Fostering teamwork and socialization in collaborative working environments: insights from a situated study on a university research team

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Abstract

Collaborative practices in real groups are rarely studied as they develop in research teams, despite the importance of the topic. The present study aims to address this lack and is focused on how collaboration develops in an academic research team. It draws specific attention to group practices that enhance mutual engagement within the team and the socialization of doctoral students. Situated learning theory and, more specifically, its concepts of community of practice and legitimate peripheral participation, provide for an inspiring framework. They will also guide the analytical process. The ethnographic approach permits this study to deeply understand the context in which communication and socialization practices are situated. Furthermore, it allows for the comprehension of how these processes change over time and the analysis of naturally-occurring interactions as they develop in a concrete setting. Studies of how mutual engagement and socialization unfold in everyday practices of a research team are very rare. Therefore, an original analytical framework has been built: a descriptive part focused on analyzing the team as a community of practice will then lead into an in-depth study of communicative interactions during meetings, following the approach of discourse analysis. Discourse analysis will rely on specific dimensions carefully chosen for studying mutual engagement. This analytical step permits for the discovery of specific practices underlining how meetings function, and will reconnect those practices to the team's features.

Results show that the team considered in this study resembles a community of practice with clear borders and a specific identity. It also revealed that the leadership style is vital in creating an environment where particular patterns of participation and specific discursive practices unfold among team members. Actually, there is a strong link between leadership and chairing style during team meetings, participation, discursive practices, and mutual engagement. Due to the specific structure of the team meetings, the participative practices enacted by the chief, and the mutual engagement developed within the team, meetings become strategic for doctoral students' socialization. A conceptual framework is elaborated to explain the different team practices and how they

are related to the development of mutual engagement and the socialization of doctoral students. The study constitutes an important contribution both for researchers who are interested in further analyzing the dynamics related to the development of team collaboration, and also for those who deal with team design. A conduction of studies, utilizing more cases, could help clarify the influence of scientific discipline and academic context.

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Contents

1. Introduction

This project focuses on a specific environment, i.e. a research team composed of ten university members, and uses an ethnographic approach to understand how team collaboration in an academic setting unfolds. It will also take the socialization of PhD students into account. Studying collaboration in real settings is particularly challenging, especially when considering research teams. Traditionally, research teams have been the focus of laboratory studies, a discipline of science and technology studies. However, laboratory studies are more concerned with epistemic practices than with collaboration in terms of communication and socialization issues. This is the case even if these dynamics are recognized as relevant in research. As far as it concerns the study of collaboration and communication within teams, the last two decades saw an important development of the so-called "practice-based studies" (Gherardi 2009c), i.e. research focused on very particular settings and activities in specific organizations. This approach distinguishes itself from traditional studies of teamwork that focus on artificial groups in de-contextualized settings. Actually, teamwork is conducted through concrete, context-specific, daily routines and those daily efforts from specific groups of people are the foundation for bigger institutions to be able to function. The development of practice-based studies (PBS) is stimulated by this awareness and spread to different disciplines, from organization studies to human computer interaction. For this reason it is near impossible to find a coherent, unified theoretical background and a unique analytical framework when going through PBS. In fact, PBS is a general label that encompasses many more theoretical approaches; it is a "bandwagon", as stated by Corradi et al. (2010). However, laboratory studies, which are strongly anchored to science and technology studies, do not occupy a central position within PBS.

PBS provide a very valuable perspective in understanding team collaboration and communication in real settings. Consequently, this project's theoretical background refers to PBS and, more specifically to situated learning theory (Lave and Wenger 1989)

because of its focus on social activities that support scientific work and socialization issues. Situated learning theory is a perspective on education, apprenticeship and collaboration that underlines the relevance of daily activity participation of a specific group (a "community of practice") for learning, and in turn, poses itself against the traditional cognitive perspective on knowledge. The concept of community of practice (CoP), now well-known in different disciplines, provides an insightful framework for defining and characterizing a team. It also encompasses the concept of mutual engagement, which is considered to be the "glue" of a CoP; this concept is very useful in refining and refocusing the wider concept of team collaboration. Then, the concept of "legitimated peripheral participation", indicating the trajectory of a newcomer to a community of practice, is useful in studying team dynamics in terms of socialization.

More specifically, the focus of this project is on how mutual engagement is built and shown in those moments where the members of the research team work all together (such as the team meetings), and on the implications of team meetings for the socialization of PhD students. Mutual engagement can be considered strategic for both the creation and maintenance of a collaborative setting and also for the identity of the group itself. A research team, such as the one chosen for this project, is the most significant place for socializing the new generation of academics, therefore it is important to understand the link between the construction of mutual engagement and the socialization of those PhD students. PhD students' socialization is a very relevant issue in our society, but is usually studied through surveys or interviews, and not as it unfolds in real situations.

Data was gathered over the course of one year by attending team meetings and compiled through ethnographic semi-structured interviews and group discussions. The analytical framework takes its inspiration from situated learning theory, specifically from the concepts of CoP, mutual engagement, and legitimate peripheral participation. Moreover, discourse analysis is used to conduct a deep reflection of the interaction during team meetings. It was expected that team meetings would be the most appropriate place for studying mutual engagement, and also that they would be particularly relevant to PhD students' socialization.

1.1 Outline of the Chapters

Firstly, a brief presentation of the topic's relevance to communication sciences and an explanation of the reasons that drove its choice will be given. Following, in chapter 3, the theoretical background will be extensively explained. In it, the approach of practice-based studies will be introduced and situated learning theory will be explored further. More specifically, the concepts of community practice, legitimate peripheral participation, and mutual engagement will be described. The critiques and weak points of situated learning theory will also be presented. A brief excursus in laboratory studies will be useful because the empirical study was conducted within an academic team. Furthermore, the scope of research will be defined in more detail. In chapter 4, an overview of the relevant research in the field of practice-based studies and situated learning will be given. It will highlight more recent developments to better emphasize the relevance of this project. Then, in chapter 5, the research design of this project will be addressed in the following order: research questions, a brief presentation of the research field, methodology, and the processes of data gathering and analysis. Chapters 6, 7, and 8 are dedicated to presenting the results, where each chapter will answer a specific research question. Chapter 6 will present the analyzed research team and its main features; chapter 7 will focus on team meetings and how mutual engagement is shown and reproduced in this activity; chapter 8 will be devoted to the analysis of how PhD students' socialization unfolds during team meetings. It will present the link between the internal organization of the team, the features of team meetings, and the trajectory of PhD students. The final chapter will summarize the results and present the most relevant implications of this project from a theory point of view, consisting of both methodology and practice. It will then conclude with a reflection on the limits of the present research and on future potential developments.

To facilitate understanding and comprehension, this thesis is organized in the following manner: each chapter will start by presenting the themes to be treated and, if necessary, a brief summary of the main arguments until that point will be presented. Lastly, each chapter will present a summary of the main topics developed in conclusion.

A final important issue to clarify is in regards to the linguistic choice, more specifically as it concerns the gender of nouns and pronouns: when the gender refers to both the masculine and feminine form, the feminine form is preferred. This is not a casual choice: the choice has been made with the awareness that our daily discourses, both in formal and informal settings, are also vehicles of specific gender identities. The decision to prefer the identity that usually is the "hidden" one wants to make the reader reflect on the relevance of our communicative choices. Even when considered banal ones, our communicative choices have a say in forging our expectations, construction of meanings, and identities.

Transcription Conventions

In this thesis, we will present many excerpts from our data interactions and will analyze excerpts from the team meetings. Reading such transcripts can be intuitive and does not require a high knowledge of specific conventions. It is not our aim to go deeper into the feature of verbal and non-verbal communication and will therefore be left out. In any case, some conventions will be used. This is because a simple and linear transcription cannot give an appropriate picture of what has happening during the analyzed interaction. To facilitate the analysis, each turn was progressively numbered: numeration starts at the beginning of each meeting's transcript, as an example, turn 1 would be the starting sentence of a meeting.
The knowledge of such conventions should facilitate the understanding of the presented data. The few conventions we will use are listed below.

(laughs)	non-verbal communication or relevant actions
(0.3)	silence, represented in seconds
(…)	missing words, inaudible
[…]	
[…]	overlapping speech
.	final intonation
,	continuing intonation
?	raising intonation
!	exclaiming intonation

2. Relevance and Position of the Topic within Communication Sciences

In this short chapter, we will try to trace the origins of the study of collaboration and communication practices within real teams. It will be used to better understand the relevance of the topic for communication sciences and its position within this discipline. Today, the study of collaboration and communication in teams is particularly relevant, given the importance and responsibilities that organisations tend to delegate to single units. Furthermore, the individual differences (of gender, age, culture, etc.) that are commonly found in present workplaces increases the topic's relevancy and need to be further understood. This project is focused specifically on mutual engagement because it helps define the concept of collaboration and it is also assumed that mutual engagement is a strategic characteristic in team survival. Mutual engagement is strictly linked to communication because it is assumed that it can be evoked especially during discursive interactions.

First, a clarification of the terms "collaboration" and "communication" needs to be made. Team collaboration and team communication are not synonyms, they are interconnected phenomena: communication does not necessarily imply collaboration, but it is a constitutive element of collaboration. In this study, we will use the term communication to always refer to communicative practices that can unfold in a collaborative environment. Defining these two concepts is outside the scope of this project and not possible without a long discussion that would compromise the presentation of the empirical research results. However, it is important to remember that the two terms do not have the same meaning, but that the use of "collaboration", in this project, always implies "communication".

The study of how communication unfolds in real teamwork can be linked to practice-based studies, as explained in the introduction, but practice-based studies (PBS) are a young tradition, not much older than communication sciences. Consequently, we can

state that from this point of view, communication sciences are in debt to social psychology and organization studies. Communication sciences are interdisciplinary in nature and studying communication within teams fully portrays this general feature. Social psychology provides very useful concepts for studying group dynamics. Actually, group dynamics constitute one of the main themes of traditional social psychology, which has roots dating back to the 1930's. It saw a growing interest around the end of the 1980's, when it developed a stronger focus on teamwork, communication, and socialization. This is because, while referring to social psychology, research on collaboration in small groups does not have a longstanding tradition and could then be further developed in many areas. Moreover, research on the social psychology of small groups has often been conducted through experiments on artificial groups. It is also important to mention that not all social psychologists' research of small groups is dedicated to team collaboration. Most of the studies interested in this topic are currently focused on group performance and productivity, as Wittenbaum and Moreland (2008) underline.

Organization studies cover a wide range of issues, encompassing different disciplines from knowledge management to the study of human resources or industrial relations. They can be considered the cradle of PBS since, as explained by Gherardi (2009c), the debates over the concepts of organizational learning and knowledge management created a strategic starting point for new research, which are now considered to be PBS. It is important to remember that organization studies provide a good springboard to reflect on groups and everyday work practices. They are actually also intertwined with social psychology. In the last two decades, the interest of organization studies towards communication augmented, and culminated in the recent approach of "communication as constitutive of organizations" (Cooren et al. 2011; Putnam and Nicotera 2009; Taylor 1999).

Collaboration and communication within teams are generally at the core of various PBS approaches. Workplace studies (Luff et al. 2000) represent a discipline that gave a very important contribution to PBS. Workplace studies were born as a subfield of human computer interaction, and they received strong input from the failures of some (and very

costly) informatics systems built to support work activities. Workplace studies focus on understanding collaboration and coordination in small teams and underline that this is only possible through field studies. Actually, they are strongly influenced by ethnomethodology. The development of workplace studies goes hand-in-hand with new theoretical perspectives on cognition, human action, and learning. These perspectives state the importance of moment-to-moment interactions with the environment and that unplanned responses to problematic situations can then allow for the development of professional competences and other general cognitive abilities. In a very famous article, Grudin (1988) depicted very well the situation that gave birth to this new perspective of studying human collaboration. He also noted for the need for a better understanding of how groups work, taking into account both how an organization functions and the individual differences. For sure, he described a very engaging research program, and the different theoretical approaches that now contribute to PBS try to accomplish these different objectives.

Science and technology studies also played a role in these developments, significantly so in the branch dealing with laboratory studies. Despite the fact they have been viewed for long time as a "niche" discipline, scholars studying teamwork should attentively consider them. Generally laboratory studies are not seen as central to PBS because of their strict anchorage in science and technology studies. More so because of their very specific and circumscribed aim that deeply focuses on the construction of scientific and epistemic knowledge. This tradition strongly influenced social sciences in general and contributed in making researchers more attentive to the meaning and the implications of the concept of practice. The wave of laboratory studies was opened by the famous ethnographic work of Latour and Woolgar (1979) on the everyday scientific practices of a microbiology lab. Laboratory studies gave a strategic contribution in understanding how scientific knowledge is produced in the everyday routine work of researchers and also in undermining the traditional vision of science. The interest in concrete practices and the use of ethnographic methods is shared with all PBS, and more recent developments also show an interest in communication practices.

As far as it concerns the interest in communication within groups, it is very old and it developed around the 1930's. A renewed conception of knowledge and human agency, strongly influenced by social constructionism, emerged in more disciplines during the 1980's; it was coupled with the interest in real, context-specific practices and saw the need to place more attention on team practices and also on communication. Actually, these developments can be seen as well as a result of the "discursive turn" in social sciences. At the end of the 1980's, the terrain was ready for the birth of new perspectives on studying teams in real settings, and in fact this is what happened in different disciplines. For this reason, the label "practice-based studies" was proposed by Gherardi (2009c) to indicate all the different researches that agree upon the concept of "practice" as the place where knowledge and meanings are built and negotiated. These researches share specific methodological approaches (qualitative field studies), and show similar theoretical assumptions: link to social constructionism, situated view of knowledge, importance of contextualized practices, and strategic role of communicative interaction. In the next chapter, we will explore deeper this approach and present its most relevant research trends.

