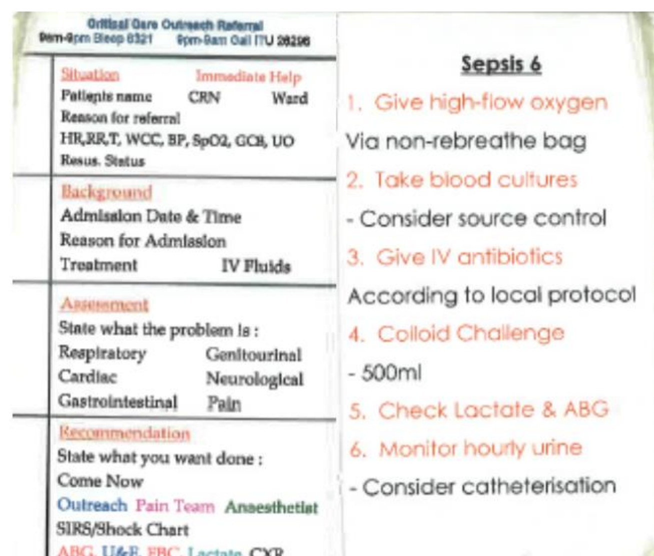
"Before nurses are on the ward – new nurses, student nurses – we have a session with them when we tell them about out track and trigger and we teach them how to use the chart, to actually fill this in. And then we have a more complicated lecture in their third year, or … late into their second year. Initially we don't want to overload them so we just teach them about the early warning score: how to fill it in properly and what to do if the parameters are abnormal."

"I think one of the things that our early recognition system has done, is given them confidence to actually really speak up when they're concerned and *not* to take 'no' [e.g. from the Intensive Care] for an answer."

(Ronnie).

As part of the trigger system the team taught the practitioners about the bundle of six things that they needed to do within an hour after the diagnosis of a septic patient, today called ‘sepsis six’. The team would also distribute small cards with the reminders of those six things that could be attached to their name badges (Figure 57):

> “Everyone is doing sepsis six around Scotland now. But we were actually doing it here 15 years ago … And it was actually on our chart. It didn’t say ‘sepsis six’, but we actually had the six things written there. So the only change we made was - we put a six. It was already been done. So this hospital *has really* been out of the front in a leading sense.”
>
> “So three of these things you want to measure and three things you want to do: you want to give oxygen, you want take bloods, give antibiotics, give them fluids, check lactate – that’s a blood result that can tell us the severity, and the arterial blood gas, and start to monitor the urine output. So they will have these [showing me the card on the back of the name badge]. So I think if you came to our hospital, you would find just every member of staff’s got one of them. And the student doctors, the student nurses, they all like it.”
>
> (Ronnie).



Critical Care Outreach Referral
9am-9pm Bleep 6321 9pm-9am Call ITU 28296

Situation Immediate Help
Patients name CRN Ward
Reason for referral
HR,RR,T, WCC, BP, SpO2, GCS, UO
Resus. Status

Background
Admission Date & Time
Reason for Admission
Treatment IV Fluids

Assessment
State what the problem is :
Respiratory Genitourinal
Cardiac Neurological
Gastrointestinal Pain

Recommendation
State what you want done :
Come Now
Outreach Pain Team Anaesthetist
SIRS/Shock Chart
ABG, U&E, FBC, Lactate, CXR

Sepsis 6
1. Give high-flow oxygen
Via non-rebreathe bag
2. Take blood cultures
- Consider source control
3. Give IV antibiotics
According to local protocol
4. Colloid Challenge
- 500ml
5. Check Lactate & ABG
6. Monitor hourly urine
- Consider catheterisation

Figure 57: Outreach Team – the card with Sepsis Six and SBAR

As the team were teaching other practitioners about sepsis six, it gradually became an integral part of the existing practices. A tangible manifestation of that change was the stickers that were attached to the patient case notes that helped to monitor whether the practitioner managed to do all the six things within an hour:

> "So when you break it down, to achieve it in an hour you really got to be burning from the minute of the diagnosis. You've got to have a system where you all pull it together. But that's where the more people this is communicated with, the more people know 'right, we work together, and we'll get this done'. And what we do now is, we actually monitor. A lot of people would have opted for is to have a sticker. So if you're diagnosed just now, we'll take a sticker out, put it into your case notes, and we'll say 'at 6:30 you've been diagnosed with sepsis.' And then we'll write down the times when we did all those things. So we can look back and see if we're achieving it. So we'll monitor that and we'll overlook these either every other week or every month to see, to measure how we're doing. And there's another thing comes in. Some of the junior doctors and some of the nurses get quite competitive. Say: 'I did in 20min'. And that's good. Competition is always a wee bit good. People are sort of feeling a sense of failure now if they don't do it within the hour … But it's about everyone pulling together to do this." (Ronnie).

The Outreach Team would also discuss how practitioners were getting on with sepsis six during non-judgmental sepsis meetings which followed the same format as the sepsis improvement meetings (as discussed in the previous section):

> "In the sepsis meeting we have some people from Patient Safety. Our Consultant microbiologist, he's a really good person to have on board. Nurses from each ward who are doing the sepsis six. And we present the… someone does data collection. And we see what times people are achieving. Basically how many patients, and are we achieving it [the sepsis six] within an hour. And if we're not - the reasons why we're not doing it. So that's a constantly evolving process of change and improvement to try to get it right." (Ronnie).

Through the Scottish Patient Safety programme the team also learned about SBAR – a mechanism for framing conversations (Figure 57). That gave a needed structure to the situations when nurses were contacting the doctors to tell them about sick patients:

> "If you find someone and they are sick then everyone has to communicate that to someone, and it's a way to communicate. And where they [the Patient Safety] got the idea was from the American Navy. And they developed it as a system of communication called SBAR. And 'S' stands for 'Situation', 'Background', 'Assessment', and 'Recommendation'. So let's say that you're the doctor and I've found a patient, and I want to get your attention to tell you about this patient. So I phone you and the 'S' is: the situation is, I've got this patient, they came into the hospital yesterday with the chest infection. And now they're looking quite poorly. Background is, they have a skinny heart disease, they're known to have chest problems, and they are in their 70's. They're on medication XYZ. And the assessment: I've done the blood pressure and it's low, temperature is very high, respiratory is very high, white cell count is up. And it looks like they have sepsis… Severe sepsis. Recommendation: I would like you to come and see them now." (Ronnie).

The team therefore started to teach the practitioners about SBAR in their internal course:

> "So since 2008 we have been teaching this tool. And it's been fabulous. Now, more junior staff really really liked this communication tool … Some experienced staff said: 'this is good, we like this'. Some experienced staff said: 'well, I do that anyway'. But if you actually listen to them, you think you do it, but what you find is you don't actually do it that well. And I didn't do it that well - I thought that I did it well. But there was lots of room for improvement." (Ronnie).

When I asked Ronnie about the factors which contributed to his success, he said that it was due to having a competent team that worked well together, but also because of the small size of the hospital. First of all, the small size allowed for the recognition of the team's impact on the hospital's performance:

> “There was another person that did funded in Glasgow, they funded the team to do outreach, to try it. And they funded three people. But they covered, these three people doing the job that I was doing, they covered Gartnavel Hospital, the Western Infirmary, Stobhill, and Glasgow Royal Infirmary. *Three people*. *Absolutel*y zero impact. They got all these posters, put them above every bed. And they said: call the Outreach Team. I actually went to visit my mom. She was in a hospital as a patient. And I said to nurse… I didn’t see what it was but I said: ‘what’s that?’ She said: ‘that’s been here for a longer time, nobody knows who they are.’” (Ronnie).

Secondly, the small size of the hospital was important because it helped to nourish a sense of community which was necessary for the team to perform their role:

> “We have quite a lot of success, and I think one of the reasons why we have this success is because we’re a small hospital. We’re a district general hospital. And small is good. In my opinion small is good because people know each other. And if people know each other, they tend to know each other by their first name. And there’s a friendliness, not an overfamiliarity, but a friendliness. And, you know, people are approachable. And you often will pass the same person in the corridor many times during the day, whereas in a big hospital you may not see somebody for months.”

> “We had a visit from a group of Americans recently. They were over here on an international study tour from IHI [Institute for Healthcare Improvement] and Premier Health Alliance. When they visited our hospital there was a lot of people who came to meet them and we did a short presentation, took them for a wander. And they gave us summing up what they thought. And one of the things that they commented on was a real sort of sense of community, collaborative working. That’s what came across to them. From all the people who were there, all in different disciplines. And again I think it’s just one of these things about district general hospitals. It’s size. And if you are bumping into people every day it’s nice to be friendly.” (Ronnie).

Apart from that, Ronnie also highlighted the legitimisation of his efforts by the senior people in the hospital who could see the value in the real-life problems that he wanted to address. That was one of the highest ranked factors in the central analysis which I performed in Decision Explorer based on these interviews, and it was part of a virtuous and self-reinforcing loop where the good outcomes were leading to even more support (Figure 58):

> "There's been a lot of very very helpful people along the way. Immense support from surgeons, physicians. Because it's their patients that see the benefit. If their patients are sick, they can't be there all the time. And if their patient's sick they want to know about it right away really. They don't want anything to happen to their patient."
>
> "When I started out, the Medical Director was a physician. He knew the problems, he knew the problems of his patients deteriorating. While he was in the hospital he had known about it. So he was a great support. And if the medical directors are openly supporting you, that goes a long way. So that really increases your sphere of influence. So that was a real help along my way … He liked the concepts and he saw the benefits of it … I was on my own for … four years. And then we saw our numbers were able to show some very very good outcomes. So they funded it to expand it. And that was good."
>
> "If you want to do something, if you want to achieve something within a group or an organisation, you've got to look what is your sphere of influence. Who can I influence? And what personal agency and power do I have to influence other people? So you have got an idea who you can influence ... But you can increase your sphere of influence over other people. So in a hierarchical system there I was as a nurse. But to increase my sphere of influence I had the anaesthetics department. Plus the actual concept of what I was going to do, the Medical Director John Garry, and another couple of physicians, were saying: this is a good idea, this is what we're gonna do. So if these people see it, they can really increase your sphere of influence." (Ronnie).

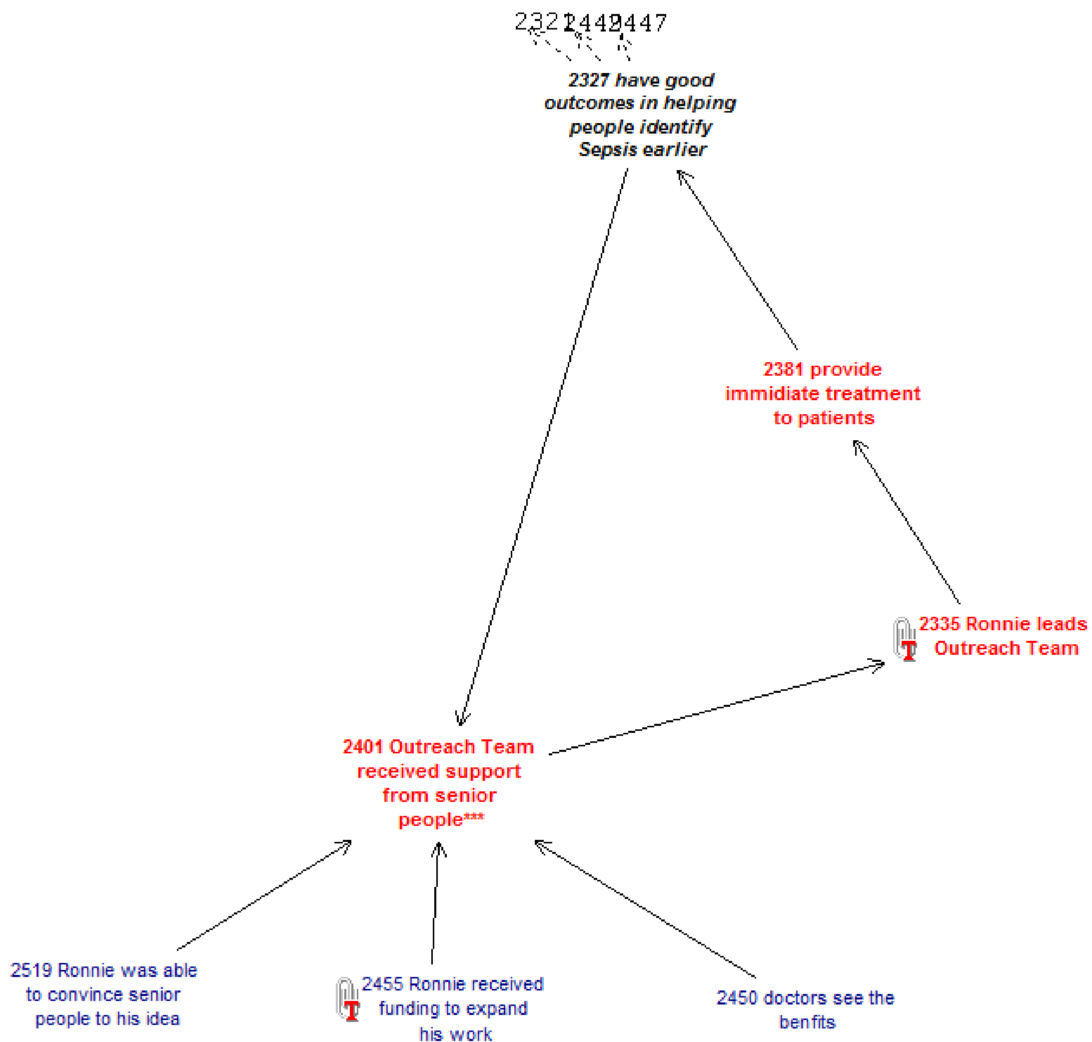


Figure 58: Outreach Team - virtuous loop

However there were also other sources of legitimation for the Outreach Team. The Scottish Patient Safety programme, as mentioned earlier, provided the team with new tools such as SBAR, and they promoted the idea of early recognition teams:

> "The people from the Scottish Safety Programme … thought that outreach teams, early recognition, early response, was a very good idea. So they were great advocates of that, they supported that." (Ronnie).