PBS are very interesting and inspiring to communication sciences. On the other hand, communication sciences can enrich them with their focus on discursive interaction and interpersonal exchanges. This research project aims to build a new bridge between PBS and laboratory studies and to give an original contribution to communication sciences. More specifically, it wants to pave the way for reflecting on how to position the study of communication in the wide bandwagon of PBS. Furthermore, it aims to provide insights from the methodology point of view so they can be used in the situated study of team communication and team socialization.

3. Theoretical Background and Scope of the Research

This chapter is devoted to the presentation of the theory on which the project is built, i.e. situated learning theory. Actually, we explained previously that the theoretical background derives from practice-based studies (PBS), and, being this a very wide area, situated learning theory has been chosen for guiding the research design. Throughout the chapter, the relevance of PBS, its main perspectives, concepts and methods are explained. We will spend some time on it because this will permit to clarify the position of this project in an interdisciplinary field, and also to have at least a quick overview on the disciplines that are worth to be considered when studying team communication. Moreover, starting with a panoramic on PBS will give the opportunity to stress the adequacy of situated learning theory for our purposes, and to better understand the methodology of the project. Before focusing on situated learning theory, we will also remind the contribution of social psychology to the study of groups, focusing on the most useful concepts for the analysis of teamwork. Subsequently, social learning theory and its concepts of "legitimate peripheral participation" and of "community of practice" (CoP) are deepened: actually research questions, design and analysis are all inspired by the conceptualization of CoP following Wenger (1998, 2000). As mentioned beforehand, since the research field is a research team, a small digression into laboratory studies is important to clearly define the scope of the study and also to better now about the role and contribution of this discipline, even if it does not constitute the main source of inspiration of the project. Finally, we could not terminate this chapter without making explicit our vision of interpersonal communication.

3.1 Main Theoretical Perspectives and Concepts in Practice-Based Studies

Practice-based studies is a very useful label to indicate the young and different research traditions that are interested in studying everyday practices, in understanding how knowledge is created and recreated through ordinary tasks, and in analysing naturally occurring interactions in real settings of everyday working life. These are in fact their distinguishing traits, shown also in their preferential use of qualitative and field methods. Among the different disciplines and research areas that share this interest in precise settings of human action and in work practices, we can find not only organization studies, workplace studies, or laboratory studies, that we already mentioned, but also education, computer supported cooperative work, participatory and interaction design. Actually the label "practice-based studies" derives from organization studies and encompasses also disciplines that are born in different research areas, but that today well converge under this term. It is important to remind that this label has been created "ex-post", as a tentative to unify different disciplines that share a specific view of human action and knowledge, and a certain set of methods. For this reason it is challenging to trace back the birth of this tradition: PBS are more a point of convergence of various disciplines on a specific aspect of human action, i.e. practice; they are a "bandwagon", as Corradi et al. (2010) very effectively explain. In any case it is possible to say that the 1980s represent a key period, when the attention of more research communities became focused on the concept of practice.

If we go back to the first origins of PBS, we find different sources of influence. Some theories and concepts that today are recognized to have had an important role in the birth of PBS derive from disciplines belonging to psychology. The theory of situated action is an example: it states that actions do not originate from preconceived mental schemata, but are "an emergent property of moment-by-moment interactions between actors, and between actors and the environment of their action" (Suchman 1987: 179). This marked a turning point in psychology, and also in related disciplines like human-computer interaction. In fact, this theory developed in a moment of paradigm shift from the classical view of cognition (humans as information processors) to the situated one,

where cognition is seen as a property that is strongly connected to the human ability to interact with the world. This second view does not support the idea that there exists an objective world outside the mind that needs to be explored, but it stresses that humans can explore the world in diverse ways, depending on their actions (Johnson 1987): therefore, agents do not perceive the world in the same way even if they are in the same context, and the situation is always an open, subjective and changeable representation of the world. In this framework, the concepts of "affordances", i.e. the various opportunities for action that an object offers to a human (Gibson 1979) and "enaction", i.e. the knowledge built through concrete actions in the world (Bruner 1966; Varela et al. 1991), have a particularly significant role. PBS are anti-cognitivist and support these perspectives.

A special place in all PBS is occupied by ethnomethodology, that very often lays in the background of most of the researches focused on real contexts of everyday life. Ethnomethodology developed in the 1960s thanks to the contribution of the sociologist Harold Garfinkel (1967). It has exercised a strong influence in different disciplines, also to those belonging to PBS, and it is widely used in many field studies. It is an approach focused on understanding how people make sense of the world through accounting their daily activities. It influenced a lot especially workplace studies, both in terms of the general research approach and of the analysis of data, as explained by Warfield Rawls (2008). In the researches inspired by ethnomethodology there is a strong focus on the micro processes of verbal interaction that happen in a specific moment: naturally occurring data are collected with the help of audio or video recorders, and verbal exchanges are finely transcribed and analysed, following the conversation analysis paradigm initiated by sociologist and linguist Harvey Sacks. The study by Charles and Marjorie Goodwin on the work activities of different employees in an airport is a meaningful example (Goodwin and Goodwin 1996).

Historically, the necessity to better understand and support collaboration and teamwork, also by means of artefacts and new technologies, became very strong at the end of the 1980s, and also for this reason the 1990s can be considered the decade in which PBS spread and become well-know. We recalled in the previous chapter that in the 1980s the

development of more sophisticated information and communication technologies gave the input for the development of the first workplace studies, that generated a strand of researches in different fields, often in technology dense contexts, from healthcare to control rooms of undergrounds or airports (Luff et al. 2000; Engeström and Middleton 1996). Actually, from the perspective of the design of new technologies, more recently Carroll (2003) pointed out that a deeper knowledge of how groups function in real contexts is always needed to better support work, and that social psychology could help in this challenge; we will come back later on that point. It is worth noting that, even if workplace studies are focused on daily work practices, in fact in this discipline there is not a strong conceptualization around the term "practice"; this is more present in science and technology studies, for example, and in organization studies later. In fact, at the time of the wide development of PBS, in science and technology studies the attention towards the study of situated practices was already present, thanks to laboratory studies. This discipline has always been concerned with the dynamics that bring to the birth and the establishment of scientific facts, and the attention towards daily practices in research teams has been necessary for accomplishing this objective. Laboratory studies demonstrated that even the more complex scientific facts are created in an intertwine of different daily team practices. When we jointly consider the relationship between PBS and laboratory studies, it is important to notice that different objectives brought to the development of similar assumptions and to the development of common methodologies and analytical foci.

A deeper conceptualization of the concept of "practice" has to wait until the 1990s. Situated learning theory as elaborated by Lave and Wenger (1989) strongly contributed to make the concept more well-known across different areas of organization studies, management and education. Corradi et al. (2010) recently tried to analyse the history and development of PBS focusing exactly on the introduction and definition of the term "practice". The authors observe that it is possible to distinguish between two different lines: "practice as an empirical object" to be investigated, and "practice as a way of seeing" (Corradi et al. 2010: 268), a perspective that guides the understanding of knowledge and human action. In the first line, it is possible to ascribe the definition by

Brown and Duguid (1991: 41) of "practice based standpoint", and that by Cook and Brown (1991: 390) of "practice" as "action informed by meaning drawn from a particular group context"; also the definition of "work-based learning" by Raelin (1997) and that of "science-as-practice" by Pickering (1992) belong to this first line. In the second line, it is possible to list the concepts of "knowing in practice", by Gherardi (2009c) and Orlikowski (2000), that of "practice-based perspective", by Sole and Edmondson (2002), and that of "practice-based approaches" by Carlile (2002). A simple observation from a chronological point of view shows a movement from more empirical definitions to finer and more general conceptualizations that have a strong impact on theory and on the overall design of a research.

Gherardi (2009c) explains the relevance of PBS for organization studies, and underlines the importance of studying daily work practices to understand organisations and to analyse the various approaches to knowledge and to shared concepts and values. It is possible to say that in organization studies the stronger input for opening up a new research tradition focused on the study of practices derives from a new concept of knowledge, more linked to what happens concretely at work than to abstraction. As Gherardi (2006) states, daily work practices have a "textural quality", they are interwoven among them and they are fluid in space and time; nevertheless, they gather the core aspects of a profession and an organisation, and they are strategic in learning and teamwork. As we will see later in this chapter, this new way to conceive knowledge is common to all PBS and is strongly intertwined with the implications of situated learning theory. PBS aim to comprehend how collaboration develops in moment by moment interactions, how different tasks are organized, how knowledge is shared, how a work culture is created, how specific needs or unexpected events are managed, how artefacts in general support work and team work. They are highly relevant because they help to better understand the various facets of specific work activities in a chosen context, and in doing so they also offer a strategic help in the mission of supporting human actions while improving workplaces.

Among the theories and approaches that play a remarkable role in PBS, there is activity theory, a complex framework coming from the Russian tradition of cultural-historical

psychology and offering a wide and encompassing approach to investigate human activity and the development of consciousness. We will spend some words on it, since it is also very used for studying teamwork and learning. The key authors are Vygotsky, who worked in the 1920s at the Moscow Psychological Institute, and his collaborators Leont'ev and Lurjia. For many years it was quite unknown in Europe, then, it was rehabilitated around the 80s in the Northern European countries, thanks to the contribution of Engeström (1987, 2000, 2001, 2007). Today it is very well-known and applied in workplace studies, in human-computer interaction (Bertelsen and Bødker 2003; Nardi 1996), in learning and education (Sannino et al. 2009; Daniels et al. 2007; Engeström et al. 1999). Engeström (2008) well explains its relevance in trying to understand how teams work.

The core concept is that of activity, considered as a set of actions that can be divided into operations. Operations are very concrete and simple tasks that are conducted quite unconsciously (as typing on a keyboard); actions are conscious and are composed by a set of operations (as writing with an editing software); activities are a wider set of actions that correspond to general aims (as preparing a paper for a conference). Human activities are composed by these three steps, and there can be also an evolution from one step to another: for example, actions can transform into operations if they become routine tasks, or operations can transform into actions if something does not work and one is obliged to shift the attention from a more general aim to a more precise one.

Activity theory is appreciated and very used in PBS because it also focuses on "activity systems", the set of activities, aimed at a specific objective, that characterize a work environment, as a team, for example; this is exemplified in the well-known "activity triangle", by Engeström (1987). Activity theory also recognises the relevance of historicity and of development: a setting changes during time thanks to the actions of people and to the interactions among people and artefacts. Individuals also develop and change thanks to their actions, to their interactions, and to the use of artefacts. It is worth noting that artefacts and people are not considered equal, since artefacts have a mediating role: they incorporate human knowledge, they are used by humans to act and to improve their knowledge, they are strategic in the cognitive development of each

person, but they are not like humans, they are a product. Language also can be considered as an artefact. These observations facilitate the understanding of two important processes, those of internalization and externalization: they are central to human activity and they are the processes that permit human development and learning. As explained earlier, an action can transform into operation if it becomes a routine task: in fact, an action transforms into operation if it is internalized, if a person has acquired an advanced knowledge that permits her to conduct some tasks in an unconscious way. Externalisation is just the opposite movement, and it happens when, for example, one focuses on procedures trying to explain actions, or one translates some specific tasks into an artefact. Learning is a constant movement from internalization to externalization.

Situated learning theory (Lave and Wenger 1989), that guides this research project, also fully enters under the umbrella of PBS. It underlines the strategic relevance of participating to concrete work practices for learning and becoming an expert and since its formulation it gave inputs to various studies on work socialization, team collaboration, apprenticeship (Campbell et al. 2009; Fuller et al. 2005; Hodkinson and Hodkinson 2004). It is very diffused in organization studies and also in management studies: these lasts are interested especially in applying the well-known concept of "community of practice" (CoP) to groups and companies, and specifically in the ways to "cultivate" them (Wenger et al. 2002) for obtaining better achievements and competitive advantage. In this project the focus is on the original formulation of CoP as provided first by Lave and Wenger (1989) and subsequently by Wenger (1998; 2000). Since situated learning theory and CoP are the pillars of this project, their theoretical assumptions and implications are better explained afterwards.

Being the typical unit of analysis of most PBS a group of people, social psychology provides very useful insights: it has shown a long time ago that groups are not simply the sum of more individuals because they are proven to function very differently from a single person. Often their contribution is not explicitly mentioned, but for sure some concepts and models are well kept in mind by the researchers in PBS. We briefly remind here the most interesting findings, that should constitute a sort of background knowledge for everyone engaged to study teamwork. Steiner (1972) demonstrated that, when

considering work, groups can produce more or less depending on many variables, linked to the type of task to be solved and to the coordination processes in which the group engages for solving a task: coordination processes often are a major cause of loss of productivity. Issues like pressure for conformity, the so-called "groupthink" (Janis 1972), and social loafing are other examples that show the complexity of group functioning: the number of people composing the group is a strategic variable from this point of view, since it seems that in bigger groups productivity can diminish and social loafing augments (Latane et al. 1979). Actually in social psychology the downside of groups is often more investigated than the positive aspects (Forsyth 2009), while teamwork can have a positive impact on innovation, creativity (Agrell and Gustafson 1996), productivity (Sundstrom et al. 2000) and also individual well-being (Sonnentag 1996), even if sometimes results are mixed and show a strong dependence from the context and the specific conditions in which the team works. Speaking about teams, it is also important to remember that humans work in an environment formed not only by people, but also by many types of tools and artefacts, and by specific rules or procedures, all these working together for complex purposes. Work practices are usually conducted by groups of people, that can vary in composition and dimensions, and entering in such groups as a newcomer can be a challenging moment, depending on different variables (type of group, complexity of the tasks to be accomplished, type of institution where the group is situated, resources of the group, for example). Moreland and Levine in their well-known model of socialization (2001, 1982) well explain the dynamics underpinning the entrance of a newcomer in a team. They point out especially that the recruitment process and the structure of the group, so as the tactics used by the newcomer to be integrated and its status, play a strategic role in socialization; socialization to the group is here seen particularly as the acquisition of shared mental models, that encompass both cognitive and behavioural components (Levine and Moreland 1999).