Another source of legitimation was Ronnie himself, as he was leading the team and helping them to grow as practitioners.

> "I guess a lot of our success has been through education. A lot of nurses that see Ronnie in the ward, they learn something. Ronnie is a great teacher." (Jennifer).

> "If I've succeeded in leading, they should have felt I was there but really they felt they did it. That's how they should feel." (Ronnie).

As a summary, everything that the Outreach Team was doing contributed to a shared sepsis-based practice, with a community of different kinds of practitioners organised around it. That practice included new tools and techniques, sepsis meetings, ways of communicating (SBAR), mini lectures, early recognition chart, observing each other in practice, or peer-mentoring. Practitioners from across the hospital identified themselves with sepsis because it was relevant to their work since it could happen to their patients in the most unexpected moments. As a result they genuinely cared and thought together about various real-life problems surrounding sepsis and they were willing to invest their time in learning more about it.

It was stemming from my research that due to the Outreach Team's work, people in the hospital were starting to come on board with sepsis. In effect we might look at the Outreach Team as a core group of a super-performing CoP with high impact, and with more peripheral members coming from different departments. While practitioners invested their identity in thinking together about what it meant to deal with sepsis, they not only acquired the useful facts and definitions but they became competent in translating their learning into practice. That in turn led to a whole new approach towards treating sepsis within the hospital. As Ronnie commented:

> "Our team is just part of a whole culture that's changed. And maybe we have been a little bit of a catalyst in that change, or maybe instrumental." (Ronnie).

It is important to note that the success of the Outreach Team would never have been possible without legitimisation which was happening through a number of ways. At the team level it benefited from the presence of an inspiring and experienced leader who could be characterised by very strong social skills. For example when I visited the hospital I strolled with Ronnie through the corridors together and he greeted every single person that we passed by their first name, whilst those persons enthusiastically smiled and greeted him back. Based

on the field observations it was clear that working in the team was an enjoyable experience to its members, that the hierarchy in the team was rather flat and that the relationships seemed very positive. Another source of legitimisation of the Outreach Team was the management support at the hospital level. The managers could see the benefits of having this kind of team, and the measurable indicators of improvements in treatment were the best evidence for further support. Furthermore the Medical Director recognised the urgency of treating sepsis in the wards rather than doing it only from the intensive care based on his own previous experience as a clinician.

Because of the good match between the hospital's needs and the typical real-life problems that the team was dealing with, Ronnie admitted that he 'never had to convince anyone, he only needed to ask'. The management's support was also influenced by the Scottish Patient Safety Program which among other goals aimed at promoting and improving care in the area of sepsis. We may then talk about the triple-legitimisation of the Outreach Team: the visionary and people-oriented leadership at the team level; the required time, resources, and the recognition at the hospital level; and the prioritization and access to expertise at the organizational level. Combined with the competent team members who were passionate about their job and with the focus on real-life problems which were seen as crucial to the hospital, all of those proved to be essential ingredients of the success.

Finally and most importantly, that community of like-minded people coming together and working collaboratively made a positive change for the patients whom they were looking after:

> "It's a very very rewarding job. It's one thing looking after someone when they're sick. It's a different thing if you know that because of what you've done it's preventing that person getting worse. I see it as the most satisfying. Plus I get to see patients when they're sick. In the intensive care they're very sick. And then when they get back out, I see them before they go home. So that's… That's a great part of the job. And yeah, that's the best." (Ronnie).

4.6. Conclusion - findings

This chapter has portrayed practitioners in NHS Scotland in their efforts to improve the care of their patients by learning how to work collaboratively and to share knowledge. Those practitioners find themselves in the contemporary healthcare setting which is impacted by many of the same issues that seem to be common to so many other organisations. If they want to do their work better they often have to join their forces with completely new professions. As a team, they may need to find new solutions in places which so far have seemed familiar: sometimes it may involve taking a fresh perspective, and sometimes it begs for the acknowledgement of those things that have not gone well. Simultaneously in their striving for change and improvement they must maintain an identity that is stable enough to carry on with their every-day tasks. It is certainly not easy, but it today's world there may not be a different option.

The difficulties involved in fostering productive social learning spaces are evident in this research. While there can be seen some spectacular successes as the example of the Outreach Team showed us, many of the discussed initiatives have faced considerable challenges in tuning peoples' energy around the pursued agenda of learning together. From the organisational perspective it seems much easier to state that one values knowledge than to cultivate workplaces where people make most of their potential. The evidence shows that practitioners typically find it rather difficult to apply CoPs 'in practice' just based on their common sense. Nevertheless it has been encouraging to see that such concepts as knowledge sharing and CoPs have found their place in practitioners' everyday vocabulary.

One solution may be to direct the professionals to the academic knowledge. However this poses such questions as how to make this often abstract academic knowledge more attractive, more intuitive, and more approachable? Would it then become more useful and easier to apply? And is there any use in the CoP concept for those places that are already excellent in sharing what they know, and which are not even aware of CoPs? Let us be reminded of such questions in the subsequent discussion as I bring together all of the stories that I have witnessed, and the stories that the practitioners have shared with me so generously.

5. Discussing the findings

The purpose of this chapter is to draw from both the review of literature and from the analysis of findings to build the argument that *Communities of Practice (CoPs) come to life from peoples' transpersonal process of thinking together, and these communities can play important role in developing Organisational Learning (OL).* I use the ideas of thinking together and trans-organisational knowledge in order to elaborate the existing conceptualisation of CoPs, to contribute to what we know about operationalising this concept 'in practice', and to position CoPs in the context of OL. My aspiration is to make the CoP concept more approachable and easier to understand rather than to further complicate it by adding ever more branches to it.

Each of the discussed empirical cases provides us with different insights about things that do and do not work when it comes to cultivating CoPs in professional settings. In the dementia case a group of leaders tried to develop a distributed CoP which failed to kick off because there were no volunteers to drive the learning; however they simultaneously managed to create a newsletter with a looser type of community formed around it that in many ways was meeting their original needs. In the second case, among other examples, trainings were organised with the expectation that the attendees would 'see themselves as a CoP'. Curiously, there actually was a thriving community but out of sight and with no respect to bureaucracy and evidence. In the third case I described a national initiative of improving sepsis practice through working as a community, as well as a super-performing CoP with high impact which owed much of its success to legitimisation at multiple levels. Let us now talk about the 'lessons learned' that we can gain from these cases.

I structure this chapter as follows. I first talk about the misconceptions and the limitations of the CoP concept, and how I intend to address those gaps. I subsequently talk about the learning points from the empirical cases. Finally I refine my earlier discussion about the role of CoPs in OL, and I tie up my main argument.

5.1. Communities of Practice: do we really understand them?

Apparently it is good for PhD students to have an aspect of their work which keeps them awake at night. For me during those three years that was definitely a question: *what actually is a Community of Practice* (CoP)? It may perhaps sound like a surprising or even trivial question to hear from someone studying CoPs at a doctoral level. After all, this almost 25-year old concept is well defined and used in many organisations - as Wenger (2010) observes, CoPs have 'made a career' since their original introduction. However, if one looked around their own workplace, it might perhaps not be that easy to tell what a CoP is and what a CoP is not. It is tricky to imagine the scope of this concept: is my team a CoP, or is my department a CoP? And should it be a CoP specialist's role to be able to spot such groups in the crowd? I think that no; the theory should be able to make that easy enough for anyone interested.

Wenger (1998b: 125) talks about such indicators of a CoP as sustained mutual relationships, shared ways of doings things, quick setup of problems, overlaps in members' descriptions of who belongs, or mutually identified identities (see section 2.2). These indicators make much sense, and they would have certainly helped some of the practitioners from my cases, say not to confuse a CoP for a website. Yet it does not change the fact that it may sometimes be difficult for someone to make a convincing connection between the CoP idea and their reality. A good example was the peer learning group in the Leading Quality Network who very much already were a CoP, but who were asking their manager to 'setup a CoP for them.'

Such considerations make me think that there is something missing in how the CoP concept is portrayed in the literature. That is not necessarily to say that there is something wrong about it; only a few puzzles are not yet there, making the overall picture a little obscured, too vague, and hence prone for misinterpretations. I also genuinely think that it does not help the area that a large part of the CoP-inspired literature has been more interested in adding ever new labels rather than in refining its original conceptualisation. It feels like authors are rushing into 'communities of knowing' (Boland and Tenkasi, 1995), 'collectives of practice' (Lindkvist, 2005), or 'epistemic communities' (Amin and Roberts, 2008), when there is still much work left to do around CoPs. It is also suggested in the literature to concentrate on different forms of organising in practice than CoPs (Amin and Roberts, 2008, Orlikowski, 2002, Gherardi, 2000, Nicolini, 2011, Macpherson and Clark, 2009), but any examples that

would come even close to the richness, sharpness, and originality of the CoP concept are yet to be seen.

I believe that what is missing in the conceptualisation of CoPs is a point of focus that is simple, but which offers a theoretical depth for those who are prepared to explore the concept deeper. What I mean by this is that people need a cue that would aid them to talk about CoPs as dynamic social structures in relation to the complex world around them, so that they associate CoPs with mutual learning rather than only with (semi-)informal groups. That point of focus has to represent the very essence of what CoP is about, but be intuitive and familiar enough to use it in the context of peoples' life and work. However if that was just another label or a catchphrase, then it would only further complicate rather than sharpen the concept – it thus needs to be founded on a robust conceptual and philosophical framework. It can be assumed that if it was easier for people to imagine the scope of CoPs and what makes them work well, they would be less likely to fall into its misconceptions.

Another weakness of the CoP concept is that its conceptual and instrumental perspectives seem to be drifting apart (Gherardi et al., 1998, Lave, 2008, Amin and Roberts, 2008). The conceptual perspective stands for the original formulation of CoPs as a way of looking at the world that emphasises learning as a formation of a person, and it pays attention to the varied relationships which form around it. A very important aspect of it is that it captures the spontaneity, emergent character, and natural dynamism of learning partnerships. CoPs not only *are*, but they are also continuously *becoming*.

This dynamism is something that one should want to preserve as much as they can when they try to operationalise the CoP idea in their own settings. Even then one is still dealing with a way of looking at the world, and therefore one should ask whether it is useful to think about a given group as a CoP. The value of the CoP concept is not in labelling groups of people as CoPs or 'non-CoPs', but in making a link between the learning processes in those groups and the body of theory which helps to better understand those processes. Nonetheless due to its popularity CoP seems to be 'living its own life' (Wenger, 2010), and misinformed interpretations tend to overemphasise the desired vision of what the CoP should be at the cost of planning 'how to get there' (I will come back to this question in this chapter).

Therefore in search for a simple yet conceptually deep point of focus for talking about CoPs I have suggested that it is *thinking together* that is bringing CoPs to life. In the literature chapter I have developed the concept of thinking together, looking at it from such perspectives as sensemaking, indwelling, and double-loop and triple-loop learning. These perspectives not only enrich the following discussion, but they also point to the possibilities of how the CoPs concept can be 'plugged in' to new areas in the literature. The process of thinking together can also be seen as akin to knowledge sharing, however I have stressed that the latter is used as an umbrella term for too many things to be compatible with mutual engagement that is characteristic to CoPs, and this is why I do not use it in my theorising.

Consequently thinking together, both in my version and according to McDermott (1999b) from whom I borrow this term, is based on Polanyi's (1962a) personal knowledge which importantly shares with CoPs its foundation in identity and social context. Hence when I talk about thinking together, in a way I do mean sharing knowledge, but not in the literal sense of transferring knowledge from person A to person B and vice versa. Instead, I mean people guiding each other through their understanding of a mutually identified problem, and this way discovering *in the process* more tacit grounds of another person's personal knowledge that can only be accessed in lived practice.