Before concluding this section, it is worth to underline that, when designing a research in the area of PBS, it is possible to choose among different theoretical approaches. Beforehand only the most important are listed. They are not conflicting among them, but they represent different points of view to observe people and workplaces. For example,

ethnomethodology differentiates itself from activity theory for its stronger accent on daily routines and for its focus on naturally occurring conversations and scenes of action, that are finely analysed; on the other hand, activity theory encompasses a wider background of concepts and has a more holistic view on work routines, taking into account also the historical development of practices and the features of the institutions where such practices are enacted. Situated learning theory has a strong focus on learning, apprenticeship, participation, negotiation of meaning and team identity. We have mentioned ethnomethodology and activity theory since the play a particularly important role in PBS and are very near to the approach considered in this project, but this is not an exhaustive list. Svabo (2009) provides an insightful summary of the most important "intellectual traditions" that distinguish PBS; then, the work by Nicolini et al. (2003) effectively gathers some of the most meaningful researches that well represent different theoretical and methodological perspectives of PBS.

From a methodological point of view, all PBS privilege qualitative methodologies, and often also ethnographic methods, as it is the case in this project. Qualitative methodologies are the most adequate to gain an insight in specific settings, especially when a deep understanding of people, places, activities and processes is required. Traditionally ethnography comes from anthropology: the well-known anthropologist Malinowski is considered to be the pioneer of the methodology, that consists in a deep immersion in the field of study, so to be in direct and personal contact with people and places that are the protagonists of the research. Malinowski's research *Argonauts of the Western Pacific* (1922), where the life and tradition of the population of the Trobriand Islands, in South Eastern Asia, is accurately described, has been considered for a long time a masterpiece for anthropologists and ethnographers. Ethnography has been extensively used by sociologists throughout the 20th century to study specific groups of people and subcultures, like in the Chicago School: sociologists from this School could also spend long and intensive periods in their field of research. A very famous example is *Street Corner Society*, by William Foote Whyte (1943), who, to conduct his research, lived for more than three years in a slum of Italian immigrants in Boston.

Ethnography today is used in many disciplines and it always implicates a strong personal involvement of the researcher, a broad view of the studied context, an interest in the specificities and peculiarities of the chosen field, a focus on relationships, interactions, meanings, identities, roles, and obviously a special interest in everyday concrete life. Ethnography is characterized by a diachronic perspective, because the ethnographer is immersed in the field for quite a long period (months or even years), and by intensive data gathering, assisted by video and audio recorders and by the traditional field notes. It is considered a family of methods, among which there are participant observation, in-depth interviews and group discussions, only to name the most used. PBS have made of ethnography one of their favourite approaches, since it is especially apt to have a strong understanding of what is happening in a work setting.

Concluding this part, it is worth to come back to the attempt by Corradi et al (2010) to trace the history and the developments of PBS. The authors, who meaningfully use the term "bandwagon" to indicate PBS (actually, the term seems to be really appropriate to underline the hybrid origins of this young research tradition), state:

> The bandwagon of PBS has spread through a pluralism of conceptual labels. In fact, we may consider the label "practice-based studies" as an "umbrella concept" which covers a plurality of similarities and differences. The various articles and contributions that have been created within this debate, far from representing a single school of thoughts, resemble a "social world" composed of intertwined reflections and a broad set of interpretations of the notion of practice. Over the years, the various labels have highlighted the existence of a continuously evolving conversation. (Corradi et al. 2010: 278).

3.2 Situated Learning Theory and the Concept of Community of Practice

Situated learning theory, formulated by Lave and Wenger (1989), focuses on how newcomers are socialized to new professional environments through the participation in the everyday practices characterizing the environment itself. Lave and Wenger assert that concrete participation in a specific setting of activities is strategic for learning and for becoming socialized to a certain work practice. It is only through concrete practice that is possible to understand how to conduct an activity, and finally, to become an expert. The authors reaffirm consequently the role played by a specific context and by a

team, rather a “community of practice” (CoP), i.e. a group of people who work together trying to achieve certain aims (we will come back later on in this section on this concept). For better appreciating situated learning theory and its implications, it is worth first to deepen the concept of CoP. Its authors defined it as (Lave and Wenger 1989: 98):

> a system of relationships between people, activities, and the world; developing with time, and in relation to other tangential and overlapping communities of practice.

This concept today is widely used and widespread both in academic publications and magazine articles. Lave and Wenger strongly underline the link between learning and participating in a practice, and it is the participation in a common activity, or the consolidation of a group of people around an activity, that creates the CoP. Basically CoP are defined and characterized through three coexisting dimensions: joint enterprise, mutual engagement and shared repertoire. Joint enterprise means that the CoP has a certain mission and specific objectives, it exists for a reason that is known by all its members. Mutual engagement implies that all the members are committed to work together for their enterprise, they are willing to achieve shared aims and collaborate for these aims. It is considered the most vital dimension for a CoP, consequently we will deepen it in our study, and, for this reason, we will propose a more precise definition in the following chapters. Shared repertoire indicates that the CoP has developed its own resources that also facilitate the work or are necessary for it: they can be tools or artefacts, but also a specific language, or metaphors and stories. Wenger (1998: 73) underlines that:

> the first characteristic of practice as the source and coherence of a community is the mutual engagement of participants. Practice does not exist in the abstract. It exists because people are engaged in actions whose meanings they negotiate with one another. (…) Membership in a community of practice is therefore a matter of mutual engagement. This is what defines the community.

Wenger (1998) lists some specific characteristics that indicate the birth of a CoP, like mutual relationships, quick set up of problems to be discussed, knowing what the others know, use of specific tools, etc.; all the indicators can be found in table 3.1.

Table 3.1: key characteristics of a CoP

Sustained mutual relationships, harmonious or conflictual
Shared ways of engaging in doing things together
The rapid flow of information and propagation of innovation
Absence of introductory preambles, as if conversation and interactions were merely the continuation of an ongoing process
Very quick setup of a problem to be discussed
Substantial overlap in participants' descriptions of who belongs
Knowing what others know, what they can do, and how they can contribute to an enterprise
Mutually defining identities
The ability to assess the appropriateness of actions and products
Specific tools, representations, and other artefacts
Local lore, shared stories, inside jokes, knowing laughter
Jargon and shortcuts to communication as well as the ease of producing new ones
Certain styles recognized as displaying memberships
A shared discourse reflecting a certain perspective on the world

(Wenger 1998: 125-126)

Wenger (2000) defines CoP also as social learning systems, since they are the places where learning can occur, and, from this perspective, he defines the concept in the following way:

> Communities of practice are the basic building blocks of a social learning system because they are the social "containers" of the competences that make up such a system. By participating in these communities, we define with each other what constitutes competence in a given context: being a reliable doctor, a gifted photographer, a popular student, or an astute poker player. (…) Communities of practice grow out of a convergent interplay of competence and experience that involves mutual engagement. They offer an opportunity to negotiate competence through an experience of direct participation. As a consequence, they remain important social units of learning even in the context of much larger systems. (Wenger, 2000: 229)

This extract helps understand that participation in a community and learning are strongly interrelated, and introduces a concept that is worth to deepen because it plays an important role in the CoP theorization, that of negotiation. For Wenger, negotiation primarily refers to negotiation of meaning, that is widely defined as the process we use

to characterize as meaningful the world around us and the role we have in this environment. This can include everything, from one's work practices to social relations and it is a continuous process. Wenger sustains that negotiation of meaning occurs in the convergence among participation in certain practices and reification, this last being the process by which we give material form to our experience. The material form we decide is more apt for enclosing a certain experience influences the ways in which it is possible to negotiate the meaning. Workplaces abound of examples of reification: rules, guidelines, artefacts, tools, they all represent a crystallization of practices, reification of processes, and can shape, but also be shaped, by our participation in specific activities; actually, it is in this encounter between participation and reification that negotiation of meaning occurs. Participation and reification, Wenger states, are complementary processes that interact together and in this interaction they can transform their relationship. It is worth noting that the dynamics of participation and reification influence also the identity of the CoP and of its individual members: in a specific CoP, its participants have a peculiar way to participate in the community itself, and also the form given to that experience, the reification, will be peculiar of that community, and crystallized in different rules and material forms.

Wenger poses a strong focus not only on negotiation, but also on concepts such as identity, belonging, engagement, alignment; these concepts are extremely helpful to understand the factors according to which the members of a group collaborate (or not) in a particular way. As previously mentioned, identity is linked to negotiation of meaning: actually, identity can be considered as a negotiated experience of the self, in terms of participation and reification. Moreover, identity can be considered as a form of belonging to the community, or as a trajectory of apprenticeship to become a full member of the CoP. Wenger distinguishes three different "modes of belonging" (Wenger 1998: 174) to a CoP: engagement, imagination and alignment. Engagement is the active involvement in the processes of negotiation of the meaning of the overall CoP; imagination deals with the vision that a participant has of her own role within the CoP and of the overall environment in which the CoP is positioned; alignment deals with the effort that each member of the CoP takes to coordinate with the CoP itself but also with

broader structures. The three dimensions interact together as forms of belonging to a CoP and consequently they have a primordial role in constituting its identity and defining its borders. According to Wenger identity is a continuous negotiation, both at the individual and at the group level. A newcomer obviously cannot be engaged in all the activities of the CoP, has not yet a vision of it and of the broader structures in which it is positioned, and cannot be completely aligned to its activities: actually, the level of identification of a newcomer in a CoP is usually not very high. By contrast, an old-timer can potentially show a high identification with the CoP, being actively and strongly engaged in it, having a clear vision and being aligned; but this is only an idealization of the process of identification. The fact to be an old-timer in a CoP does not directly imply full membership and high identification. Table 3.2 summarizes how a CoP can be analysed, taking into account the three modes of belonging of its members, considered for each dimension of the CoP: community, boundary and identity.

It is essential to observe that Wenger, when speaking about identity, worries to clarify that he is against the common assumption that a conflict exists between the individual and the group dimension. Then, he also argues against the two opposite assumptions that the individual dimension is a source of creativity and freedom, while the group is a source of coercion, or that the group dimension is a source of harmony, while the individual one is a source of disorder. He states that, from this point of view, it is impossible to generally assume that there is a conflict between individuals and group: conflicts in a group can happen so as also harmonious relationships, and for this reason his approach to CoP is not apt to be read assuming such dynamics. This is important to keep in mind also in this study, when analysing the data and reflecting on the results.

Table 3.2: conceptualization of CoP as social learning systems

Dimensions to be explored		Modes of belonging		
		engagement	alignment	imagination
community	enterprise			
	mutual engagement			
	repertoire			
boundary	coordination			
	transparency			
	negotiability			
identity	connectedness			
	expansiveness			
	effectiveness			

Adapted from Wenger (2000)

The process by which a newcomer has the opportunity to become an expert and a full member in the community can be described like a trajectory from the periphery to the centre of the CoP, and it is called "legitimate peripheral participation". Actually, at the beginning of the period of apprenticeship, the newcomer is not a full member of the CoP, she is positioned at its periphery. On the other hand, her active participation in the community is legitimate, since the newcomer, as a member of the CoP, is expected to give a contribution, and to build a certain role within the CoP. Lave and Wenger explains legitimate peripheral participation in the following way:

> Legitimate peripheral participation provides a way to speak about the relations between newcomers and old-timers, and about activities, identities, artefacts, and communities of knowledge and practice. It concerns the process by which newcomers become part of a community of practice. (Lave and Wenger 1989: 29)

Through the daily participation in the community, through the correct (or even incorrect) accomplishment of simple tasks, through iterative moments of practicing and learning, the newcomer gradually moves from the periphery to the centre of the CoP, and can become a full member, i.e. an expert in that CoP. Generally the process of belonging to a CoP unfolds always following the "legitimate learning participation" trajectory. This explanation can appear simplistic, anyway it has strong implications, since it poses

situated learning theory against the classical conception of learning: learning is seen as a process of participation in specific practices, not as the possession of a certain amount of general knowledge. Essentially this theory questions the cognitive view that considers learning as a transfer of a bunch of abstract knowledge from a more expert person to a less expert one in an undefined and extemporal context: knowledge is not a matter of acquiring information outside of a context, work, or practice, but becomes an issue of directly participating in the activities of a group, a CoP, in a specific environment, and of sharing a common purpose with other members of the team (Lave 1996). This view, nowadays widely acknowledged, shares the same assumptions that are at the base of the concept of "knowing" as shown in Nicolini et al. (2003).

As said beforehand, today the concept of CoP is widely used in different disciplines, from education and learning to management, and sometimes it appears to be disconnected from the theory that originated it; it is like if it had acquired its own life. In fact, the current widespread use of the concept in management studies is influenced by a later work by Wenger, where CoP are depicted as larger aggregations that can be purposefully cultivated in companies to facilitate the diffusion of core competences (Wenger et al. 2002). According to this more recent formulation, also very big and dislocated groups, that are regularly in touch, often with the help of new technologies, and that are aggregated by common, or similar, working tasks, missions, or positions, can be considered CoP. As suggested before, in this project the definition is taken in its original formulation: it is applied to a group that is working in the same place and whose members are daily interacting and sharing the same space.