Apart from being grounded in a robust conceptual framework which opens new possibilities for theorising, thinking together is also intuitive and easy to understand in an every-day conversation and when speaking with practitioners. Instead of just talking about mutual engagement, it is helpful to state in more precise terms that a CoP accounts for sustainable learning partnerships which develop from peoples' thinking together about the same things that they care about. *It is not casually exchanging facts and insights*, or merely ensuring that people are in the room for an out of hours meeting, but *it is specifically thinking together* that can provide the energy and engagement necessary for sustaining a shared practice over time.

Thereby thinking together is a sharp point of focus for making sense of CoPs, and it reminds us that such communities are driven by learning processes and they are not simply 'set up'. As I now try to demonstrate, in all three cases the process of thinking together has proved to be a valuable point of focus for the practitioners and for myself for better understanding what CoPs are, how they can grow, and what their impact can be on Organisational Learning (OL).

5.2. Bringing Communities of Practice to life by thinking together

I have so far talked about the role of thinking together in CoPs only at the conceptual level – I now explore this claim with respect to the empirical evidence. In the dementia case the community leaders' original goals and strategy seemed very promising: they wanted to bring practitioners in their area out of isolation to enable them learning from each other's experiences. They were hoping that could help in improving professional practices and in effect in achieving better care. Moreover, they wanted to follow the 'CoP approach' because they were linking that concept with peoples' active sharing of knowledge and with developing the competence together. That approach seemed to them more attractive than emailing practitioners with updates.

The main issue with the execution of their strategy was that they did not do enough to prepare the avenues for thinking together on their discussion forum. It seemed as if they thought that it was sufficient to set up a website for peoples' discussions, to promote it, and then to wait and see what was going to happen. That in turn led to an issue of the CoP being a place for finding resources rather than for having conversations.

What the community leaders were really lacking was a group of people who could drive the learning. They could have helped that situation by identifying some more specific key problems and hot topics that were relevant to the organisation and which the practitioners clearly cared about. They could have tried to connect people around those problems and then support them or even join that core group if the others felt comfortable about their presence. Without thinking together about the same problems there was not enough mutual engagement that could sustain a shared practice and there was not enough value to attract more 'light' forms of participation. Meanwhile the codified stories submitted to the website's administrators for the purposes of the newsletter (whilst certainly highly valuable) could not possibly substitute for it.

The leaders seemed to confuse the tool (i.e. the discussion forum) which could enable peoples' interactions with the actual process of learning that can give life to a community. The point of setting up a discussion forum was merely a step towards cultivating a CoP, but definitely not the moment of actually establishing one. Meanwhile the CoP discussion forum turned out to be a means for promoting the newsletter rather than the other way round.

Without the focus on thinking together, and by not attempting to make an informed link between the experienced reality and the theory, the CoP concept was more of a distraction and not a help for making more of peoples' learning.

I later spoke with some of the dementia community leaders again and I attended one of their professional events. They thought that thinking together was a useful way of talking in concrete terms about what it took to foster a CoP. With reference to that process they were able to easily understand why there was not as much conversation happening on the CoP discussion forum as they had initially expected. Whilst they were happy about what they had achieved with their newsletter and they thus definitely wanted to continue working on it, they also decided to start a small informal peer learning group among themselves which they hoped might evolve into a broader community.

The understanding of the CoP as a tool seemed to be partially influenced by the NHS Education for Scotland (NES) who had been promoting the CoP idea in the context of their toolkit for building community websites. As a result practitioners began to expect from NES to 'provide them with CoPs', many of which then served as resource libraries. That could also explain why Mandy, the leader of the Leading Quality Network from the second case, was not hiding her puzzlement when I told her that in my understanding CoP was a way of looking at social learning, be it online or face-to-face. In her network a group of practitioners who would meet face-to-face had requested a CoP (site) as 'a bolt on' to their interactions, but eventually they did not really use it and they relied on Mandy for its administration.

In some of the other examples it could be seen how thinking together was translating into conviviality. In the example of the leadership training course a group of attendees were regularly thinking together, even though to the disappointment of the course leaders that was happening outwith of the website labelled 'a CoP'. That way a sense of community emerged out of their genuine interest in the same problems, i.e. in the issues surrounding leadership in their area of dementia. As one of the attendees noted, she felt confident in that group because they were 'all engaged with the same thing'.

Similarly, in the sepsis case there were thriving communities because their members could see value in interacting regularly since they were holding stake in similar problems or hot topics. Those communities were interdisciplinary peer-learning groups interested in

discovering new ways of improving sepsis care, which then shared their local experiences with similar groups in the national events and via videoconferences. Also in the Outreach Team example the practitioners from various departments in the hospital were invited to learning together and from each other about sepsis. Instead of attempting to control what was happening in the wards, the team were taking the role of non-judgmental peer-mentors who were supporting the other practitioners in developing their knowledge about sepsis 'in practice'. That gave birth to a community formed around the real-life need of recognising sepsis early, which translated into a much better treatment of patients with sepsis within the whole hospital.

All of these illustrations highlight that it is important to look at community development as a continuous process where people think together about real-life problems. As soon as thinking together at the heart of the community stops, it may quickly begin to lose its rhythm and vibrancy (or it may never come into life in first place).

My first contention is therefore:

1. *Thinking together about real-life problems which people genuinely care about gives life to Communities of Practice, and not the other way round.*

Since thinking together happens at the heart of CoPs, it helps us to better understand the nature of their most active core groups. In the example of the Learning Disabilities Network there was an official committee of five individuals who agreed to dedicate a few hours of their time per month to help in connecting individuals and sub-groups belonging to a broader network. One of the leaders of the network thought that the committee could be seen as a core group of an emerging CoP that could integrate those different sub-groups together.

However, while the help of the committee members could certainly be useful, it did not mean that they were ready to regularly think together about problems among themselves or with the other members of the network - especially that it might have required much more time and effort than they were willing or able to invest. As a result while the forming 'CoP' at the heart of the network had people with officially designated titles, it lacked mutual engagement that could drive the learning.

Developing that community might have required carefully targeting the right people from the different sub-groups with some shared problems that they all cared about. Whether a mutually engaged core group would evolve around that domain would have required considerable coordinating efforts on the part of the network leaders. Nonetheless forming an official committee might not have been a sufficient substitute for such group – only a possible help. In other words, supporting and championing a CoP is not the same as actually being one of the members who regularly think together about the things that matter to the community.

This leads to my second contention:

2. *The core group of a Community of Practice is defined by thinking together and not by having a role in supporting the community or by holding stake in its wellbeing.*

Thinking together bridges the conceptual and instrumental perspectives on CoPs. Within the conceptual perspective it elaborates the learning that is happening at the heart of such communities. It shows that it is not just any kind of learning that brings a CoP to life, but mutual engagement of frequently very diverse people who manage to relate to each other as they think together about problems what they all care about. From the more instrumental perspective the process of thinking together reminds us that a community is alive and that it is always 'in the making': it is neither an object nor a tool nor an abstraction that can be just set up and managed from the outside (typically attempted from above).

The process of thinking together can then be used to reflect on the three structuring elements of CoPs: a domain which is a constantly changing set of problems that people care about; a community of people who learn together and from each other regularly because they see a genuine need for doing so; and practice which is what people do and what they learn doing better and better as a community (Wenger et al., 2002). With respect to thinking together, one can ask: are these three elements 'alive'? Are they really growing, moving, evolving? Looking from a detached position typically does not help; one may need to come closer to see what is really happening. Since these three elements are always gradually changing (also for worse) along with the life of the community, it may be useful to monitor these changes and use them as a resource for reflection (Figure 59). A healthy CoP will be targeting the right people with the right domain that is able to awaken their enthusiasm and excitement. The

learning partnerships will be energetic and open for new ideas and new forms of participation. The practice will be giving people opportunities to contribute and to develop their expertise in fulfilling ways.

Hence my third contention is:

3. *Pay close attention to the changing world when thinking about the community, its practice, and its domain. It is easy enough to fall in love with an imaginary picture of a CoP that is rather detached from reality. When fostering CoPs we need to accept evolving and dynamic nature of learning and try to build on it.*

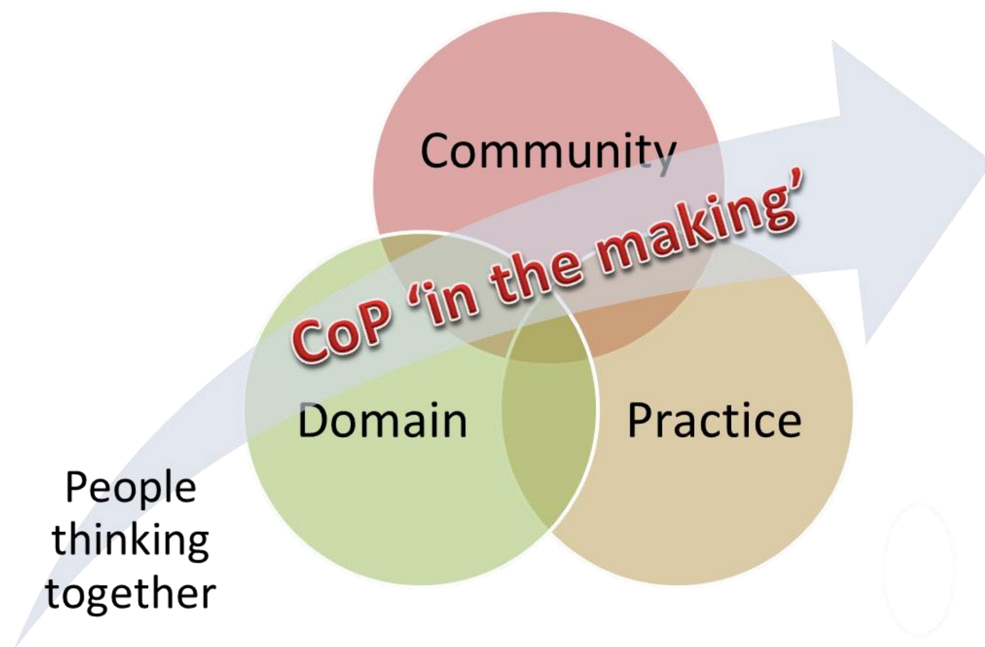


Figure 59: The process of thinking together as a source of Communities of Practice

5.3. Communities of Practice as a thoughtful investment

Since CoPs are driven by peoples' thinking together, there must be adequate conditions for such intensive learning process to take place. In a professional setting the community meetings may happen during employees' paid time as it was in Eddie's sepsis group. Furthermore developing a CoP can be time and effort consuming both on the part of the members and the facilitators. Depending on the nature of a community any required facilitates, technology, tools, or community support may need to be provided. My point is

that contrary to some common assumptions of CoPs being cheap and informal, cultivating productive CoPs can actually be a very expensive endeavour.

In this respect one of the main problems in the presented cases was an assumption that cultivating full-blown CoPs could be relatively low-cost and fairly straightforward. It did not always seem as if the community leaders were fully prepared for such an investment. The leaders of the dementia community had to convince their peers that CoP was a good idea, they actively promoted their CoP site, and they managed its content. They also edited a quarterly newsletter which they published on the site. However they did not do enough to either drive the thinking together by themselves, or to build the core group of that potential community. That is not to say that they did not care, quite the opposite – they were clearly very passionate about their community. However they arguably underestimated the amount of time and effort that was required to make their community a place of lively discussions. Instead of waiting on random people to start the first conversations on the website, developing a CoP would have required taking a much more pro-active role in nourishing peoples' mutual engagement around a collectively identified set of problems.

Similarly Mandy from the Leading Quality Network realised little engagement on the pages of her CoP site and she began to think that developing a CoP could be more demanding than she had initially expected. She thus started to re-evaluate the amount of coordinating work that she would have to invest in the potential CoP to make it work. Also Ali from the Managers Development Network had thought that developing a CoP would allow her to dedicate less time to the network as the members could gradually take on some of her leadership responsibilities.

Nevertheless the members of the network saw it as a source of formal training rather than as a community which they should look after by themselves. Thus when I met Ali, we talked about CoP not necessarily being the most useful or the most realistic outcome considering Ali's limited time and resources. Perhaps a shift of focus to other types of intensive social learning spaces such as casual collisions and learning partnerships might have been much more achievable and beneficial as part of the network's agenda of events and learning sessions.

In the sepsis case, Eddie admitted that facilitating the meetings of his peer-learning group was ‘quite time-consuming’ even though they would typically happen only on the monthly basis. He stressed that it was difficult to organise the members around the table, to nourish their engagement, and to make sure that they understood the purpose of the community. However after the initial ‘thumb twisting’, the community became productive as people started to negotiate good ways of helping patients with sepsis. Also in Sofie’s sepsis group she took the responsibility for collecting, collating, and presenting the data about the instances of sepsis in the hospital prior to the monthly meetings so that the community members had a full set of data prepared for discussion. While that work did not fall under Sofie’s working hours, she wanted to do it because she was passionate about it. Likewise the other group organisers would also take minutes, chair the meetings, and update the people in the hospital about the group’s progress.