Following Amin and Roberts (2008), after the growth of the literature about CoP, the original meaning of the concept turned out to be imprecise and a bit far from the original theorizing, so they underline the more proper definition, that of:

> CoPs as relatively stable communities of face-to-face interaction between members working in close proximity to one another, in which identity formation through participation and the negotiation of meaning are central to learning and knowledge generation (Amin and Roberts 2008: 355).

Amin and Roberts draw on an extensive literature review with the aim to differentiate among the multiple uses of the concept of CoP and to distinguish among the various

modes of participating in a CoP. They propose four different typologies of CoP, called "knowing in action" to emphasize the focus on knowledge and innovation through practice. The four types are characterized by different main activities, organizational dynamics, social interaction processes, and they are: craft/task based; professional; epistemic/creative; and virtual. Actually their specific features are modelled in such a way that they can be easily linked to the seminal work by Wenger (1998) and to the original concepts of situated learning theory; at the same time, this conceptualization permits to refine the concept itself of CoP, and provides a good base for distinguishing the basic features that different CoP in the same context can have. As we already mentioned, the CoP concept became so well-known after its theorization, that often is it considered without taking into account its background theory and original features. As Amin and Roberts argue (2008: 353-354)

> As CoPs thinking proliferates, the original emphasis on context, process, social interaction, material practices, ambiguity, disagreement – in short the frequently idiosyncratic and always performative nature of learning – is being lost to formulaic distillations of the workings of CoPs and instrumentalist applications seeking to maximise learning and knowing through CoPs.

The typologies presented by Amin and Roberts help focus on the specific CoP that is the subject of this study: in fact, as it will be extensively shown later when presenting the field of study, the CoP investigated in this project can be considered an epistemic/creative one.

It is worth to go deeper into the main critiques posed to the concept of CoP and to situated learning theory. Cox (2005) argues that the concept of CoP is ambiguous in its formulation and in this feature lays the reason of its wide and very different use. It is important to underline that CoP, even if it looks like a concept, is more than this, because it is very articulated and it implies different other sub-concepts, or dimensions, to use the authors' vocabulary, such as those of community, identity, negotiation of the meaning, forms of belonging. Moreover, it also brings with itself a specific vision of practice and learning that goes beyond the narrower meaning of the concept itself. At the same time, it is not systematized, articulated and organized as a theory, neither it is an applied theory. We can say that it is more an approach, or a perspective, on human

practice, learning and knowing, that provides the researchers not only with specific insights for conducting a field study, but also with the possibility, and the opportunity, to further interpret and elaborate the approach itself depending on their objectives and on the field.

The concept of CoP is often put into question also from a human resource perspective and in applied studies, because it is difficult to test, apply and adapt in concrete settings, as underlined by Storberg-Walker (2008) who tried to address this challenge. For these reasons it is common to observe that the term CoP is applied to very different realities. Actually, the author himself states that, in treating this concept, he was "trying to serve multiple audiences" (Wenger 1998: 11). We can say that the approach of CoP presents, in its broadness and comprehensiveness, both its added value, as an enlightening perspective that offers a good lens to understand different phenomena, and its default.

Some scholars state that the most serious problem of the CoP concept lays in its use of the terms "community" and "practice". Brown and Duguid (2001) explain that the notion of "community" can be misleading: it is a polysemic concept, and in general it may suggest homogeneity, harmony, warmness, even if it is not the case. Then, they argue that "the appeal of community has tended to obscure the importance of practice" (Brown and Duguid 2001: 203). Following this line of thought, Gherardi (2009a, 2009b) moves a step ahead and underlines that the concept of CoP appears to be anchored to the perspective of the "container" of knowledge (the community), pre-existing the practices. For this reason, it is more appropriate to speak of "practices of a community", to highlight that the practices create the community and constitute the glue that keeps people and artefacts together. In this process, knowledge develops in the intertwining of the different practices, it is something people do while they interact, and it constitutes a practice.

Regarding the more general critics to situated learning theory, Roberts (2006) effectively explains the main arguments moved in the field of knowledge management studies: first of all, the issues of power, participation in a community, and trust, lay unresolved and would need further elaboration; then, it is not explained how changes can happen, how the individual predispositions can influence changes, or resistance to change; finally, size

and geographical reach of a CoP need to be further studied, so as the time for its creation and maintenance. On the other hand, the author recognizes that the approach can be further refined while applying it to different organizational contexts, and that it is a valid alternative to the traditional knowledge management approaches. For this project it is not relevant to go further in the specificities of knowledge management, since this would be beyond its main objectives, and then, the concept of knowledge management is very much linked to a traditional idea of knowledge as something that can be stored and transferred. It is useful to keep in mind Roberts' remarks since they represent the most common critics to situated learning theory. Moreover, they also help better understand the concept of CoP as it was originally developed and its subsequent trajectories in different research traditions.

Fuller et al. (2005) criticize situated learning theory from the perspective of education: they draw on it for two important research projects, one on three large steel industries, and another on secondary school teachers in four different departments (this second research is better treated by Hodkinson and Hodkinson 2004). If, on the one hand, the theorization by Lave and Wenger provides insightful bases for grounding these researches and also for conducting the analysis of the data, on the other hand the studies show also some intrinsic problems of situated learning theory. Fuller and colleagues note that legitimate peripheral participation cannot explain all forms of learning, since research shows that also full members continue to learn; moreover, Lave and Wenger do not analyse the forms of teaching in the workplace, and the complete dismissal of formal education can be problematic. Fuller and colleagues point out also that the role of a single member, her identity and past experience, have a strong influence in the trajectory within the CoP, and this issue is not deepened by Lave and Wenger, who also ignore those cases where the newcomer of a CoP is expected to be an expert because of previous experience. Handley et al. (2006) move a similar critique, and state that individuals can engage in different CoP during their lifespan, this being a potential for conflict between identity and practices. Finally, similarly to Roberts (2006), and also to Huzzard (2004), Fuller et al. (2005) agree that relations of power are not adequately treated by situated learning theory and CoP.

Among the critiques of Lave and Wenger's theory, also that by Bruni and Gherardi (2002), who question the absence of gender issues within all the different dimensions characterizing CoP; actually, as Salminen-Karlsson (2006) points out, the attention to gender is surprisingly low in researches inspired by situated learning theory.

Being aware of these critiques, we choose situated learning theory for several reasons. First, the focus on interaction, socialization and learning is extremely useful for fulfilling our aims. Secondly, the three CoP dimensions (joint enterprise, mutual engagement, and shared repertoire) represent a first step for comprehending a team, and I assume that all the three dimensions are highly present in the chosen group. The more precise explanation of these dimensions and of the modes of belonging given by Wenger (2000) is particularly apt for a first understanding of a CoP. Thirdly, the concept of legitimate peripheral participation is useful for understanding PhD students' socialization. Finally, the accent on the interplay among community, borders of the community, identity, is especially helpful for characterizing the environment in which the CoP is positioned.

We privilege to treat the concept of CoP as deepened by Wenger (1998), because, compared to the formulations in Wenger et al. (2002), it is nearer to the original definition of situated learning theory and more adequate for the study of the chosen team, that is composed by a small group of people working together in the same place, sharing the same spaces, and those main objectives are related to learning and to the acquisition of membership in the broader academic community. Then, when analysing the CoP we chose, we will trace back the history of the team and we will reflect on the dynamics related to leadership and power. This will be possible thanks to the methodological approach that we will use, that couples ethnographic observation with discourse analysis. Actually, the use of discourse analysis can be strategic for improving and refining situated learning theory and its concepts. This point represents one of the main contributions of this project: we will come back to it when presenting the research design (chapter 5), when analysing the data (chapter 7), and in the conclusions.

3.3 A Brief Excursus in Laboratory Studies

Laboratory studies has been mentioned above as a discipline of science and technology studies (STS) especially focused on the everyday, concrete and routine practices through which scientific knowledge is constructed: consequently, their focus is specifically on epistemic practices, more than on the social and interactive aspects. They saw a big development after the publication of the pioneer research on scientific practices in a microbiology lab by Latour and Woolgar (1979), which was followed by other important empirical researches; the most well-known are Lynch (1985) and Knorr-Cetina (1981). Theoretically, these studies are rooted in a social constructionism perspective. They distinguish themselves for applying ethnography, and this choice underlines their engagement to study the daily work of scientists without being guided by specific theories, so to be able to focus the attention on different aspects and to consider all the different insights that the life in the field can offer.

These researches opened up a new way to conceive science and knowledge: from a vision of a unique and pure science, aimed at pursuing the truth and at establishing general laws that are able to perfectly explain the real functioning of nature and society, to a more variegated vision of a science depending on local practices and producing explanations that can be challenged, since they are highly influenced by the places where they originated and by the people who worked on them. Sismondo (2009) well explains the contribution of laboratory studies in STS. As Knorr-Cetina (2006) reminds us, laboratories are the core places where epistemic cultures originate, i.e., the underlying practices that create and warrant knowledge and that constitute the more general knowledge culture that permeates the present life. From a theoretical point of view, laboratory studies are supported by the perspective of social constructionism, and from the point of view of the data gathering ethnography is the obliged methodology.

The first wave of laboratory studies was strongly epistemic, aimed at showing the ways scientists socially construct knowledge, but currently the topics at stake can be very different. Following Hess (2001), it is possible to distinguish a first and a second generation of ethnographic researches in STS: the first generation, in the 1980s, was

engaged to reveal how science is socially constructed, as opposed to the claimed values of absolute truth and pure rationality. In contrast, second generation ethnographies, that developed after the 1990s, became more aware of the relevance of social problems, like gender, class, race, only to name the most important. Consequently the tradition of philosophy of science in general is enriched by this new sensitivity. Hess (2001) states:

> The concepts of culture and power (and the related family of concepts that include gender, race, class, sexuality, and nationality) are generally more central to theoretical frameworks of the second generation than the concept of social construction of knowledge and technology. Although the claim that scientific knowledge is in some sense socially constructed is widely accepted, the claim no longer seems to require proof (Hess 2001: 236).

From their perspective of social psychologists and researchers of small group dynamics, Levine and Moreland (2004) underline the lack of focus on interpersonal collaboration in the study of scientific practice, even if, they argue, this represents a very relevant and determining aspect in science. PhD students' socialization also is not a typical topic in laboratory studies and it is quite a new topic in the studies of higher education. Actually, researches on PhD students' socialization have a different approach than laboratory studies, especially as far as it concerns methodology: the first prefer surveys and interviews, while the second are ethnographic in nature.

Laboratory studies as a discipline are often not considered at the core of PBS, probably because of their direct origin in STS and of their focus on epistemic practices in science, in contrast with the interest in social practices of PBS. Anyway, the focus on the concept of "practice" is strong, as shown also by Pickering (1992: 685), who, in fact, speaks of "science-as-practice". It is possible to affirm that laboratory studies share with PBS comparable objects of interest, units of analysis, methods, and the similar awareness referring to the role and characteristics of human activity. We previously saw that laboratory studies support the concept of knowledge as a process that is constructed and refined through daily interactions; the idea of knowledge as a process and as a practice (Knorr-Cetina 2006) is present in all PBS, and is particularly underlined especially in that branch coming from organization studies (Nicolini et al 2003). The choice not to directly refer to STS for the design of this project is driven directly by its aims, which

are not centred on epistemic issues, but on social practices, for those it is far better to rely on situated learning theory.

3.4 Communicating as Creating an Interpersonal Reality

After having drawn this extensive picture of PBS, having deepened situated learning theory, and explained the role of laboratory studies, some words are needed to understand how communication is conceived in this project. We first start with a reflection on how communication is approached in PBS, even if this is quite challenging, given the breadth of this research area. We mentioned in the previous chapter that today in organization studies the vision of communication as "constitutive of organization" (Putnam and Nicotera 2009; Taylor 1999), CCO for brief, is very diffused. Actually this is a broad perspective on the building role of communication in the development of organizations, and it gathers different approaches, whose main assumptions are well-summarized by Cooren et al. (2011). The main idea is that any communicative event within an organization can be meaningful at the light of the building and functioning of the organization itself, and that communication is always situated, co-constructed and co-oriented among members of an organization. PBS premises well fit into this vision, but, in fact, their conceptualization of communication is not always explicit, and sometimes it really represent a weak link. Also most authors who explicitly use the label of PBS, and conduct a reflection on concepts related to communication, such as co-construction, negotiation and sense making, do not really interrogate themselves on the critical role of communication. As far as it concerns situated learning theory, a conceptualization of the role of interpersonal communication is surprisingly not present. For these reasons, we look outside our theoretical background for better conceptualizing communication, but we first underline that this does not mean that our view of communication is not consistent with the notions previously treated in this chapter. As we will explain below, our approach to communication is consistent with the general assumptions of PBS, and with those of situated learning theory. Actually, in this project and we will choose a "dialogic approach" to communication, that is not far from

ethnomethodology and from the constructivist view of situated learning theory. As Krauss and Fussell (1996: 78-79) state when speaking about it:

> From this perspective, a communicative exchange is not the combined outputs of two autonomous information processors, but rather a joint accomplishment of the participants, who have collaborated to achieve some set of communicative goals. Individual contributions can't be defined apart from the interaction situation. From the dialogic perspective, meaning is "socially situated" - deriving from the particular circumstances of the interaction - and the meaning of an utterance can be understood only in the context of those circumstances.