In the Outreach Team example the development of sepsis CoP was a very complex endeavour. It included organising the team in the first place, asking for support from the senior managers, introducing new tools and techniques, chairing monthly sepsis meetings, adopting new ways of communicating, organising mini lectures, providing an immediate point of contact for practitioners who diagnosed patients with sepsis, and mentoring junior practitioners. The development of the CoP was not intentional; the team members were not even aware of that concept. However due to their focus on thinking together about real-life problems that mattered to everyone from the very outset, a sense of community originated from that mutual engagement. It was specifically all the community members working in collaboration and not just the Outreach Team that made a positive change. As Ronnie, the leader of the team, said: ‘it’s the whole culture that’s changed’.

It may be worth adding that the leaders of sepsis communities had a certain advantage over the dementia CoP leaders (and also on some of the leaders from the formal networks case) because the former’s communities were local and face-to-face, while the latter’s community was online and it targeted a very wide audience of people who did not know each other. That made it more difficult for the dementia leaders to coordinate people’s energy around the purpose of their community. In contrast to the leaders in sepsis communities, the dementia CoP leaders were thinking explicitly about the CoP concept, but their focus on the CoP website was distracting them from fostering people’s mutual engagement which had been their actual goal. It seemed like it was better not to act upon the CoP concept at all rather than

to use in a misinformed way. Having said that, the sepsis communities could have benefitted from using the CoP theory to inform evaluating their impact, better understand their role in their respective organisations, and plan their further development; as for example the Outreach Team members admitted that they were 'not good at writing down things that they were doing well'.

Thus the evidence shows that it is typically not easy, albeit not impossible, to cultivate CoPs just based on the common sense. Of course CoPs had existed for centuries in human societies, long time before they were discovered as a concept. Also based on the sepsis communities it can be seen that it is possible to develop a flourishing CoP even without being aware of this concept (although it still requires a lot of resources). Nonetheless many organisations are used to much more vertical and hierarchical setup of learning and organising work. In order to make space for such organic, horizontal and spontaneous learning groups as CoPs one may need to be ready to argue their case and to be well aware of what type of social structure one is dealing with. This may require informing their actions with the appreciation of the theory, which arguably would have been particularly useful in the discussed cases.

By better understanding the nature of CoPs one might be able to think more intentionally about the possible benefits (e.g. dynamically developing people's competence, solving problems) and challenges (e.g. costs, difficulties in managing the community without destroying it) involved in their development. It can also help in thinking more clearly about the structuring elements of such communities: the domain, the practice, and the community. Having these considerations on their mind does one really want to help in fostering a CoP in this particular area, at this particular point of time, and for this particular purpose? These questions can potentially save someone a considerable amount of time and effort before they invest them in cultivating CoPs.

Consequently my fourth contention is:

4. *Cultivating Communities of Practice can be expensive, therefore plan carefully your goals and expectations and inform your actions by the theory.*

At this point it might also be worth asking: what actually does it mean to cultivate a CoP? Based on my discussion so far it seems to be often assumed that a CoP automatically imposes a certain social structure that should be replicated. What I mean by this is that people believe that they need to try to copy a well-defined model of organising with very clear format, and what exactly would that be depends on their own interpretation of CoPs: e.g. a website where people log in to share their views, a monthly discussion group which meets regularly in in an agreed location, or a workshop.

However the CoP idea is suited for any settings where people think together regularly about the things that they care about. Its biggest strength is in helping to be more reflective about social learning that is happening anyway and trying to see how to make most of it, rather than in prescribing a format which that social learning should necessarily take. In such sense to say 'I want a CoP' is never a goal that is good in itself – one should add for what purpose they want to build peoples' mutual engagement, why that should be useful, and how they are planning to achieve this.

Thus my fifth contention is:

5. *The Community of Practice concept is a point of reference for making most of peoples' ongoing social learning and for understanding it better. For that reason it does not impose a particular social structure (e.g. a weekly discussion group), but it can be used to reflect upon various types of social structures (including functional teams) where groups of people think together regularly.*

5.4. The triple-legitimisation of Communities of Practice

Another key issue stemming from my research is the legitimisation of CoPs in (and beyond) their organisations. CoPs need to be supported to flourish, but based on the analysis of my empirical material I argue that it needs to happen through triple-legitimisation (Figure 60).

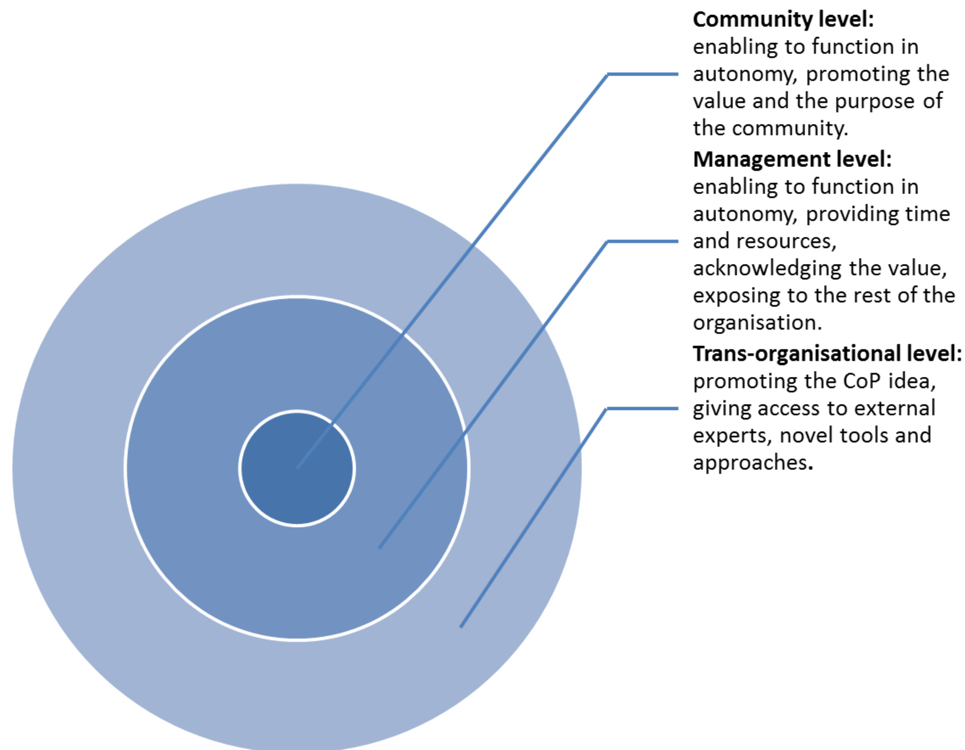


Figure 60: The triple-legitimisation of Communities of Practice

At the community level members require a great autonomy so that they can develop their learning partnerships. Apart from that the value and the purpose of the community needs to be promoted to the organisation(s) and also to the members. A good example was Ronnie from the Outreach Team (sepsis case) who had his original vision of spreading the tacit knowledge of sepsis early recognition beyond the intensive care department. He was able to convince the management and the practitioners from the wards to that vision and that allowed him to establish the Outreach Team. Within the team there was a flat structure and it looked like people really enjoyed working there. For instance one of the team members described to me Ronnie as a great teacher who was helping other practitioners to develop their knowledge. Ronnie's leadership style was people-oriented rather than authoritative; as he said: 'If I've succeeded in leading, they should have felt I was there but really they felt they did it. That's how they should feel.'

In Eddie's sepsis group, he as a leader had the trust of the senior management and hence he was able to legitimate other practitioners to participate in the local monthly meetings during their working hours. That also allowed the meetings to be essentially driven by clinical practice rather than being dictated by the upper managers. Moreover Eddie played an active role convincing the clinicians about the viability of his initiative. Likewise in Sofie's sepsis group, Eddie's role was mirrored by one the senior practitioners who was leading the community in a similar way.

In the dementia online community the leaders were allowing the members to openly express themselves as long as they were behaving professionally – as outlined in the official charter uploaded on the community site. They were also promoting the community and they were trying to increase its profile. However since their target audience were different types of practitioners scattered across Scotland, it might have been needed to convince some of the local managers that developing a CoP was a good idea so that they would encourage their staff to participate. That would have been helpful especially considering that some of the staff might have had limited access to the computers at work.

Furthermore, the leaders acknowledged that the users of the CoP site might not have liked the fact that the forum lacked a private space for members (i.e. registered and peer-approved healthcare and social care professionals). The closed space was necessary since the members might have wanted to talk about some work-related matters only within the active group. Furthermore the only way of uploading resources on the site was through the leaders – there was no option of directly sharing the content on the forum. While that allowed checking for the quality of resources, it might have created a feeling of control which is something to be avoided in developing CoPs. The problem of control was evident in the Leadership CoP (formal networks case) where some of the members did not like the fact that the course instructors could see their conversations so they started to talk outside of the dedicated discussion forum, depriving the instructors of the evidence that there indeed was a community.

At the management level a CoP may require time and resources, exposure to the rest of the organisation, and the acknowledgement of their role. The Outreach Team and the other sepsis communities were able to obtain their managers' support because there was a very good match between the real-life problems and hot topics which the they were regularly thinking

about, and the vital needs within the hospital and more broadly within the health board, i.e. treating sepsis and reaching out to the wards to educate non-sepsis specialists so that the whole hospital could develop an organisational knowledge in that knowledge domain. Thus the legitimisation at the community level could translate into the management level if supported by the evidence testifying for the community's value.

In the dementia online community the management legitimisation, as already mentioned, was a problematic issue because virtually all of the members could be coming from different teams or organisations. As a result in that situation perhaps a good idea could have been to concentrate on a few departments were it would be possible to obtain manager's support, and to invite the staff from those locations to form a core group of the potential CoP.

At the trans-organisational level the legitimation of the community is happening within the broader organisation and beyond that, as for example in NHS Scotland different health boards are separate organisations but in many ways they work at each other's intersection – which is quite common also to other settings than healthcare. Hence at the trans-organisational level a CoP can be supported by promoting the idea of working and learning collaboratively as something being of high value, by giving the community members access to experts, new tools and approaches, and by enabling new possibilities for growth beyond their local context.

In Eddie's and Sofie's sepsis groups the trans-organisational legitimisation was in fact the main driver of their communities. That was due to the Scottish Patient Safety programme which was promoting the improvement work in sepsis in Scotland, and which was a source of trans-organisational events and videoconferences. The work of the programme was a clear message to the local managers that interdisciplinary peer-learning communities organised around sepsis improvement work was a good idea. It gave an opportunity for the practitioners to meet other sepsis professionals in the country. The Scottish Patient Safety programme was also 'a source of major change' for the Outreach Team who had acquired through it new tools and approaches which they adopted to their practice.

An important observation with respect to the Scottish Patient Safety programme is that a source of legitimisation at one level can influence the legitimisation at another level (i.e. as in this example trans-organisational legitimisation translated into increased managers' support).

We previously could also see that on the example of Ronnie from the Outreach Team and his efforts to gain senior managers' legitimisation (i.e. the community level legitimisation led to management level legitimisation). However that influence does not always have to be positive. For instance in the Leadership CoP the management support led to too much control over the members, consequently decreasing the legitimation at the community level.

Moreover in some of the remaining formal networks examples the leaders did provide the members with the needed autonomy and with the required resources and technology. There was a fair amount of legitimisation happening at all three levels. Nonetheless that did not always translate into increased engagement, highlighting that the community's autonomy needed to be supplemented with ongoing group facilitation. In the Leading Quality Network the idea of forming a CoP came from the practitioners and that was accepted by the network's manager, but they were unable to develop it further without the additional help in developing their community.

These examples show us that the triple-legitimisation is typically a necessary condition for cultivating CoPs, but it is not a guarantee that the development will take place. It is more about enabling the adequate conditions for thinking together, but whether such learning processes will come into life depends on the participants. In the Outreach Team the CoP members had both the autonomy and all the support they needed through triple-legitimisation: the visionary and people-oriented leader at the team level; the required time, resources, and the recognition at the hospital level; and the prioritisation and networking opportunities at the trans-organisational level. However it was the members' organic thinking together about real-life problems that they genuinely cared about that made the community work.

There were also some other key issues stemming from the interviews which were falling under the question of legitimisation. Since most of the official CoPs in NHS Scotland seemed to be online, then the provision of communication technology was seen as a particularly relevant matter. In this respect the participants prioritised the ease of use and the speed of the technology, the clarity of their privacy and security, and having the control of who could see their conversations. The evidence also showed that the distinction between online and face-to-face communities was blurred because for example the sepsis communities would meet both face-to-face and online and they would use their website for organising and sharing their

resources. This entails that the technological issues are relevant to possibly any CoP, and not only to those which communicate mostly online.