This approach permits to see a communicative event as a situation that is collaboratively constructed among the participants in that event, and that also depends on the specific spatial, institutional, and historic context in which the event is developing. In this view, interpersonal conversation plays a key role, and, following Clark (1996), we could consider the sentences uttered by each participant in a conversation as small "joint projects" that can be taken up or not. Consequently a communicative event is always a very complex situation: it should be kept in mind that participants are co-oriented, and therefore an intersubjective reality is built. Actually, humans are characterized by their ability to share joint collaborative actions, and, as Tirassa and Bosco (2008: 81) effectively state, "communication consists, at least in part, in the creation and the maintenance of a particular type of intersubjectivity" that the authors then link to shared meanings. We also support the view, as explained by Carassa and Colombetti (2011) and Carassa et al. (2008), that the interpersonal reality created during a communicative event is the place where joint commitments among the participants in that event can be created. This means that, through conversation, people can engage to act together, or to do something for others, as if they were a common body: such commitments are jointly built and imply an interdependency of the participants who are engaged in them. Even if Lave and Wenger do not explicitly highlight it, interpersonal communication, as conceived by the different authors here mentioned, is vital for the creation of mutual engagement, and joint commitments can surely be considered a constitutive part of it.

3.5 Summary of the Chapter

In this chapter we presented the theoretical background of the project, that is inscribed in the young tradition of PBS, and more specifically, in situated learning theory. PBS distinguish themselves for their attention to daily work routines, and for the rehabilitation of the concept of practice in the process of knowing and learning. They comprise a variety of approaches and disciplines, but all of them are interested to study how groups of people work in real and specific contexts. We tried to trace back the birth of PBS: they originated in the 1990s mainly as a new approach in organization studies, but they share common interests with other, and also older, disciplines and approaches, that now are considered to be part of them. We saw that in the 1980s a strong interest in studying teamwork in real settings signed the birth of workplace studies; at the same time, in psychology, a new paradigm, that of the "situated action", argued against the cognitivist approach, and this presents a parallel with the critique of the traditional model of conceiving knowledge as a bunch of information to be transmitted from an individual to another one. Workplace studies are strongly influenced by ethnomethodology, that originated in the 1960s, and has an important role in all PBS. We also mentioned activity theory as a theoretical perspective that is particularly inspiring for PBS. All these approaches are today part of PBS, that are considered a bandwagon comprising different views of work activities and of human agency, but with a common interest in studying social practices in the field. We focused then our attention on situated learning theory, that plays a central role in PBS and that constitutes the theoretical background of this project. We saw that it is a theory of apprenticeship underlining the importance of participation in real settings of interaction. Its concepts of legitimate peripheral participation and of community of practice (CoP) are central, and the second of them is now so well-known that it is applied in different disciplines and it has acquired its own life. CoP is the place where learning can happen, since it is constituted by a group of people who are engaged to work together for a common purpose, and who share a specific repertoire. The trajectory of a newcomer to a community of practice is called legitimate peripheral participation, because it is a gradual path from the periphery to the

centre of the CoP, and it is legitimated by its members. We also saw the main critiques of the approach: the lack of reflection on the issues of power, gender, historicity and multiple trajectories of people in different CoP. Moreover, the concept is often considered to be ambiguous in its formulation. We then briefly turned our attention to laboratory studies: traditionally they have a strong focus on epistemic practices, but we observed that they share with all PBS the interest in teams, the methodology, and also the conceptualization of practice. We closed the chapter with a short clarification about our approach to communication as a complex event, where interpersonal reality and intersubjectivity are jointly created by its participants; this vision is not explicitly theorized in PBS, but it is consistent with them.

4. Relevant Current Research

In this chapter, we will present the most relevant and recent empirical research referring to our theoretical background, i.e. situated learning theory, to our research field, i.e. academic teams, and to our main aim, i.e. the study of group communication and PhD students' socialization. The interdisciplinary nature of the project makes particularly challenging to find recent researches that address all these three points at the same time; in fact, this also constitutes a reason for engaging in such a project. We will first review the recent studies that apply our theoretical framework, situated learning theory. Then, we will broaden our perspective, and we will give a look to PBS in general, to see if it is possible to find researches focused on academic teams and with similar objectives to ours. Then, we will concentrate on laboratory studies, to see if there are researches with the aim to uncover also communication and socialization issues. We will also review the studies focused on the socialization of PhD students. At that point, the panoramic will be exhaustive and it will be possible to adequately state and understand the relevance of the current project.

We already pointed out that there is a lack of research on communication and socialization issues in academic teams. Situated learning theory is often used for studying the entrance of a newcomer in a CoP, but this was never applied, according to our literature review, in an academic context. Campbell et al. (2009) for example, through a series of case studies, focus on the entrance of beginner police officers in new workplaces. Their aim is to show that newcomers are not a tabula rasa, as it is implied also by situated learning theory, but they bring with them experiences that influence the entrance within the CoP, their learning trajectory and their relationships with other members. The study is insightful because it makes clear that socialization is not a linear and predictable process, and it assumes different forms for different individuals. Fuller et al. (2005) conducted a similar study on apprentices in three different steel manufacturing industries: in this case, the accent is more on the institutional conditions of the

companies that welcome the newcomers, and on their organization and structures; the authors show that the different trajectories of the newcomers directly depend on the characteristics of the companies. Moreover, they use their findings to reflect on the adequacy of situated learning theory and of the concept of CoP for studying complex systems; as a consequence, they list some critical points of situated learning theory (we introduced them in the previous chapter), that need to be further elaborated. Hodkinson et Hodkinson (2004) conducted a parallel study on secondary school teachers in four different departments, pointing out how the different cultures of the departments influence socialization. Bruni and Gherardi (2002) also use situated learning theory for studying socialization in a new work environment, but in a different perspective: using the shadowing technique, they follow the entrance of a young woman in a company, and her socialization process in a CoP composed exclusively by men, in a traditionally male environment; this study shows how the newcomer negotiates her own identity in a way that facilitates her trajectory to the CoP. Boud and Middleton (2003) analyse more generally how learning occurs at work, in different workplaces in a large public organization, and also underline possible refinements of situated learning theory. Clarke (2009) moves on a different terrain since he studies the construction of interpersonal identity in an online community of practice. Actually, he uses a broader definition of the concept of CoP, since the participants in his study are not co-located, they are not sharing their daily activities and tasks, and they form quite a huge group; in fact, this definition of CoP is more in line with Wenger et al. (2002). The members of the CoP are all last-year students of a specific four-year bachelor education degree in teaching English, consequently they have, to a certain extent, a shared enterprise and a mutual engagement. The study is interesting because, among other findings, it points out how the construction of the identity of this CoP implies what the author calls “otherization” (Clarke 2009: 2343), since the community, as often happens also in the real world, has developed a strategy for defining itself against the outer entities.

The studies previously mentioned are the most meaningful examples of how situated learning theory and the concept of CoP are used when studying apprenticeship and the socialization processes of newcomers, a topic widely diffused in researches following

Lave and Wenger's approach. The specific ways in which the community dimensions, as mutual engagement, or the forms of belonging, develop, are less deeply analysed. We referred to studies focused on socialization and apprenticeship because they are more near to our research objectives, but there are many studies, especially in the area of management (as an example, Borzillo 2009; Coe and Bunnel 2003), that use the concept of CoP taking inspiration from the more recent work by Wenger et al. (2002), and that see CoP as a means of improving the competitive advantage of companies (Saint-Onge and Wallace 2003).

If we broaden our view and we consider the wider PBS approach, it is still challenging to find studies on academic research teams, with the aim to study group communication and PhD students' socialization. In workplace studies (see Luff et al. 2000 and Engeström and Middleton 1996 for a review of the most relevant researches) there is a growing interest in centres of coordination, where teams work in strong connection with often sophisticate machines, and find regularly themselves in unexpected situations that need to be quickly solved in the best possible ways (the study by Bjørn and Rødje 2008 on the coordination and collaboration in a paediatric emergency department represent a meaningful example). It can appear contradictory that a discipline dedicated to a deep understanding of teamwork has not strongly developed the sensitivity towards issues like that of the socialization of newcomers, but actually this is what emerges when reviewing the literature.

PBS using activity theory have today a specific interest in undertaking the step from the ethnography of the workplace to the design of solutions for supporting work; their main features are the exploitation of ethnographic methods, the application of participatory research and the focus on contradictions, group problems, rules and values (as an example of this type of researches, see Helle 2000 on the newsroom of a Finnish newspaper). Moreover, activity theory is currently very used for analysis and interventions in schools (Sannino et al. 2009). This could be a good background for a study in an academic institution, but normally this is not the case. An exception is represented by the study of Ludvigsen and Digernes (2009) on the establishment of joint objects in two research communities belonging to two different university departments,

communication and computer science. The study is really interesting for us because it also focuses on the implications of joint objects for PhD students' learning. Data are constituted by observations and video recordings, individual interviews and documents. In the theoretical background laboratory studies are also taken into account. The CoP analysed comprise academics at different levels of the hierarchy: professors, senior researchers, associate professors, postdoctoral researchers, PhD students. The authors analyse how the communities are organized, and they identify the type of leadership and the internal tensions. They underline the relevance of the leadership and of the negotiation of the objects, and find out that in one community the possibilities for negotiation are wider than in the second, where the asymmetry between professors and PhD students is stronger and the research agenda is less changeable. The authors then try also to link such findings with the traditions of the two different disciplines involved and with the implications for PhD students.

Regarding laboratory studies, as mentioned beforehand it is possible to observe many developments in this discipline that have broadened their focus (see Doing 2008 for a recent review), but still the analysis of internal communication and socialization practices is not so diffused and adequately treated. To give some examples of the different foci of the second, and most recent, generation of laboratory studies, it is worth to refer to the attention to visualisation and to the use of images in scientific activities (Burri and Dumit 2008 for a review; Ochs et al. 1996 on the synchronous use of images and hand-made drawings and specific grammatical expression). Then, there is a bigger sensitivity towards issues related to the exercise of power, identity, authority (Doing 2004); to the coordination and management of decisional processes (Fisher 2007); to the integration of entrepreneurial values and dynamics in academic research (Baumeler 2009). A study that, in a very original way, embraces the challenge of focusing both on epistemic and on social issues is that of Doing (2004) on a physic laboratory: it is a seven-years study interested to cast light on technical knowledge production with a specific attention to authority, control and formation of identity through the everyday work of the laboratory. The author argues that group and individual processes can be embraced while conducting ethnography in a laboratory, and that scientific achievements

are imbued by issues of power and personal, or group, identity. More specifically, Doing draws a meaningful parallelism between the way the scientists describe the technicians of the lab and the way generally people speak about women work and female abilities. It is worth noting that with this parallelism the author wants to show how the technicians' abilities and knowledge are undervalued. Doing's approach to this study demonstrates that ethnography can provide very meaningful insights when trying to give an account of the overall symbolic activities embedded in scientific practices, and it permits to shift the focus from the epistemic to the social practices quite easily. In fact, Doing's research is more than a traditional laboratory study and demonstrates that the attention on social issues, which apparently goes beyond scientific and professional practices, can provide innovative, precious and unexpected results.

It is also worth noting that in the last decade the traditional methodologies, theoretical background and concepts of laboratory studies have been a source of inspiration for studying fields external to universities: for example, the sites where empirical researches are conducted, but also other settings; recently, ethnographies have been conducted in the field of finance with the same spirit, methodologies and theoretical assumptions of lab studies (Preda 2008). Karin Knorr-Cetina, well-known for her ethnography on a laboratory (Knorr-Cetina 1981), in the last years did important work in the domain of finance (Knorr-Cetina and Preda 2004), with an approach that is also very near to workplace studies. This shows that laboratory studies are opening up to new fields and approaches, and exchanges among the different traditions belonging to PBS can bring to highly valuable results.

A relevant example for this project is constituted by the study of Jacoby and Gonzales (1991): it is an ethnographic research on an academic team, with the aim to understand how novices are socialized to the discipline during meetings in which scientific issues are debated, and how expert and novice interactions are built in the course of unfolding talk. The authors assume that knowledge and status are not predetermined, but are interactively built in discourse. The methodological approach is influenced by ethnomethodology and especially by conversation analysis: pieces of verbal interaction are finely transcribed and studied, turn-by-turn. Anyway, it is interesting that the authors

mention also activity theory and situated learning theory in the theoretical background, recognising in this way the opportunity of jointly considering these approaches for building effective synergies among them. This study shows that, although in some parts of the data professional status and expertise are undoubtedly linked, the constitution of the expert-novice relationship in the interaction is a complex, "moment-by-moment reconstruction of Self and Other" (Jacoby and Gonzales 1991: 174), and that, in this process, three interacting dimensions play a strategic role: the individual, the recipient, and the domain (or domains) of knowledge. Actually, also novices can, during an interaction, assume the role of experts when treating a domain in which they have more knowledge than the members of the team with higher professional status.

Another research that is influenced by ethnomethodology, and that is strongly based on conversation analysis, is the study of Mondada (2005) on the dynamics of interaction among scientists in different research centres and teams in Switzerland, France and Germany. It aims to show how the construction of knowledge unfolds through daily interactions, where different artefacts are used, and often also more languages are spoken. This research is for sure inspired by laboratory studies, and this is shown also by the authors to which Mondada refers to, but, compared to them, it has a very strong focus on a fine analysis of verbal and non-verbal communication, and provides a full and detailed picture of how real interactions among scientists work.