Furthermore, the notion of legitimisation highlights that the awareness of the (potential) value of CoPs is central to their development. It is essential to talk explicitly about the value of the community to the members and to the organisation, to promote it, to explain the purpose and the role of CoPs, and to evaluate their value. The evaluation of CoPs is a separate 'big topic' and it is beyond the scope of this thesis, however I appreciate that it may be one of the most important matters for developing CoPs in the years to come. Especially the work by Wenger at al. (2011) on collecting and evaluating peoples' practice-based stories and making a link between them and the positive influence of the community within the organisation seems particularly promising.

My sixth contention is therefore:

6. *While Communities of Practice require a great dose of autonomy, they may not be able to perform well without legitimisation at multiple levels. This also highlights the need for being explicit about the (potential) community value, and for evaluating that value.*

Nevertheless the value of CoPs is not an objective and universal measure; it makes sense only in the context of its impact that it has on the organisation and on peoples' practices. This means that the scale of the community development and what it is trying to achieve need to be consistent with the available resources and the opportunities for making an impact. For example Ronnie from the Outreach Team referred to a leader of a similar team who had a comparable number of staff and the amount of resources, and who were also intending to educate practitioners about sepsis early recognition. However while Ronnie's Outreach Team was able to make a big impact in his relatively small hospital that already had a strong sense of community, the other Outreach Team had to cover the whole Glasgow area including a number of large hospitals – and thus it failed to make any visible impact.

In another example the dementia online community had a very broad agenda of bringing together dementia professionals, and it was trying to target people across different parts of

Scotland. That sounded like a very promising and well-justified idea, however simultaneously it could be seen as an ambitious initiative with a large scope which required a lot of effort and resources. The leaders managed to overcome that limitation by focusing on building a looser type of a community around their quarterly newsletter which was able to meet many of their initial goals, even though it did not have regular mutual engagement characteristic to a CoP.

Of course a community which does not make a visible impact on the organisation can still be valuable for their members. However in the 'real world' without managerial legitimisation it can be difficult to sustain the growth of such a community or to make most of its potential.

My seventh contention is then:

7. *The scale of Community of Practice development needs to be to consistent with the available resources and with the possible impact that it can make. It may be difficult for communities of smaller size, or with several or no experts in the field, to make a large-scale impact. Likewise more ambitious initiatives should take into account higher monetary and non-monetary expenditure.*

5.5. Scoping Communities of Practice

Based on the discussion so far I now comment on the scope of the CoP concept as it does not appear to be an easy matter. CoPs are often associated with informal groups, discussion clubs, social networking sites, groups of interest, or peer-support groups. However what makes a CoP is not its informality, openness for ideas, or flat structure. These can certainly be common ingredients of CoPs; yet CoPs can also be formal, official, or take the form of close-minded cliques which deny outsiders access to their learning.

While CoPs do not have to be informal, they are fundamentally self-governed and they are driven by peoples' regular thinking together. The scope of CoPs therefore includes those people who engage in thinking together regularly, and those individuals who have meaningful access to that thinking together, i.e. the access that entails at least elementary understanding of what is talked about and the ability to contribute to the shared practice (as in legitimate peripheral participation). Thus to the bigger extent a social space can be

characterised by sustained thinking together that is enriched by less intensive forms of participation, the more sense it makes to call it a CoP.

It the scope of CoPs is understood this way then one might think that such communities are rare if not extinct in today's organisations, as Roberts (2006: 633) argues that in a fast-paced business environment people do not have "the luxury of sustained engagement." In a way such claim can be right because a competitive, vertically-structured, individualistic, or hierarchical space may indeed not necessarily be offering the most suitable conditions for developing sustainable learning partnerships.

Nevertheless we can also think of organisations which on the first look do seem to work very much like CoPs, as we could see in the sepsis case, and as we can imagine being the case in horizontally structured small enterprises, artistic studios, theatres, professional kitchens, or sport teams. In other words, the fact that an organisation does not look like a constellation of CoPs does not have to mean that it is impossible in other settings. Those organisations with low level of sustained engagement can in fact operationalise the CoP concept as an opportunity for trying to see the benefits of fostering learning partnerships for their own advantage.

The CoP as a concept remains a way of looking at social learning because it can be assumed that there always is a gap between the theory and the reality. This assumption resembles Weick's (1989) metaphor of ship radar which displays echoes of objects on the screen – those emissions are merely representations of the objects in the sea, but without them it would be incomparably more difficult to navigate through night.

Similarly for those who want to use the CoP idea the useful questions can be: does it makes sense to look at that social structure as a CoP? Would it be worthwhile or rather counterproductive? The accepted indicators that a CoP exists (e.g. quick setup of problems, overlapping descriptions who belongs – see the review of CoP literature) can be helpful in answering these questions. One reason behind introducing the idea of thinking together to the CoP concept has been to collate all those different indicators into one point of focus so that it is easier for practitioners to make that judgment by themselves.

The hereby findings indicate that the value of this concept can very limited when one does not explore at least its most basic conceptual frameworks. This is because cultivating CoPs is not about deciding that 'one wants a CoP', but it is about making a conscious effort to learn more about one's own learning and what difference can be made to make it better. That requires establishing a stronger link between the lived experience of what it means to learn socially with other people, and with the CoP theory which aims to shed light on the complexity and the richness of such partnerships. The more intentional use of theory could have helped to overcome the community challenges in the first two cases, and to potentially make more of the existing social learning in the sepsis case.

In that respect my eighth contention is:

8. *The scope of Communities of Practice is delineated by the process of thinking together happening at the core of such communities, and by the less intensive forms of participation which effectively influence that thinking together in a smaller or bigger way. In such sense Communities of Practice can be understood as taking a holistic view on thinking together that is sustained over time.*

Another issue with regards to scoping CoPs is what we understand by the notion of community. Roberts (2006) argues that the CoP literature overemphasises the community at the cost of the practice. Nevertheless I would argue for exactly the opposite – practice is discussed extensively (Gherardi, 2011, Gherardi, 2010, Amin and Roberts, 2008, Orlikowski, 2000), but not much is done to explain what the community *really* means as a lived experience of its members. It is the practice that is often in the foreground: people want to develop CoPs so that they can benefit from sharing of knowledge or from solving problems together. However the community element in CoPs is not a trivial matter – it is not a bolt on or a label that is superficially attached to the practice. Instead, the community is something that needs to be treated very carefully as it can be the key to developing productive CoPs.

A particularly good example in this respect was the Outreach Team whose members stressed that much of their success in educating their hospital about recognising sepsis was due to the fact that there was already a strong sense of community to begin with. Practitioners would pass each other on the corridor, they would know each other by their first name, and they cultivated the values of working collaboratively. That provided a good ground for building

learning partnerships around the Outreach Team and to connect the practitioners from different departments. Those practitioners would volunteer to attend the team's educational sessions even when they were off from work because they genuinely cared about treating sepsis. Also when Ronnie had been originally recruiting the members of his team, he stressed that he wanted to work with people who were truly passionate about it.

The need for building a sense of community could be seen in the other examples as well. In Eddie's and Sofie's sepsis groups a very important aspect of participating in the improvement projects was the ability to actively engage with the national sepsis community where people were building trans-organisational learning partnerships. Moreover in the Leadership CoP (formal networks case) the peer-learning group who maintained regular contact outside of the CoP site commented that they felt comfortable within their own circle because they knew that they were all engaged in the same thing – that helped them to stay in contact outside of the formal course which they were attending.

Thus the notions of emotion, community, partnership in learning, conviviality, passion for the same problems, and the sense of togetherness, are to be taken with great care when cultivating CoPs. I imply all of these when I talk about the process of thinking together when it allows developing irregular 'meetings of the mind' into more sustainable learning partnerships. Without conviviality the intended CoP may not be able to work well or to even come to life.

As a result my ninth contention is:

9. *The 'community' in a Community of Practice is not just a catch-phrase and it should not be trivialised. Participation in a Community of Practice is not only about helping each other to develop their knowledge, but equally about building sustainable relationships with other learners. What binds the members together is the passion and genuine interest for what they do, and therefore the practice is never emotion-free.*

5.6. The role of Communities of Practice in Organisational Learning

In the final part of my discussion I portray the role of CoPs in Organisational Learning (OL). While reviewing the literature I have noted that for some authors CoPs ‘frustrate’ the institutionalisation of knowledge in the organisational context (Huysman, 2004), others regard the relationship between CoPs and OL as being mostly fruitful (Gherardi and Nicolini, 2000). The questions which I therefore wish to address are: can CoPs have impact on OL? And if yes, is this a positive influence? Or perhaps their scope is too small to make a noticeable change? I now explain the relationship between CoPs and OL by describing a graphical model which I introduce (Figure 61).

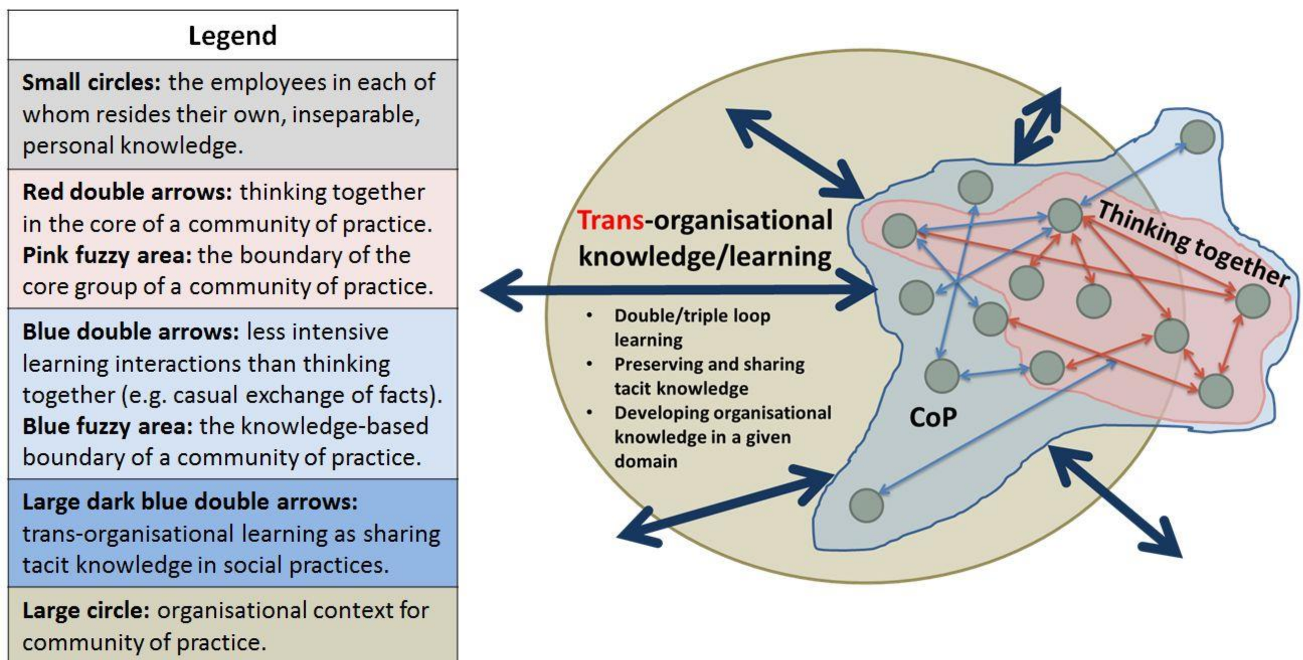


Figure 61: The role of Communities of Practice in Organisational Learning

In the model we can see people in an organisation, each of whom has their own personal knowledge (small circles). This thesis has been founded on the strong belief that knowledge is personal because it entails active participation of a knower who inevitably knows more than what they are able to put into words (Polanyi, 1966b). As a result tacit knowledge cannot be simply converted into an explicit form (Tsoukas and Vladimirou, 2005: 119). Since people solely own their personal knowledge that is rooted in the tacit dimension, they learn about the world by engaging in it with their ‘whole selves’ instead of simply processing information. Learning does not happen in isolation, but in the social context where one can find others

who care about the same things, and hence much of peoples' knowledge can only be developed through meaningful participation in practice (Lave and Wenger, 1991). As one of the dementia leaders commented on how she saw her knowledge being personal:

> "I remember a student saying to me who basically saw all of this [dementia therapy] as an academic thing. And I said: - no, working in therapy with people, yes you're underpinned by all of that. But it's really… it's about being person. And we've got to work to a frame of reference. I said, aha yes that's right, you've got theory underpinning what you do … She said: - '… but what frame of reference do you use?' in a kind of aggressive way. - I use [my personal] frame of reference. - What do you mean by that? - Everything I've ever learnt in my entire life. Which is what I've learnt in books, what I've been told, what I've picked up, what I've seen other people doing." (Sandra, AHP Dementia Consultant).

With respect to the discussed cases, would it not be easier for the community leaders just to upload all of the relevant resources they could find on the CoP website and then send out the links to everyone instead of trying to bring the practitioners together? The limitation of such an approach would be that practitioners would have needed to negotiate how all those uploaded resources would fit in the context of their local practices.

Thus Sofie's and Eddie's sepsis communities would meet regularly to think together (red double arrows and pink fuzzy area in the model) because only this way they could share tacit knowledge, i.e. discover how and what each other think, do, and talk when they address the same problems. Similarly the Outreach Team (sepsis case) wanted to move from the intensive care to the ward areas because they knew that they could not just literally transfer their knowledge of sepsis early recognition between the departments in the codified form. Instead, they needed to engage in meaningful learning partnerships with the practitioners in the wards, excite them about the importance of dealing with sepsis, and build a sense of community that would be able to sustain and embellish that knowledge. While it was the most engaged community members who would drive the learning by thinking together, the less intensive but more numerous forms of participation (blue double arrows) ensured that the shared knowledge would spread around the hospital and beyond it (blue fuzzy area in the model – the boundary of a CoP).

I then identify three ways in which thinking together in CoPs translates into OL (large dark blue double arrows). Firstly, it allows the organisation to preserve and share tacit knowledge. For example the Outreach Team along with the practitioners in the wards would dwell on the acts of helping patients with sepsis, and through that interlocked indwelling on the same performances the practitioners could discover for themselves what it meant to treat sepsis. That way people from different departments had a unique opportunity of developing valuable knowledge that was essential to their work, and hence the organisation could learn.

Much of the knowledge was shared as 'images of action' in the form of practice-based stories. This is because people who are thinking together are attending to the same cues (i.e. the same real-life problems), and by linking those cues with what they already know, they create stories which can be shared and acted upon (Weick, 1995a). For instance Sofie (from the sepsis case) would join national sepsis meetings and videoconferences where people shared their stories of the local improvement work. Sofie would attend to those practice-based stories, and she would concurrently develop her own stories by sharing them with others. Subsequently she used those learnt stories to update people in her own hospital about the national improvement work, and she also relied on them as she was trying to make sense of her own work.

Secondly, through thinking together practitioners could openly address and negotiate 'the nub of the issue' rather than just continue doing things the same way as always. According to Eddie that was something that provided immediate value to the practitioners attending his sepsis group's meetings, as it enabled them to openly learn from each other's mistakes:

> "A lot of it is learning from everyone else's mistakes to say: 'I've tried that and it didn't work because of X, and may work for you' - but it didn't work because of this. And the time saving involved in that, and breaking that cycle of 'head down, push through' – you know, sometimes that's actually not the best way to do. Just step back, have a think about it, talk to people. And it is talking to people, it's engagement, it's human. And it's organic. And that makes such a difference when you're working on these things." (Eddie, Nurse Consultant, Acutely Unwell Adult).

In other words, by thinking together the members of Eddie's community engaged in double-loop learning, i.e. they were openly inquiring into the existing norms and ways of doing things (some of which could be outdated or ineffective but camouflaged under old habits and espoused theories), and they were changing them by arriving at the consensus; as well as in deutero learning which entailed reflecting on their own learning. Furthermore, since the members of that inter-departmental sepsis community redefined the entire context for their learning, i.e. the early recognition of sepsis was no longer a job of the intensive care but of everyone in the hospital, then it was a clear example of triple-loop learning. Thus in the light of Argyris and Schön's (1978) work, by critically thinking upon their ways of doing things and about their learning, and by trying to put that into practice, they were essentially developing OL.

Thirdly, peoples' sharing of tacit knowledge and their engagement in double/triple loop learning can lead to the development of organisational knowledge in the given domain of expertise (McDermott, 1999a, Wenger et al., 2002). A large part of such OL is not institutionalised in an explicit way (because it cannot be due to knowledge being rooted in the tacit component), but it lives in the images of action sustained by the communities (Brown and Duguid, 1991). That is not to say that CoPs are an antithesis of codification and institutionalisation because through social learning they can introduce new tool and techniques into organisational context, as we could see in the sepsis communities. The evidence then shows that the generalisation suggesting that CoPs necessarily 'frustrate OL' is invalid.

For example the Outreach Team were inviting practitioners from other departments to enacting shared meanings: e.g. that sepsis was an important issue, that it needed to be recognised early, and that it was everyone's role to play to improve sepsis early recognition in the hospital. Those meanings were shared as various practitioners invested their identity in the same sepsis-related problems which they wanted to think about together. Subsequently the shared meanings translated into the alteration of practitioners' behaviour. Ronnie observed that as a result of promoting and teaching people how to do 'sepsis six' (i.e. the six things that need to be done in an hour after a patient is diagnosed with sepsis), young doctors and nurses would compete against each other how quickly they were able to do all those six things. That way the whole hospital gradually developed an organisational knowledge of

sepsis early recognition which was evident in the reduction of cardiac arrests from 465 in 2000 [when the Critical Care Outreach Team was established] to 48 in 2013.

Consequently, the question whether CoPs have a role to play in OL can be rephrased to: do sustained learning partnerships have a role to play in OL? It is then not the case of whether it is useful to sponsor discussion clubs on the weekly or monthly basis, but whether it is worth investing time and money in the attempts of helping the existing teams and individuals feel more like a real community who naturally and regularly share their work, intellectual passions, ideas and mistakes. If this question is put this way, then cultivating CoPs may no longer be about paying for that peer-learning group pet project that is only aimed at making 'everyone happy', but it touches on the very nature of the organisation and its structure.

I have earlier commented that not necessarily all organisations will have many of such partnerships. One can easily imagine organisations that prioritise assigning their staff to working individually, under the pressure of high rivalry, and in isolation from each other. It does not mean that those organisations do not learn, quite the opposite - CoPs are not a silver bullet for everything. Apart from that one can also imagine CoPs in the form of cliques which hoard knowledge and which do more harm than good to OL. However, the dementia and the formal networks cases show us that practitioners can still be attracted to this concept as they sense that sustainable learning partnerships can be a missing ingredient for making most of peoples' potential in a workplace.

Another observation stemming from this thesis is that CoPs and also other types of intensive social learning spaces (see section 2.6) work and learn at the intersection of teams, departments, and organisations. In all three discussed cases the practitioners were developing, or trying to develop, learning partnerships that would take their learning beyond their local contexts. That highlights the nature of situated learning where peoples' identity is not invested in a geographic space, but in the real-life problems mutually recognised by people who based on their job title or affiliation may not have that much in common. Peoples' thinking together crosses the organisational frontiers as they want to learn from others who care about the same things, as they want to benchmark each other's work, and as they want to learn from mistakes vicariously and not through their own experience. Such learning is typically spontaneous and organic and it does not require formal knowledge exchange

projects or business integration. I therefore make sense to delineate such knowledge as being trans-organisational.

Consequently my tenth contention:

10. *Communities of Practice, when they work well, can be drivers of Organisational Learning. Much of that learning is tacit in nature and it is happening organically through thinking together at the intersection of teams, departments, and organisations. For this reason we can see it as a way of developing trans-organisational knowledge which often escapes institutionalisation.*

Based on this discussion I therefore finalise my argument that *Communities of Practice (CoPs) come to life from peoples' transpersonal process of thinking together, and these communities can play important role in developing Organisational Learning (OL).*

To summarise, my ten contentions in this thesis are as follows:

The role of thinking together

1. Thinking together about real-life problems which people genuinely care about gives life to Communities of Practice, and not the other way round.
2. The core group of a Communities of Practice is defined by thinking together and not by having a role in supporting the community or by holding stake in its wellbeing.
3. Pay close attention to the changing world when thinking about the community, its practice, and its domain. It is easy enough to fall in love with an imaginary picture of a Community of Practice that is rather detached from reality. When fostering Communities of Practice we need to accept evolving and dynamic nature of learning and try to build on it.

Developing Communities of Practice

4. Cultivating Communities of Practice can be expensive, therefore plan carefully your goals and expectations and inform your actions by the theory.
5. Community of Practice is foremost a point of reference for making most of peoples' ongoing social learning and for understanding it better. For that reason it does not impose a particular social structure (e.g. a weekly discussion group), but it can be

used to reflect upon various types of social structures (including functional teams) where groups of people think together regularly.

6. While Communities of Practice require a great dose of autonomy, they may not be able to perform well without legitimisation at multiple levels. This highlights the need for being explicit about the (potential) community value, and for evaluating that value.
7. The scale of Community of Practice development needs to be to consistent with the available resources and with the possible impact that it can make. It may be difficult for communities of smaller size, or with several or no experts in the field, to make a large impact. Likewise more ambitious initiatives should take into account higher monetary and non-monetary expenditure.

The scope of the Community of Practice concept

8. The scope of Communities of Practice is delineated by the process of thinking together happening at the core of such communities, and by the less intensive forms of participation that are attracted to it, which effectively influence that thinking together in a smaller or bigger way. Thinking together alone is just thinking together, and occasional participation is just occasional participation; while a Community of Practice is essentially comprised of both.
9. The 'community' in a Community of Practice is not just a catch-phrase and it should not be trivialised. Participation in a Community of Practice is not only about helping each other to develop their knowledge, but equally about building sustainable relationships with other learners. What binds the members together is the passion and genuine interest for what they do, and therefore the practice is never emotion-free.

Communities of Practice and Organisational Learning

10. Communities of Practice, when they work well, can be drivers of Organisational Learning. Much of that learning is tacit in nature and it is happening organically through thinking together at the intersection of teams, departments, and organisations. For this reason we can see it as a way of developing trans-organisational knowledge which often escapes institutionalisation.

5.7. Conclusion – discussion

In my discussion I have attempted to follow the spirit of this project, which is to elaborate the most basic elements of the CoP concept. The main interest has therefore been to readdress such fundamental questions as: what is a CoP? What is its scope? Does the sense of community lead to mutual engagement, or the other way round? What does it actually mean to cultivate CoPs in organisations? What is the nature of the relationship between CoPs and OL?

In order to clarify some common misconceptions of CoPs I have looked at this concept from a process perspective. Within this view I have attempted to develop an ontologically and epistemologically consistent conceptual framework which brings knowledge as a technical term back into CoPs, and which positions this concept in the context of OL. The main point of focus has been on the process of thinking together which enables to 'plug in' CoP with different areas in the literature, which replaces an ambiguous use of 'knowledge sharing', and which sharpens the notion of mutual engagement that is central to such communities.

The exploration of the nature of CoPs has been an opportunity to 'shake up' this concept, to reflect on its nearly 25-yeard old 'life', and to go back to its early formulation of situated learning. Through the focus on thinking together I have tried to rediscover CoPs as a dynamic phenomenon, and not merely as a discussion club which at best is somewhere between a place of generating knowledge and a company picnic.

I have also intentionally ignored the voices calling for putting the CoPs on the side and exploring other forms of organising in practice (read: knowing in practice). My rationale has been the belief that both the research and the practice seem to be forgetting that CoP is the sharpest and the most basic unit for thinking about social learning. In the place of venturing into increasingly more confusing 'epistemic communities' and 'communities of knowing', and instead of seeing CoPs as a fad or as an entity that can be set up and managed, I have argued for using this concept as a point of reflective inquiry into the condition of peoples' sustainable learning partnerships which are happening organically, naturally, and as an everyday experience of living in the social world.

6. Concluding the thesis

In this final chapter I write about the implications of the findings in this research. I first talk about the implications for practice – that section is specifically tailored to the non-academic audience. There are four findings of this research that fall into this category: (1) the significance of thinking together as the essence of CoPs; (2) the importance of fostering CoPs, (3) the necessity of triple-legitimisation for CoPs, and (4) the trans-organisational nature of knowledge in CoPs. Subsequently, I write about the implications for (academic) research where I refer to questions such as the conceptual contribution of this project, the methodological reflection, and directions for future research. Finally I comment on the limitations of this research and I provide a general reflection on the process of conducting it.

6.1. Implications for practice

The concept of Communities of Practice (CoPs) is used widely in professional settings and it tends to be associated with organising groups of practitioners who do not necessarily work together on day-to-day basis, but who learn together and from each other regularly in order to develop their knowledge in a specific domain. However while this concept appears attractive for many organisations which are keen on making most of peoples' knowledge to achieve and/or sustain competitive advantage, numerous past examples teach us that the development of such communities is typically not easy – especially if guided only by common sense. The most significant problems tend to appear in the early stages of building a CoP, in imagining its scope (i.e. who belongs, what the boundaries are), and in balancing the members' autonomy with the need of meeting the organisational objectives.

Thinking together. This project addresses the problems and misconceptions surrounding cultivating CoPs by elaborating the trans-personal learning processes which are happening at the heart of such communities. While addressing these misconceptions, it is essentially founded in the belief that human knowledge is personal (i.e. inseparable from a person) and therefore substantial part of it cannot be put into words or translated into an explicit form (e.g. in verbal communication or well-structured symbolic representation). As a result, the concept of *thinking together* has been introduced which entails people guiding each other through their process of understanding of the problem at hand, and this way indirectly

‘sharing’ tacit knowledge (as when surgeons use their collective knowledge to perform a surgery that they are working on).

Perhaps the most important finding of this research for the practice is that the process of thinking together is essential for developing CoPs and that it is through that very process that such communities can come into life. This realisation has a number of implications for practitioners interested in CoPs, Knowledge Management (KM), and social learning, and therefore is of high significance for knowledge managers whose job includes supporting CoPs (the terms used in organisations range from Chief Knowledge Officer through Learning Manager to Librarian).