An interesting approach to the study of academic work is provided by a research by Heintz et al (2004) focusing on gender issues. Two problems especially give an input to this topic: the persistent horizontal and vertical segregation of women in academia, as shown by quantitative indicators (European Commission 2009, 2008; Sagaria 2007), and the apparent incompatibility of academic career with family life (Fox et al. 2011; Blackwell and Glover 2008; Leahey 2006; Ramsey and Letherby 2006, O'Laughlin and Bischoff 2005; Rosser 2004; Ackers 2003). Heintz et al. (2004) conduct an ethnographic study in four different institutes in a Swiss university, with the explicit aim to uncover the role of gender in scientific activities. Very similarly to Jacoby and Gonzales (1991), this research is not a traditional laboratory study because it does not focus solely on epistemic practices, and it is nearer to workplace studies for its focus on interactive

practices and on the broader activities around research work. In fact, it can be considered a meaningful example of a study that takes the most valuable features of different disciplines to deeply analyse gender practices in academia.

As far as it concerns more strictly PhD students' socialization, these researches cannot be considered neither PBS nor laboratory studies since they do not study phenomena as they unfold in real context, with a focus on practice. Actually, they are often constituted by surveys, quantitative or qualitative, on individuals in different universities, and, in most of the cases, in the US. Gardner (2010) compares the experiences of 60 PhD students in high and low completing departments in the same university; Austin (2002) conducted a huge longitudinal project on more than 60 doctoral students in two different universities in the US, to better understand how it could be possible to design a successful socialization process; Golde and Dore (2001) conducted a large-scale study on the experience of US doctoral students; Boyle and Boice (1998) focus on the detection of the best practices for enculturating graduate students; Golde (1998) focuses on first year doctoral attrition and studies the experiences of more than 60 students in four different departments. In this last research, Golde presents a model for explaining PhD students' socialization, based on four tasks: "can I do this?", "do I want to be a graduate student?"; "do I want this work?"; "do I belong here?". Each of these four questions corresponds to four different types of socialization, each one of them highly vital: socialization to the discipline, socialization to the role, socialization to the profession, and socialization to the department. This model is often cited and used by scholars of the field (see Austin 2002). Very used in this field also Boyer's (1990) four domains of scholarship: discovery, teaching, integration, application. Both Golde's model and Boyer's concepts are often used to formulate research assumptions, even if they cannot be considered as proper theoretical frameworks, since they do not explain relationships between concepts. In this work we will refer especially to Golde's model, because it provides an all-encompassing view of socialization.

We argue that laboratory studies should integrate a stronger awareness of the importance of communication and socialization processes within teams, taking inspiration from the sensitivity that other traditions belonging to PBS have as far as it concerns social issues;

it is also true that practice-based approaches, other than laboratory studies, should take the challenge to further investigate academic environments. The ethnographic method is particularly suitable for studying real, daily professional practices, as they are conceived in PBS, and also in laboratory studies. Probably the scarcity of ethnographic studies that focus on social issues and science can be explained by the fact that academic teams have been long considered the unique territory of laboratory studies. On the other hand, also the methodology itself could have an impact in such a lack: the strong engagement that ethnography requires can constitute an obstacle to its diffusion. In fact, ethnography asks for a huge amount of both professional and personal commitment. The most well-known, unique, and relevant feature of ethnography is its capacity to give a full and profound understanding of what is happening in a specific place: this is a great advantage, but, at the same time, this gain presents a facet that can be problematic. Ethnography not only requires time (months or even years), but, yet at the beginning of the process, it requires the possibility to have complete access to a field that is not the ethnographer's own field. Smith (2001) reminds that time and access constitute also a constraint: access can be totally or partially denied, unexpected occurrences can strongly disturb the research plan, that always needs to be very flexible. Moreover, the immersion in the field is problematic per se, because it could mean to leave important activities for a period that is difficult to plan. Finally, this means also a huge length of time between the beginning of the research and the publication of the results. Smith (2001: 228) notes that "too often researchers only hint at these difficulties rather than acknowledge them explicitly." A recognition of the above mentioned issues can help think about the researcher's role and does not question the quality of the study, rather it underlines those characteristics that make the research unique and valuable.

4.1 Summary of the Chapter

We presented in this chapter the most relevant current research in situated learning theory and in PBS, with a peculiar attention on those researches focused on academics, or educational, settings; we then turned our attention to the most recent developments in

laboratory studies and in researches focused on PhD students' socialization. We noticed that many studies using situated learning theory are focused on apprenticeship and newcomers' socialization, but, according to our review, situated learning theory has not been applied to academic research teams, this being a surprising finding. As far as it concerns PBS in general, we could find two researches that focus on academic work, with a high interest in social and communication practices, and in the socialization of PhD students especially: the study of Ludvigsen and Digernes (2009) on two different research communities, and inspired by activity theory; and that of Jacoby and Gonzales (1991), inspired by ethnomethodology, focused on the construction of expert and novice roles in discourse, and taking into account also activity theory and situated learning theory. We subsequently pointed out that the new generation of laboratory studies, more careful to social issues, has not a privileged focus on PhD students' socialization, while the researches focused on this last topic are very young, they mainly consists of surveys, and are not supported by a strong theoretical approach. From this perspective, we briefly mentioned Golde's (1990) model of PhD students' socialization, that will also inspire our analysis. We can conclude that this project can strategically contribute to build an interdisciplinary dialogue within PBS, and more specifically between situated learning theory and laboratory studies; it will provide insightful reflections to situated learning theory and it can help construct a stronger theoretical approach for studying PhD students' socialization; moreover, it could provide also insightful observations for practitioners, and especially for academics who are leading teams and doctoral programs.

5. Research Design

In this chapter, we will explain the research design of this project. First, we will present the research questions, then we will give a brief overview on the field. Afterwards, we will go through the methodology used and how the methods align with the research questions presented in the first section of the chapter. How the access into the field was organized and how the empirical phase of the research was developed will be explained. Subsequently, we will present the analytical framework of the project. We will describe the type of data we gathered during the empirical phase, which was our primary data, then we will illustrate the analytical process in detail to be able to answer the research questions. We will conclude the chapter by commenting on some important points related to the themes of validity and ethics in this study.

5.1 Research Questions

Drawing from the theoretical and conceptual framework offered by social learning theory (Lave and Wenger 1989) and communities of practice (Wenger 2000; 1998), the project aims to better understand collaboration in a research team. It focuses on the dimensions and practices that favour the development of mutual engagement among members of the CoP and tries to understand how this impacts the PhD students' socialization. More specifically, we will answer the following questions:

RQ 1. How does a heterogeneous research team work as a community of practice? Are there specific practices that promote mutual engagement?

RQ 2. How is mutual engagement shown and reproduced in team meetings?

RQ 3. How is PhD students' socialization supported in meetings?

In investigating these research questions, we will assume that mutual engagement is constitutive of teams, that it can be evoked by various activities (meetings, for example), and that PhD students' socialization is generated by specific practices.

Following Marshall and Rossman's (2011: 69) classification, the project has both descriptive and explanatory purposes. The aim is to understand the dynamics related to mutual engagement in a CoP, while understanding the links among specific team practices, mutual engagement, and socialization

5.2 The Research Field

The field of the study is a research team from the Faculty of Informatics from the University of Lugano. This team was chosen for having some basic characteristics that were particularly adequate for this research. More specifically, the research team has a certain and regular amount of team activities, jointly conducted by all its members, and they belong to a scientific domain (informatics) where collaboration between researchers are particularly strategic. Additionally, they have a general distribution of tasks (research, education of students and PhD students) that is balanced and resemble many academic groups at our latitude.

The team was founded in 2007 and at the beginning of the empirical research (February 2010) it composed of ten members: a full professor, a senior researcher, two post-doc researchers, and six PhD students at different phases. Among them, three women (the senior researcher and two PhD students) and seven men. During the academic year 2010-2011, three visiting PhD students (two women from a Russian university and one man from a Spanish university) came to work in the group for two-three months (one from mid-April to the end June, another from May to the end of July, and the third from the end May to the end August). Moreover, during autumn of 2010, two post-docs left the group, one because the contract had ended, and the second because a more stable position in another university came available.

The group is highly intercultural: the members work using English as a lingua franca, but only one person has English as a mother tongue. The countries represented in the group at the beginning of the study were: Iran (three PhD students), Italy (the chief and the senior researcher), Australia (one post-doc), Poland (one post-doc), Russia (one PhD student), Malaysia (one PhD student), and Switzerland (one PhD student).

Interculturality is a relevant variable as shown in the famous cultural dimensions by Hofstede (2001). People from different countries are likely to have different visions of the world, authority, interpersonal relations, gender roles, work in general, and the management of time and space. These only name some of the most relevant variables that can influence teamwork. Anyway these are complex issues, that cannot be treated at this time without losing focus or oversimplifying questions related to cultural differences. The project was not designed with the aim to investigate interculturality, but this topic could certainly be an issue to take into account in future research.

5.3 Methodology

Qualitative methodologies, specifically the ethnographic approach, permit a deeper understanding of the field. In section 3.1, an overview on the features of ethnography was given. Here we underline that ethnography is iterative-inductive research. It is particularly adequate for exploring new or uncovered themes, doing research on specific groups or about sensitive problems, or studying how complex social issues and events are interrelated and unfold in time. Due to qualitative methods, particularly ethnography, it is possible to investigate a topic from anew, minimizing the influence of preconceived frames of gathering and interpreting data and trying to understand how phenomena develop, are intertwined, and shaped into everyday life (O'Reilly 2005; Silverman 2006, 2005).

Ethnography encompasses different phases. The first and most delicate is choosing the field and the negotiation of the access, two steps that go hand-in-hand. In this phase, it is important to have a privileged contact in the chosen field, i.e. an insider who can help the researcher to broadly understand if the field is interesting for the project. The insider could also help entering the field and would play a strategic role during the field research. Following literature, this person is generally called the "key informant" (O'Reilly 2009: 134) and cannot only give precious information and insights about the group, but can also advise on how to approach various people or events. The entrance in the field, especially when the field is an organizational context, has to be approved by

people occupying the highest hierarchy levels. They work as a "gatekeeper" because they can enable or disable access to the field (O'Reilly 2009: 132).

Once access to the field is granted, the researcher can more accurately calibrate the specific methods to use, her position in the group, and decide when and how to gather the data. This is the background ethnography phase where the researcher collects general information about the field to refine the research questions and review them. The researcher's choice on what role to take is important and implies ethical issues. It is also possible to conduct research without explicitly telling the participants the aim of the study (or in some cases, it is also possible to assume another identity). Depending on the characteristics of the field and on the research questions, the identity of the researcher can be more or less overt and her role more or less participative.

The field research can be drawn as a spiral because data gathering, data analysis, and refinement of the research questions can be intertwined and do not follow a linear perspective. The richness of the ethnography originates from this feature. It also comes from the ability of the researcher to gather the most insightful opportunities from the field and to design the most adequate methods to fulfill the objectives of the study. Ending the ethnographic phase is not easy because exiting the field implicates another moment of negotiation and, especially in organisational contexts; the group expects feedback or results. Since an ethnography is at least a few months long, the relationships built during the research need to be cultivated further after the end of the strict field research phase.

Fig. 5.1: the general ethnographic process

The methods highly used in an ethnographic approach are: observation, interviews, group discussions, and documentary analysis. In this research, unobtrusive observation

of weekly meetings and some lectures, individual semi-structured interviews, and group discussion were principally used. A careful review of the chosen team's web site and of their mailing list further supported the analysis. We will quickly go through the main features of each of these methods.

Observation is the most basic method; it is constitutive of all ethnographies and can be more or less participative depending on the researcher's role and the research's objective. Full participant observation implies a direct involvement in the community being studied, including its life and activities. Less intrusive forms of observation can include different levels of participation to some activities or simple attendance to some events.

In-depth ethnographic interviews are also a key instrument. They are vital not only for gathering data, but also for building a relationship with the participants of the research, in understanding people better, and for reflecting on the interpretation of the processes observed during the research. Kvale's (1996) metaphor of the interviewer as a traveller depicts this perspective well: the researcher embarks on a journey where she meets people and listens to stories, but then adjusts her path according to these experiences. The metaphor of the traveller, also inspiring this study, opposes the interviewer as a miner who works to find out truth. This is an image that represents a more traditional vision of research, still diffused in many disciplines. Referring to Denzin (2001), interviews can also be instruments of empowerment and, more particularly, they make it possible to share data and interpretations with the research participants. Heyl (2001: 375) describes three different levels of empowerment in interviewing: the first and most basilar is when the interviewee is an informant and the interviewer plays the role of the reporter by listening carefully and telling the story with the informant's own words and perspective. The second level is when interviewer and interviewee are research collaborators: they both engage in interpretation and the researcher explicitly asks the participants of the study to validate their own interpretation. The third and strongest level of empowerment is when the interviewer is the advocate and the interviewee is the learner and actor. This form is common in participatory action research whose explicit aim is to design a project to change a situation and make participants act in ways that

prepare their emancipation from complex or problematic situations. In this study, the second model, which considers interviewer and interviewee as research collaborators, inspires data gathering and the relationship with the participants of the research.

Other methods such as group discussions or analysis of documents are not widely applied in ethnographies and do not have the longstanding tradition of observation or interviews. However, they are very important in order to have a broader and deeper picture into the field. Group discussions or focus groups can be highly valuable in understanding how group interactions develop or how specific themes are treated. They produce very interesting data to be triangulated with interviews and observation. Analyzing documents is often a necessary step, especially during the background ethnography since it assists in gathering relevant information from the field. The type of documents that is worth analyzing depends on the research design. The depth of the analysis depends on the research questions. Sometimes a careful reading, preliminary to the ethnographic research, can be sufficient, while in other cases more systematic analysis is needed.

Finally, what is particularly relevant when doing ethnographies in organizational contexts is the conclusive discussion and feedback with the participants. Presenting and discussing the findings with the participants is not only a matter of internal validity, but it is also an ethic issue. It is important that the researcher gives the opportunity to the people of the study so they can know the results and if possible, use the results to reflect on their own practice and improve. This choice is very near to the methods of action research (Whyte 1991).

5.4 Access to the Field and Development of the Empirical Phase

In this project, access was gained thanks to an informal contact who turned out to be a key informant. After this, formal permission was asked for by the Dean of the group's Faculty, and then to the chief of the group. The chief had a strategic role in introducing the researcher to all the members of the group and in providing basic information. The researcher also had the opportunity to obtain full access to the spaces where the group

works working and to be invited to join the team's mailing list. The role of the researcher has been completely overt. In a similar setting, being overt is an advantage, and also being part of an academic community helps. After negotiating access with the chief of the team, the researcher was introduced to a group meeting where she briefly spoke about her project and needs. She also got to know the members of the team.

In studying mutual engagement within a team, it is important to have a diachronic view (one year, for example) and to have variety in the phenomena observed and in the type of data gathered. In this project, the empirical phase was one year long from February 2010 to February 2011. It permitted for the collection of lots of data and it could be developed without any obstacles. The members of the team showed interest in the research and were always very available. A good working relationship could be established with each of them. The attendance of weekly meetings and a first round of one-to-one semi-structured interviews were highly important in creating a solid contact with all the people of the group. Moreover, at the beginning of the empirical phase, one session was organized to present the general aims of the project and relevant current researches in the field of practice-based studies. This strategy was extremely helpful in creating good relations and a mutual understanding with the team.

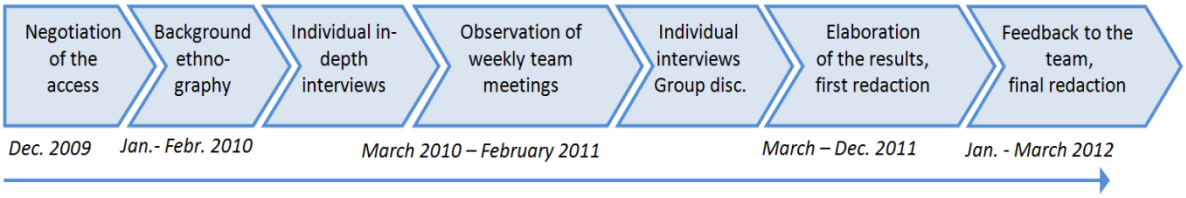
A first round of individual in-depth interviews was conducted just after starting the ethnographic phase in March 2010. Its aim was to better understand the role, history, and typical everyday tasks of each member of the group. The interview with the chief of the group also aimed to gain information about the founding and development of the team, its research topics, and plans for the near future. A second cycle of individual interviews took place with the PhD students in December 2010. The goal was to reflect about the events that had happened in the past months and how (if) their work practices had changed during that period. Additionally, a group discussion was organized in January 2011 to elicit experiences and accounts about the life domain, to see how the topic is discussed and how it can be interpreted in the light of what is observed.

Weekly team meetings were observed and video recorded. They constituted a privileged moment of observation given that all the members of the team met together and spoke about relevant issues and activities, which could be very different among them.

Discussions were related to papers from members of the group and current scientific work, relevant papers within the field, and exchanges about organizational and coordination tasks. Actually these meetings constitute the biggest opportunity for the group to share practices and relevant information; consequently they were followed during all the ethnographic phase. Team meetings revealed to be the best moment to study interaction among all members, especially team building and sharing of information. After the end of the empirical phase and the analysis of the data, a session to present the main results and to give feedback to the team was organized.

Thanks to the observation of the team meetings, individual semi-structured interviews, careful reading of the web site and the team's mailing list, it was possible to identify how activities are situated in a specific context and interconnected among them. We could also understand the role of the different members, their specific tasks, and how team-mates relate to each other. Summarizing, the different phases of the ethnographic process in this project followed each other as is shown in the figure below:

Fig. 5.2: The ethnographic process of the project and its main steps



5.5 Analytical Framework

Ethnography is known for its characteristic in producing rich and detailed accounts. Consequently, the strategies of analyzing the data and structuring the presentation of the findings not only follow criteria that are influenced by the research questions and research field, but also by the specific approach and methods used by the researcher. In this project, the analysis is divided into two different parts. The first part is represented by a detailed description of the team, its context and activities, and it takes inspiration

from the concept of CoP (Lave and Wenger 1989; Wenger 1998). The second part is constituted by an in-depth analysis on the team meetings following a discourse analysis approach. The first part will answer the first research question, while the second part will answer the second and third research questions. The focus of the project is on mutual engagement given that this concept, as explained in the theoretical framework, is more suitable in studying how collaboration develops. To understand mutual engagement in more depth is it useful not only to have a general vision of how the team works and how activities are organized, but also to observe what happens in daily interactions, such as in team meetings. For this reason, ethnography is coupled with discourse analysis.

Background ethnography has been strategic in directing the subsequent phase of the empirical research and analysis. It also defined the primary data. In fact, it has shown that: team meetings are the main team activity and consequently the main place where mutual engagement unfolds and develops, and team activities are generally connected to information and practices needed to advance in research. Records and transcripts of team meetings constitute the primary data of the project and discourse analysis was conducted on them.

Discourse analysis is a very broad approach based on the study of how activities unfold in talk and texts. As far as this project is concerned, discourse analysis is generally guided by a dialogic approach to communication (Krauss and Fussell 1996), and, in particular, by a conception of discourse as a joint activity situated in a specific context (Carassa and Colombetti 2009; Clark 1996). This approach can be seen in section 3.4. Discourse analysis has not to be confounded by conversation analysis from ethnomethodology. Ethnomethodology is a very relevant approach to the study of interpersonal communication in specific contexts of everyday life; it has an influence on the approach chosen for this project, but we will not apply conversation analysis as it is not the most appropriate method in answering our research questions. As Silverman (2006: 223) explained well, discourse analysis "is concerned with a far broader range of activities, often related to more conventional social science concerns (e.g. gender relations, social control, etc.)", while conversation analysis is focused on the

organization of talk. This is the reason why discourse analysis was chosen for this project.

To understand the analytical framework of this project, we will focus on the type of data gathered through the empirical research, then on the way these data will be treated during the analysis.

Type of Data Gathered During the Empirical Phase

The empirical phase started at the beginning of February 2010 and finished exactly one year later. During this period:

- Weekly group meetings were observed, video recorded, and documented with field-notes (during this year, 27 meetings were organized and 23 of them were observed and recorded), they constitute the primary data for this study.
- A presentation was given to all the team members just after beginning the empirical phase. The presentation focused on the main steps of the project, the general methodological approach, and the relevance of the discipline (communication sciences and practice-based studies). The presentation was planned to be no longer than 20 minutes but a very good discussion emerged so the session took about 50 minutes.
- Two rounds of individual in-depth interviews were conducted. The first in March 2010, focusing on the personal background of each team member, their role in the team, and their present activities conducted both at a team and at an individual level. A second round took place in December 2010 addressing the events occurred in the previous months within the team, their personal development during those months, and their plans for the following period. Interviews are not primary data, but help understanding the context of the research.
- A group discussion was organized to further understand life domain issues within the team. The aim was to have a full picture of the work context of the participants in the research. It was video recorded and entirely transcribed.

- Finally, the researcher was invited to join the group mailing list that, throughout the year, produced approximately 280 messages ranging from very different topics.

It is worth noting that the empirical session was not entirely closed after one year of observation. The researcher continued to receive messages from the group's mailing list and was in regular contact with the chief and some of its members. Once the analysis of the data was finished and the results were finalized, a feedback session was organized to discuss the findings with the team.

Weekly team meetings constituted the primary data for this project. After the background ethnography, it was clear that weekly meetings was their favourite place for discussion, confrontation, launching new ideas, building new knowledge in a collaborative way, and for reflecting on team activities. The meetings symbolized the centre stage for mutual engagement.

The presentation, given during a team meeting, about the project's steps and the main characteristics of the discipline was important in building a relationship with the team. It also set out clear expectations and roles and discussed different research domains and approaches. In fact, being that the team members are also researchers, they showed a high interest in understanding the discipline of this project and its methodological approach. In that moment, we became aware that it was relevant to be very transparent. This presentation was really enriching since researcher and team members belong to two very different domains, social sciences and informatics, more specifically, communication and information retrieval, and it was important to find a common ground in understanding each other.

The interviews were really important. They established a personal and informal relationship with each member of the team and sought to understand the role of the individual within the team, their history and background, their experience in the team, their motivation for the current work, and their expectations and future plans. A direct link was observed between the role of each member in the team and their roles during the meetings.

The group discussion was particularly useful in understanding the issue of life domain in a real context, as with the academic one, this can be difficult to attain. This issue, often considered a personal one, is also important from a team perspective because it can have an influence on the organization of the team activities. Actually, work-life balance is directly connected to the level of a person's well-being in the workplace and, more simply, to the level of presence and availability of a member in the team.

As far as the mailing list is concerned, it is used for different activities that mark and organize the team's life. Consequently, it is a strategic tool in understanding the group and being up-to-date with what is going on. For these reasons, at the end of the empirical phase, the chief and the team jointly proposed that the researcher would continue to be part of the mailing list to be informed about their initiatives and to stay in touch with.

It is possible to say that the fieldwork conducted in this project is a type of "encyclopaedic ethnography", as defined in Wodak and Krzyżanowski (2008: 191). The fieldwork is contextual to the study and conducted with the purpose of gaining the necessary background knowledge about the field. The background knowledge then allows for the understanding of the object of research and the unit of analysis (in this case the team). When studying work in complex organizations and institutions, solid background knowledge of the field is necessary to fully understand discursive practices.

Analysis of the Data

Taking inspiration from Yin's (1994) case study approach, we assume that it is necessary to understand how the group works from a descriptive point of view before starting a fine analysis of the data. How the group works includes its main activities and how they are organized and characterized. It is also necessary to reflect on the context in which the group is embedded, i.e. its institutional framework, since this is the terrain on which the group can grow and where it sets the main rules and possibilities for action (Piccini and Carassa forthcoming). All types of data gathered during the empirical phase permit to characterize the team and the context in which its activities were conducted. Of course, even the most precise description is not necessary for an in-depth study of collaborative dynamics but it is a first and necessary step.

As mentioned beforehand, the descriptive part about the team is inspired by the concept of CoP by Wenger. Particular attention will be paid to the dimensions defining the community and its boundaries. The team will be characterized by a brief description of its environment (the university and faculty where it is located). It will be followed by describing the team itself, including its history, composition, and main activities. There will be a distinction between the team activities and their individual ones. Lastly the most important features that distinguish the team and its organization will be deepened.

After understanding the peculiarities of the team, a finer analysis permitting to answer to the second and third research questions could be started. As explained beforehand, this will focus on the study of the meetings following discourse analysis. Since this approach is inductive and is flexible in the way to treat data, the analysis has been organized in the following way: a reading of a corpus of selected team meetings inspired the choice of proper conceptual dimensions for guiding a discourse analysis on all the meetings. The corpus was built through theoretical sampling (Eisenhardt 1989) on the basis of all the available material. Since in meetings recurrent patterns tended to emerge, only the most relevant meetings in answering the research questions will be considered. Moreover, in this selection, attention to the temporal dimension is paid. The meetings of the corpus are distributed throughout the year of observation. Thanks to this type of sampling it is possible to focus more strongly on the analysis and simultaneously work on data that present all relevant phenomena for accomplishing the aims of this research.

Some specific concepts, taking inspiration from the literature, were chosen to conduct the discourse analysis. The choice of these concepts is influenced by the theoretical background and the research assumptions, but also by the first results (presented in the descriptive part about the team, at chapter 6). We can say that a first observation of the data constituting the corpus serves as a base to a process of "highlighting", that Goodwin defines as "making specific phenomena in a complex perceptual field salient by marking them in some fashion" (Goodwin 1994: 607): a careful observation and reading of the data permit a first reflection on the communicative dynamics of the meetings. Consequently this helps choose specific concepts that are then used as analytical dimensions. These dimension are then refined during a first round of analysis, aiming to

build an adequate framework that consistently answers the research questions; it could also be further applied on other cases. This strategy based on recursive cycles of analysis is necessary for conducting a sound study that takes both theoretical considerations and the peculiarity of data into account. The conceptual framework that results from this process is presented in detail in chapter 7. The analysis of the meetings is summarized in the following steps:

1. First close observation and reading of the data, process of "highlighting".
2. Theoretical sampling: constitution of a corpus of 12 out of the 23 meetings observed paralleling the choice of relevant concepts, inspired by literature. These concepts then served as analytical dimensions.
3. First round of analysis on the corpus of the meetings, applying the dimensions as decided in step 2.
4. On the base of step 3, the analytical dimensions are reviewed.
5. The analytical dimensions of step 2 and those of step 4 are integrated into a unique conceptual framework for a finer analysis of the data.
6. A second round of analysis and investigation of the relationships among the different concepts is made.

The interviews, group discussion, information published on the team web site, and mailing list constitute the secondary data. The interviews analyses are guided by a condensation of the content around different topics, which permitted a better understanding of each one's position in the team. It also outlined each one present activities and occupations in the group (both from an individual and a team level) and in the daily life. The interviews covered a short academic and professional background, the subject's topics of interest for research, and most current important achievements. Lastly, the interviews covered collaboration with other members of the group, vision of teamwork in general, and future career plans. While the first round of interviews was more focused on the first three topics (activities in daily life, background, and research interests), the second interviews were concentrated on collaboration with other members, most current important achievements, and future career plans. Interviews are important

in understanding team history and practices and for triangulation with the observation of the meetings.