Because thinking together has a specific meaning signifying intensive and mutually engaged learning interactions, it replaces the concept of knowledge sharing which thus becomes an umbrella term including, apart from thinking together, also exchange of facts, insights, or documents. The notion of thinking together also offers a simple point of focus ‘where to start from’ with respect to developing CoPs. Thus if someone wishes to cultivate a CoP, then they need to nurture new or existing avenues for thinking together about specific problems or hot topics that people *genuinely care about*, rather than merely encourage them to submit codified resources or casually exchange facts on general topics. In such sense the scope of CoPs includes people regularly thinking together, as well as the less intensive forms of participations that have meaningful access to that process, i.e. people who do not necessarily engage in thinking together, or only occasionally, but who more or less understand it and who can contribute to it.

Fostering CoPs. This leads to the second most significant finding of this research for practice: CoPs need fostering. This means that forming the core group of a CoP is not about supporting the community or by holding stake in its wellbeing (even if such roles are clearly valuable), but it is about being able to actively and regularly think together with other people about problems they all care about. In other words if much support is available but no thinking together is taking place, or if the learning interactions are sporadic and not really intensive, then a CoP will not ‘live’. Thus when trying cultivate CoPs one needs to accept the evolving and dynamic nature of learning and build on it through fostering the process of thinking together and the core members of the CoP that participate in it, rather than attempt instrumentally ‘setting them up’ and trying to manage them.

Furthermore, as thinking together can be demanding in time, trust, knowledge, and effort, fostering CoPs can be an expensive and challenging endeavour. This contradicts the image of CoPs as being informal and cheap vehicles to performance increase through organising 'company picnics'. Instead, developing such communities needs careful attention that is informed by conceptual understanding. For a practitioner, the CoP concept is therefore not only a set of ideas about how to organise fortnightly discussion clubs, but, at a much more profound level, it is a way of reflecting on the social learning that is already taking place, and on the possibilities of making most of it in order to achieve a visible change of existing practices.

Triple-legitimisation. Another reason why cultivating CoPs is typically not easy is because they may not be able to perform well without legitimisation at multiple levels. In this research three levels of legitimisation of CoPs have been identified. At the *community level* members require a great autonomy, so that they can develop their learning partnerships. Besides, the value and the purpose of the community needs to be promoted to the organisation(s) and to the members. At the *management level* a CoP may require time and resources, exposure to the rest of the organisation, and the acknowledgement of their role and importance. And lastly at the *trans-organisational level* (i.e. at the level reaching beyond the organisation) CoPs can be supported by promoting the idea of working and learning collaboratively as something being of high value, by giving the community members access to experts, new tools and approaches, and by enabling new possibilities for growth beyond their local context. The triple-legitimisation of CoPs highlights the necessity for being explicit about the (potential) community value, and for evaluating that value so that one is able to make a case within the organisation for such legitimisation to come in place.

While much of these findings are telling us about the challenges involved in cultivating CoPs, they also point out the benefits of such social structures and processes. CoPs, when they work well, can offer a powerful vehicle for preserving and sharing and further developing people's tacit knowledge. By critically reflecting on the existing ways of doing things they can also identify mistakes, ineffectiveness and inefficiencies that are camouflaged by being routinized in old habits and taboos. This way a productive CoP can enable an organisation to considerably improve its knowledge capabilities, i.e. how well it performs with respect to a given domain of expertise.

Trans-organisational knowledge. Lastly, as thinking together in CoPs is always about real-life problems that the members genuinely care about, especially in a narrow area of knowledge, their learning can be crossing team and organisational boundaries as people search for likeminded knowers whom they can learn from and together with. It has therefore been suggested to acknowledge that organisational knowledge and learning which CoPs contribute to, will probably be trans-organisational. This signifies that learning in CoPs often escapes institutionalisation as it is rooted in individuals' personal knowledge which is developed socially but which is impossible to fully convert into explicit form. Trans-organisational knowledge seen this way is distributed not merely among teams, but also across different organisations.

The appreciation of the trans-organisational character of knowledge faces modern managers with both new challenges as well as new opportunities. It forces them to accept that they can never fully predict and control how, when, by what means, and in which settings learning will stick to which practice, and leak through the frontiers of organisations. Being pro-active about trans-organisational knowledge may include exploring the limitations and the possibilities for thinking together and sustained learning partnerships happening across organisations, supporting them if they appear to be useful in the shorter or longer perspective, as well as being aware of trans-organisational knowledge shared with other organisations. Furthermore, it may involve giving people more autonomy, trust, and empowerment to follow their intuition developed tacitly in practice. While this vision of trans-organisational knowledge may seem scary for managers used to being in control, as they need to trade an apparent predictability and control for peoples' development and intellectual growth, it can serve as a major step towards building a learning organisation.

6.2. Implications for research

Contribution to academic knowledge

In the Organisation Studies literature Community of Practice (CoP) is a well-established concept which has been one of the drivers behind the current popularity of such concepts as social practice and social learning. The researchers' interest in CoPs has helped to portray learning as a social formation of a person rather than merely as an acquisition of facts, which in turn has enabled to think more reflexively about peoples' learning in organisations. However while some authors are now writing about 'communities of knowing' (Boland and Tenkasi, 1995), 'collectives of practice' (Lindkvist, 2005), or 'epistemic communities' (Amin and Roberts, 2008), when there is still much work left to do around CoPs, and the differences-similarities between CoPs and these new concepts is less than clear. Consequently, the key aim of this project was to elaborate 'the trunk' of the CoP concept rather than to add more 'branches' to it as it was assumed that it could help to better understand the nature of such communities and their role in Organisational Learning (OL).

Bringing knowledge back into CoPs. The main source of originality of this research is in using the work of Michael Polanyi as the bedrock of theorising about organisational and social learning. At first sight this may not appear as a particularly novel or innovative approach – after all Polanyi is cited widely in the broad area of Organisation Studies. However, following Tsoukas (2005b) and Tsoukas and Vladmirou (2001), it can be concluded that Polanyi is mostly referred to in respect to the dichotomy of explicit and tacit knowledge, which in turn leads to two important issues. On the one hand the tacit-explicit distinction tends to be misunderstood because for Polanyi these are the two sides of the same coin (Tsoukas, 2005b, Snowden, 2003, Thompson and Walsham, 2004, Alvesson et al., 2002, Dörfler, 2010) since "a *wholly* explicit knowledge is unthinkable" (Polanyi, 1966a: 7; emphasis in the original). On the other hand, the popularity of this alleged distinction overshadows Polanyi's remaining contributions which are arguably essential to our understanding of human knowledge.

Consequently this research drew richly from Polanyi, not stopping at the idea of the tacit component, but venturing into concepts such as indwelling, interiorisation, knowledge traditions, conviviality, and emergence (Polanyi, 1966b, Polanyi, 1962a, Polanyi, 1969). Apart from that Polanyi's contributions also informed the ontological and epistemological

assumptions by which this study was underpinned. While still only a fraction of Polanyi's work was used in this thesis, in a way it served as an invitation for the academic community to explore Polanyi's work more deeply.

The focus on personal knowledge allows talking about knowledge as a technical term in respect to CoPs. Again, contrary to what one might think, this is a non-trivial matter. Although CoPs are commonly discussed in the context of knowledge and knowledge sharing, the original conceptualisation of CoPs (Lave and Wenger, 1991) was founded within a postmodern paradigm that tends to be sceptical about knowledge as a term, associating it with legitimised experts who 'monopolise' the possession and creation of knowledge as their source of power. This explains why knowledge is in fact silent in CoPs, being replaced with learning, meaning, and identity. However, since personal knowledge is coherent with CoPs due to its foundation in identity and the social context, it has enabled 'bringing knowledge back into CoPs'.[12]

Synthesis of background knowledge for CoPs. The attempt at being reflexive about the role of knowledge in the context of CoPs was an opportunity to review the notion of knowledge sharing in CoPs, and the role of CoPs in OL. For that purpose at the conceptual level five broad but overlapping areas in the literature were examined, critically discussed and synthesised: Personal Knowledge, Communities of Practice, Organisational Sensemaking, Organisational Knowledge, and Organisational Learning. That resulted in a very broad review of literature and it pointed to the ways in which those areas 'plugged in' to each other. The literature review was carried out in three phases: (1) The five areas were reviewed separately, and the overlaps and synergies were identified. (2) An initial synthesis was produced on purely conceptual level, trying to organise all the areas around the CoP concept. (3) Following the empirical inquiry, equipped with understanding of the practitioners' viewpoints, the final synthesis was produced. This final synthesis is a research product in its own right, Polanyi's conception of knowledge became more central, and I also understood how it provided the philosophical basis of this research. Two by-products in the form of conceptual results emerged from the process of synthesising: thinking together, and trans-organisational knowledge, both of which were substantiated empirically in NHS Scotland.

[12] This idea was actually discussed in person with Etienne Wenger, and he welcomed it saying that perhaps it is time to bring knowledge back to CoPs. It is important to note, that Wenger is fully familiar with Polanyi's work and it influenced him in developing the concept of CoPs.

Thinking together. The idea of thinking together is as important from the academic point of view as it is from the practitioner point of view. It originates from the empirical part of the research: this was the term the practitioners understood when trying to conceptualise CoPs. From academic aspect, it elaborates the very foundation of the CoP concept by explaining the learning processes happening at the core of such communities and assigning them a central role. It takes the concept back to its roots in situated learning and it highlights the dynamic process-nature of CoPs. Thereby it moves CoP further away from stable ontology, simultaneously keeping it as a dual construct (i.e. a CoP is both entity and process at the same time) because thinking together does not deny the social structure which originates from learning. It also makes it easier to draw the scope of this concept because it entails that those who belong to a CoP are those who engage in thinking together plus those who have meaningful yet less regular access to it.

Another use of thinking together is in clarifying the notion of knowledge sharing which is very popular in the literature, especially in the field of Knowledge Management (KM). Thinking together highlights the overly generic way in which knowledge sharing is typically used, and it delineates from it the intensive mutually engaged learning that is specific to CoPs and which can lead to new knowledge. Furthermore it offers a perspective on sharing of knowledge that is compatible with the Polanyian epistemology. It therefore treats the assumption that knowledge can be *literally* transferred from one person to another as being naïve, and instead it stresses that especially tacit knowledge is shared only in the sense that it is redeveloped but not acquired or replicated as people discover each other's performances in practice and they learn together and from each other.

Trans-organisational knowledge. As thinking together does not stop when the teamwork stops or when the CoP members go home from their organisations, CoPs are crossing team and organisational frontiers. Therefore, when CoPs participate in OL, then organisational knowledge becomes trans-organisational. That is not to be confused with the existing descriptions of inter-organisational learning which is intentionally set up through mergers and formal knowledge exchange programmes. Trans-organisational knowledge is organically developed in CoPs and is distributed in a similar way, 'from place to place', in the sense that people from different organisations may think together regularly because in this turbulent world they have found in each other learning partners, they realise that they can learn

together and from each other about those matters that they truly care about, that affect their everyday work and their lives.

From this perspective the condition for OL is no longer to embed the learning into organisational context as it is suggested in the popularly cited 4I framework (Crossan et al., 1999). The main reason for this is that thinking together occurs to a large extent in the tacit sphere and it never fully leaves it, meaning that what people learn tacitly from each other in large part is preserved through tradition and not through codification (even if the latter can sometimes also be very useful). Such tacit knowledge can manifest itself as a potential to perform well in the face of unpredictably changing world, and not just as a substance of routines, policies and resources which people in organisations can explicitly name and which they are used to.

Consequently the role of CoPs is seen as being potential drivers of OL. When CoPs work well, their members share and preserve tacit knowledge that is fundamental to organisation's wellbeing, they engage in double and triple loop learning and hence they are prone to thinking more critically about the already paved ways of doing things, and by dynamically developing their personal knowledge and by educating each other they can enable the organisation to become considerably better in the given domain.

Methodological contribution and reflection

The main methodological contribution of this research was in the application of SODA-style cognitive mapping for analysing rich qualitative material – this claim however requires some initial explanation because cognitive mapping is already a well-established method. SODA is a distinctive variant of cognitive mapping on its own as it follows a specific tear-drop structure of goals, issues, and options, and it tends to be accompanied by the dedicated Decision Explorer software (Eden, 2004). SODA mapping had been used extensively as a consultancy tool for helping executive teams in negotiating the strategy (Eden and Ackermann, 2009a, Ackermann and Eden, 2011). Similarly in academic research SODA had been used for conducting empirical case studies, where theorising is then conducted by commenting on that process (Ackermann and Eden, 2005, Morton, 1999). However in this research, following examples such as that of Page (2009), SODA was treated as a direct method for analysing qualitative material and for building the argument.

The process of learning SODA mapping as well as of the dedicated software, just as it would probably be the case with most research methods, was challenging and laborious. However, a misleading aspect about being a novice mapper is that cognitive mapping may first appear easy and intuitive, while uninformed applications typically lead to producing maps of rather poor quality. In this case it required months of revisiting the constructed maps and going back to the SODA-literature in order to be able to use this method as part of the analysis. As a result, one of the offerings of this thesis is to provide an explicit and detailed account of my efforts of learning how to map well, which can be helpful for others who intend to use this method.

Apart from having to undergo a process of learning the method, the novelty character of using SODA mapping for analysing semi-structured interviews in a doctoral dissertation also entailed dealing with some new problems of technical and methodological nature. For instance even though the sample size of interviews was relatively small, the process of mapping and analysing them was very time consuming. Even not taking into account the fact that I had had to re-work the first ten maps three times as part of my initial learning process, the final model in Decision Explorer took me a full month of work roughly 9-10 hours a day, 7 days a week. I can imagine that today, already having that experience, the same task could take me a much smaller amount of time, but this also entails that a fairly novice mapper needs to carefully plan in advance that they are going to require considerable time for such an endeavour before they become more competent with this method.

Furthermore, since the specific way in which I was using SODA mapping was quite new, by large I had to 'invent for myself' a consistent method for deciding which analytical functions of Decision Explorer I would use in which parts of the thesis, and how I would present the maps. What I did was that I would run all of the functions which I knew 'in the background' and I would only use in the document those results which I could see as being meaningful and interesting. I also decided to organise the discussion around the key goals and issues as stemming from the interviews, and by venturing deeper into them I would engage with more detail – and thus my use of views from the maps was following the logic of the discussion and vice versa.

Despite the mentioned challenges I identify a number of essential benefits of applying SODA mapping in this study. It allowed me to make better sense of the qualitative material by

giving me structure which disciplined and organised my thinking about it. That structure was flexible enough that it was not substantially constraining my actions, and it simultaneously allowed maintaining the complexity of it without losing any detail – in fact SODA tends to work best when the collected material is rich and complex. Furthermore, the mentioned functionality of Decision Explorer software proved very powerful for identifying key issues, loops, clusters, and themes as stemming directly from the interviewees' accounts. With respect to these benefits I can conclude that SODA mapping is a very suitable method for qualitative academic research and it can be strongly recommended to a broader academic audience.

Another advantage of applying SODA mapping was that it fits very well with the overall design of this project. Within the empirical study I followed action research approach and my aim was to explore rich meanings of the participants and to change their minds, whereas the discussed cases really unfolded spontaneously rather than they had been planned ahead. While it led to gaining new insights about the discussed topics, it also called for a clear way of documenting, structuring, and explicitly communicating the empirical part of this study which helped to ensure sufficient academic rigour – and my use of SODA mapping was arguably able to address those needs. Consequently, with respect to these considerations I would like to believe that this thesis is an account of a research project that is relatively coherent in philosophical and methodological terms, and that if offers a research design which others may draw on in their own settings.

Directions for future research

At the conceptual level this project was based strongly on Polanyi, and it showed that Polanyi's work still remained a rich, valuable, and in many ways undealt with source of learning, ideas, and inspiration for the academic community. Thus especially researchers interested in the broad area of knowledge and learning, both personal and organisational, are strongly encouraged to 'dig deeper' into the Polanyian contributions. Thinking more intentionally about knowledge in the context of CoPs might also call for theorising about knowledge levels, knowledge types, and the role of intuition in such communities. Moreover the synthesis of literature conducted for this research demonstrates that interlocking distinct yet overlapping areas can be a fruitful way of building new conceptual frameworks that can sharpen our understanding of the existing concepts.

Furthermore, the hereby exploration of learning processes at the core of CoPs and their effect on Organisational Learning (OL) could be followed by new attempts aimed at addressing some under-researched foundational questions from Wenger's (1998b) original conceptualisation of CoPs: elaborating on the notions of trajectories of identity and identification in CoPs, exploring the structuring elements of CoPs (perhaps especially the community being the most immediate one) as a lived experience of their members, commenting on the similarities and differences between social learning and situated learning, or building on such ideas as economies of meaning, social artistry, social learning capability, vertical and horizontal learning, or accountability to practice. In the years to come, I definitely plan to engage with some of these research directions.

Another focus of this project was on operationalising the CoP concept in professional settings. It stemmed from the empirical study in NHS Scotland that the different roles which might be needed in developing CoPs (e.g. coordinators, facilitators, champions, and sponsors) were not well understood, and therefore more work could be done around clarifying them. Moreover the practitioners' perception of CoPs was often limited to fortnightly discussion groups or to online communities, and therefore it might be very interesting to conduct real-time longitudinal studies exploring CoPs which transcend team and organisational boundaries 'on the job', i.e. as part of carrying out their every-day tasks. While my plans include pursuing a separate research project aimed at further clarifying the necessary CoP roles, there is also a lot to be done on the technological side, i.e. producing useful tools for people in those roles – this is outside the scope of my direct interest.

Additionally, the idea of triple-legitimisation of CoPs further highlights that evaluating the performance of CoPs is fundamental to their cultivation in organisations and therefore more work could be done in this respect. Researchers might be interested in improving and testing in practice the existing frameworks for such evaluation. The topic of CoPs' performance also leads to the concept of 'Hot Spots', i.e. highly productive CoPs which produce excellent ideas, and arguably much more could be learnt from such communities about good ways of fostering productive CoPs. Network theory and social network theory are also related areas where at the overlaps interesting research problems can be identified.

Lastly, this project was one of the first attempts at using SODA mapping as the means of directly analysing and communicating the empirical material in academic research rather than

as a method for conducting cases and then commenting on that process. Thus further developments of this approach seem to offer a promising direction for future work. Moreover SODA mapping, due to its suitability for working with groups of people, could be developed as an approach for exploring issues experienced whilst developing CoPs – and this could become a new area of inquiry at the intersection of the CoP literature and SODA method. I definitely want to engage in such work and also into developing a teaching material for research students to help them start their journey.

6.3. Limitations

For some readers the most obvious limitation of this research might be its small sample size, especially when it comes to the question of generalizability. Nonetheless I believe that each project should be evaluated within the lenses of its own paradigm. As this project is underpinned by symbolic interpretivism, it aspires to generalise by *learning richly* from small sample, i.e. by exploring the studied phenomena at high level of detail, and by viewing it from multiple perspectives. This also justifies the fact that through action research I was inevitably changing the participants' minds as the means to learning more about what they thought and how they acted with regards to CoPs.

A more serious limitation of this research might be in that the number of real-time observations of CoP members' actual interactions was limited, while the topic of the study were learning processes as experienced by members of CoPs. However even on those occasions when I was observing the alleged 'thinking together' as it was happening, I was merely inferring it rather than directly capturing the process. On the flipside, the fact that I conducted individual interviews across numerous locations in Scotland, rather than spend say a month in the same location, provided me with a broad overview of what people in NHS Scotland had been doing with respect to intentionally cultivating CoPs. However, I do believe that further longitudinal studies in the area, within NHS as well as in other organisations, could contribute to further deepening and refining the results put forward in this dissertation. The idea of thinking together was meaningful and intuitive to many of the participants based on their day-to-day work. In such sense I admit that thinking together is an inferred rather than 'measured' process, but it appears plausible and useful both in term of the literature and practice to use it as a sharp way of looking at mutually engaged interactions between people.

6.4. Reflecting on the project

During the three years of this project I could often hear from some fellow students that doing a doctoral degree was an exhausting and sometimes even traumatic experience, and that the best thing one could do was to ‘keep calm and finish the PhD’. However, to be perfectly honest, I would always regard this opportunity as a fascinating intellectual journey. It was the most enriching experience to stay awake until early hours, thinking about what Hari Tsoukas had written, or watching for yet another time all of Etienne Wenger-Trayner’s video speeches on CoPs which I had managed to find. What was the real thrill and the main attraction in that process was the experience of progress, that with the increase of knowledge the picture was becoming less blurred, and that in Polanyi’s words I would gradually ‘enter the new world’. This metaphor is very correct by the way – for example it was a similar feeling of excitement to when I had visited India for the first time.

Nevertheless I am convinced that this journey would not have been that fascinating at all, perhaps it would not have even paid justice to call it a journey, without the presence of my supervisors: my master (as in master-apprentice) Viktor Dörfler and my mentor Colin Eden, who prepared for me a context and me for the context, where all of this could make sense, an intellectual shelter where I could grow, and where it felt worthwhile to spend long hours on this work every day. As a result even though after all it all really depended on my commitment and my effort, I always felt a sense of direction, guidance, and support in selecting the priorities, and even though for a long time I could not possibly see the big picture, I could always count on a sharply crafted feedback on how my progress fitted with the essence of what I was trying to achieve.

Another very important factor in my development was that my supervisors taught me to appreciate the work of thought leaders in the fields of my interest very early into this project. By following the contributions of such inspiring individuals, I was able to build solid foundations for sustaining consistent (if not constant) growth. What was especially helpful was that I was lucky enough to meet many of them in person, sometimes as one-off good conversations, and sometimes on more regular basis. During this project I met in person Charles Handy, Etienne Wenger-Trayner, Robert Chia, Ann Cunliffe, Martin Kilduff, Mark Easterby-Smith, and so forth. Today, as well as for many years to come, I keep the memories of those meetings, and they are shaping my thinking and my work.

Each of the three years of these studies was very challenging, but in a very different way. In the first year the main struggle was that it was very hard to 'connect the points' within each of my five areas of literature separately, not even mentioning seeing the connections between the areas. I also took a lot of time to read the literature very carefully, and sometimes I would spend nights doing concept mapping in Decision Explorer (I could not do cognitive mapping back then) to visually check whether my understanding of various concept made sense. Thus for example it took me six weeks full time just to read Polanyi's *Personal Knowledge* and it took me three weeks full time to read Weick's *Sensemaking in Organisations* – but those were some of the first titles that I had read for this degree. Time well spent.

Before the second year started I had already been doing interviews in NHS Scotland, and that was unfolding depending on the access which was very inconsistent and unpredictable – sometimes a fairly large number of participants would get back to me within a few weeks, and sometimes I had to wait for their responses for months. It seemed like a very large amount of effort was required to organise a single interview despite my contacts in the organisation, and that effort included not only emailing potential participants, but also producing actual work (e.g. documents about CoPs, short review of my preliminary findings) as part of the action research interventions. Nonetheless as Annette from NHS Education for Scotland commented, in the end it looked like I was able to reach some places (in particular the area of sepsis) which could have been very difficult to access even for the employees.

Although my feeling is that I could have done much more empirical work in a different organisation (with not as highly restrictive access) and particularly my biggest discomfort is in not having been able to do more real-time observations on the longitudinal basis, at the same time I strongly believe that many of the collected stories are very insightful, and that the three empirical cases complement each other well as they show the issues around development of CoPs from different perspectives. Thus into the first months of the third year after completing the interviews with the sepsis Outreach Team, while sitting on the train back from the Scottish Borders, I felt that I might had already had a sufficient amount of empirical material to proceed into writing up.

Furthermore, during summer just before my third year commenced I participated online in Etienne and Beverly Wenger-Trayner's workshop on social learning and CoPs which was happening in real-time, on average 9h per day, over four days (the face-to-face part running

during the day in Pacific Time). I found it to be a very good opportunity to put my knowledge to test, and to my surprise I saw myself constantly pushing Etienne for answers, critically evaluating his various concepts, and trying to find the possibilities for their potential improvements. Before that I had always been thinking about Etienne's work in a rather uncritical way, and it was that particular context that allowed me to integrate everything that I had learnt to reframe my understanding, and that with time helped me to mature as a researcher.

The third year, apart from writing up, was also the time when following the advice from my supervisors I dedicated over two months almost exclusively for learning to 'properly' use SODA mapping and the Decision Explorer software (I talk more about this learning process in the methodological chapter). At first I struggled with it badly, but I decided to continuously rework my maps and to immerse myself very deeply in the literature about SODA mapping the same way as I had previously dedicated myself to my subject literature. Eventually SODA mapping proved absolutely essential to my analysis and now I am planning on using it as my primary research method in the years to come. In such sense it proved as a very good investment, but I would not have realised its potential value from the outset without my supervisors' support. Curiously, still before the end of these studies I was able to run a PDW workshop on mapping at BAM conference which would have been something unimaginable for me less than a year earlier.

As I am finalising this conclusion, and as I am looking back at those three great years of my life, I feel very lucky and privileged to have had this possibility and the most suitable conditions for learning about topics which I am genuinely interested in. I am aware that I may never again have an opportunity to have this large amount of time, space, and support exclusively for learning, so I tried to make the best use of it. It has been the time of discovery, intellectual passions, growth, and maturing. From my side I have offered complete dedication, but there have been many brilliant and generous people along the way. I already know that this project has been worthwhile to me, but I want to believe that it may aid to address, or at least (re)define, some problems for others. After all as Richard Feynman said:

"… the worthwhile problems are the ones that you can really help to solve."

7. References

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