The group discussion aimed to understand how members relate to the life domain, if accounts about work-life balance are harmonious or contradictory among the participants, and how these accounts are constructed together in the discussion. In fact, during the discussion, the term "work-life balance" was preferred for its broader spread and its intuitive meaning. The analytical process takes inspiration from Krzyżanowski (2008). The analysis proceeds in a recursive way, very similar to the analysis of the meetings and it was guided by the general question: "who is saying what to whom with which aim?". In this way, it was possible to isolate specific topics and concepts that emerged during the discussion, to understand which topics were stressed more often, and to reflect on interaction dynamics during the discussion.

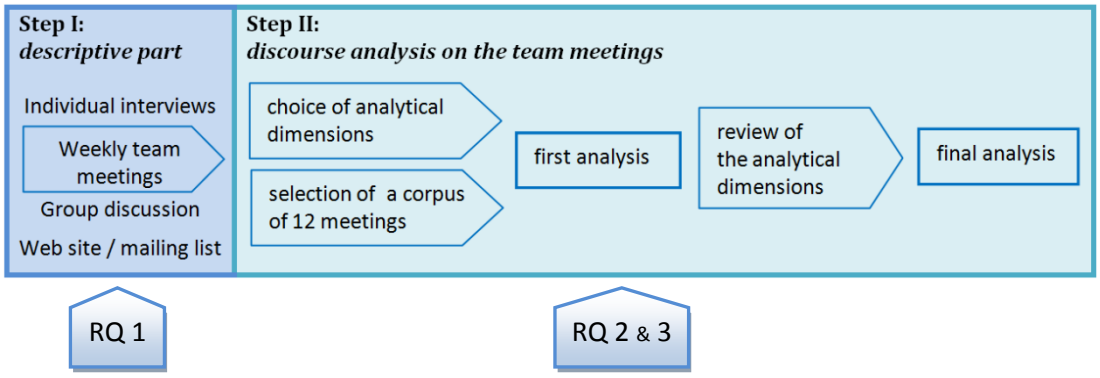
The mailing list and the web site have been, all throughout the empirical phase, important instruments to support the daily research process. They were not core data in answering the research questions, so only few words will be spent on them. They are useful for better understanding the team and its functioning, but they will not be at the centre of the fine analysis. Information from the mailing list and mail exchanges was really diversified. Their frequency and topics show that everyone felt free to send a message. As far as the web site is concerned, it was consulted before starting the ethnographic phase to get a first impression of the group. This was done when analyzing candidates for the empirical research. Subsequently, it was regularly consulted because up-to-date information was published there. However, it was not deeply analyzed since this would not have constituted any added value for achieving the aims of the project. These artefacts will be better described in section 6.1.

Before concluding this section, it is worth noting that all interpersonal and team exchanges that were part of the data gathering process (interviews, meetings, and group discussion) have been recorded and the meetings were video recorded. This was done since they are complex group interactions and their analysis would be very difficult without visual support. We can say that the choice to record such type of data is now a routine for qualitative researchers and it is widespread in practice-based studies. This is

because it is possible to keep a vivid trace of the situations observed and also to continuously go back to the data when refining the analysis. On the other hand, it should be remembered that records, and then transcriptions, keep only a part of the data that was gathered. This is why careful observation of the field and field notes are indispensable for comprehending and analyzing the data. In the following sections and chapters, we will speak about interviews and meetings and will refer to all the real-life situations. Furthermore, during the entire analytical process an effort has been made to try to always reconnect pieces of transcribed data to the situation observed.

The following schema summarizes this section: it exemplifies which type of data was used at which step and how the discourse analysis of the meetings proceeded.

Fig. 5.3: the overall analytic process of the project



About the Sampling of Team Meetings

The specific features of team meetings will be further explained in the next chapter, but since they are part of the primary data in this project, some of their most important characteristics will be presented below. The aim is to better understand how the corpus was built.

As a general rule, group meetings are organized weekly and consisted of reading groups, i.e. a moment to go deeper into a specific topic through the discussion of a paper that is suggested by one or more members of the group and prepared in advance. Near that

central activity, group meetings are collectively considered the best place for giving important announcements and keeping all members up-to-date with important events concerning the team. These meetings, conceived first of all as a reading group, became the favourite place for presenting work and research conducted individually and for receiving feedback and advice from colleagues.

Meetings distinguish themselves for being democratic and participative: everyone can propose a topic to be discussed. At the same time, during each meeting everyone can freely intervene and ask questions or give their own feedback or opinion. The meetings have a time slot on Friday, usually in the morning from 10.30 to 12.30, reserved to that specific activity. This is assuming all the members are available. Afterwards, the team goes to lunch together outside the university and always at the same place in the city centre. Normally, the typical reasons for cancelling a meeting are the absence of the chief, a very important deadline approaching, or for holidays.

In total, between February 2010 and February 2011, 27 meetings were organized and 23 observed and recorded, giving a total time of more than 27 hours of recordings. On average, each meeting was 1 hour and 20 minutes long. The shorter meetings took 35 minutes, an exception, while the longer took 1 hour and 45 minutes. Meetings were always attended by most of the members of the team, while PhD students were especially regular in participating. However, everyone considered the meetings to be important and members were only absent because of important reasons (international conferences or other relevant meetings, holidays or sickness).

Observation of team meetings generated a lot of data. Consequently, to make the analysis more systematic, after a first phase of going through the data, carefully reading the field notes and watching the video recordings, a corpus of 12 meetings was built for conducting the discourse analysis. Theoretical sampling drove the choice of the corpus. More specifically, three criteria were considered: an analytic one, consisting of meetings that revealed to be particularly interesting from a mutual engagement point of view; a thematic one, selecting meetings with different objectives and topics of discussion thus belonging to different formats; and a temporal one, consisting of meetings in different moments of the year but still on a regular basis (for example, one meeting per month).

After a first analysis of the meetings and the field notes, it became clear that meetings presented some recurrent patterns to be able to characterize them. They follow four different formats:

1. Reading groups: in this case it is very clear, yet from the week before, that the topic of the meeting would be the discussion of a specific paper proposed by one or more members of the team. Often the paper would deal with a work conducted by a researcher who would be invited to give a speech in the following weeks. In these meetings there is still place for announcements or for discussing internal issues, but normally these topics are treated with very little time. This category represents about half of the meetings observed. Seven of these meetings are part of the corpus for the discourse analysis.
2. Members' work: this genre, which sometimes blurs with the reading group, is distinguished by the prominence given to the work conducted individually by one member of the team. This work would be presented and discussed with all the colleagues to increase awareness of the different research topics and methods used in the team and to receive important feedback from colleagues. Sometimes the discussion of a single member's work would be previously planned and would start with a detailed description given by the researcher themselves. Other times, it was more emergent and started from a brief discussion of a paper directly linked to the topic of the researcher. Among these meetings, three were chosen for the corpus.
3. Organizational and internal issues: there is no clear agenda but participants simply want to bring themselves up-to-date with the latest events from within the group and its members and decide on following meetings and team activities. These meetings were really flexible and it was difficult to predict which specific topics would be discussed and if some topics would take more time than others. It happened where during the discussion, a single topic would turn out to be relevant and it was deepened, occupying most of the meeting time. One of these meetings was selected for the corpus.

4. Work: in this case, the entire meeting was used for planning important work to be done by the group, sharing specific tasks, or starting the work itself. Only a few meetings belong to this category and they are all quite long. These meetings were exceptional: they were usually concentrated near a specific period in the year (indicatively from end July to the second half of August), when the team had to prepare for an important conference called TREC. Members discussed the work to be done, methods to use, the specific tasks to conduct, strategies to share the activities, and deadlines. One of these meetings was selected for the corpus.

The tables below summarize the characterization of the group meetings. The first table shows the number and average length of the meetings for each format, while the second table shows the number and distribution of the meetings selected for composing the corpus. Meetings belonging to the first two formats present the most interesting phenomena in terms of how mutual engagement was accomplished and how PhD students' socialization was supported.

Table 5.1: distribution of all the group meetings following the four formats

	Number of meetings[1]	% on all meetings	Average length	Meetings selected	% selected on the format
1.Reading group	10 (12)	42 %	1h 9min	7	70 %
2.About members' work	5 (6)	22 %	1h 11min	3	60 %
3.Organizational	5	21 %	1h 6min	1	21 %
4.Work	3 (4)	15 %	1h 37min	1	33 %

[1] Between brackets, the effective number of meetings that was organized during the year, for each format; outside brackets, the meetings observed. All the remaining data in the table refer to the meetings observed.

Table 5.2: distribution and length of the group meetings composing the corpus for the in-depth analysis

Date of the meeting	Format	Length	Number of turns
12 February 2010	2.About members' work	1h	256
19 February 2010	1.Reading group	1h 13min	631
5 March 2010	1.Reading group	1h 16min	489
16 April 2010	1.Reading group	1h 18min	612
23 April 2010	1.Reading group	1h 30min	632
7 Mai 2010	2.About members' work	1h 42min	746
4 June 2010	1.Reading group	1h 4min	564
30 July 2010	4.Work	1h 45min	1078
8 October 2010	3.Organizational	51 min	619
5 November 2010	1.Reading group	1h 11min	753
3 December 2010	2.About members' work	1h 16min	730
21 January 2011	1.Reading group	55 min	527

5.6 Validity of the Study and Ethical Issues

Any good piece of research should interrogate itself on validity issues, depending on the type of methods applied. As far as it concerns qualitative research, Lincoln and Guba (1985), in their well-known book "Naturalistic inquiry", propose specific criteria for addressing validity issues in qualitative research. They argue that qualitative researchers should be particularly careful with credibility, dependability, confirmability, and transferability. Moreover, they provide strategies for assuring validity and credibility such as prolonged engagement in the setting analyzed, members' check, and peers debriefing.

When designing and conducting this research, peculiar attention has been devoted to validity issues. First, the period of engagement in the field (one year) should permit a good immersion and an overall understanding of the field. This, coupled with the triangulation of the data made possible due to the comparison among observations, interviews, group discussions, mailing list and web site, should permit to conduct a rich analysis, build valid constructs, and achieve sound interpretation. Validity was also

assured by the fact that research participants had been informed about the aims and methods of the project. Furthermore, they could take part to a feedback session where the conceptual framework, which will be presented in chapter 7, and the results were discussed. Moreover, discussions with peers were specifically focused on the construction of analytical dimensions and on relationships among the findings. Then, when reflecting on the findings, a particular attention was paid to distinguish the features that could be considered typical of this team, and those features that could be tentatively applied to other contexts. In the concluding chapter, considerations about this last issue will be explained. Throughout the project and the empirical phase, an effort was made to reflect on the researcher's position and on the implications this role could have on the findings. This is further discussed in the conclusions in chapter 9. Validity has been an important concern throughout the entire development of this study and we argue that all possible measures to ensure it have been considered.

Concerning ethic issues, the team analyzed was informed before starting the empirical phase of issues regarding the methods of gathering the data and of the question of anonymity. Anonymity has been deeply discussed, also in the feedback session, when speaking about the findings of this study. Anonymity here is a challenge. The names of the participants have been changed but, at the same time, given the small dimension of the university where the research was conducted and also of the academic context of Switzerland, participants were made aware that complete anonymity of the team would not have been possible. This problem was discussed together and all participants understood. Most likely, the common background as researchers facilitated a quick resolution of the issue. On the other hand, it was assured that excerpts of data with personal or sensitive information would not be published.

5.7 Summary of the Chapter

In this chapter, we went through the research design of the project, presenting the three research questions, the field, the methodology, and the analytical framework. The project aims to understand: (1) how a heterogeneous research team works as a community of

practice and if there are specific practices that promote mutual engagement; (2) how mutual engagement is shown and reproduced in team meetings; (3) how PhD students' socialization is supported in meetings. The field constitutes of a research team composed of ten members and working at the Faculty of Informatics at the University of Lugano, in Switzerland. To answer the research questions, an ethnographic approach was chosen. It utilizes observation of team activities (especially weekly team meetings and invited lectures), individual semi-structured interviews, and group discussions. Moreover, during the research it was possible to rely on the team web site and on the mailing list. The empirical research lasted one year and team meetings constitute the primary data of this project. We explained how different data was treated and that the analytical process follows two steps. The first step aims to build a fine description of the team, which is necessary to answer to the first research question. The second step, based on a discourse analysis approach and focused on a sample of meetings, seeks to answer the second and third research questions. In this second step, 12 meetings were selected following theoretical sampling and, after finer and more rounds of analysis, a conceptual framework was built to adequately study them. We then described the corpus of the meetings. We explained that meetings comprise of very different activities and issues and tend to follow four different formats, i.e. reading group, about members' work, organizational and internal issues, and work. The chapter was closed with thoughts on validity and ethical issues, which have been attentively considered throughout the study.

In the next chapter, we will start to present our results and will answer the first research question. We will speak about the team, its history, composition, and practices. We will understand how team activities are structured and how interactions unfold so to find out the most relevant places where mutual engagement is built.

6. The Research Field: Characteristics of the Team

This chapter shows how the team analysed works as a CoP, and it permits to understand which practices promote mutual engagement within the team. It is worth noting that, in the next chapters, we will use the terms "group", "team" and "CoP" as if they were synonyms. We are well aware they are not synonyms, but this is due to the fact that usually the participants to the CoP we are analysing define themselves as being part of a "group" or a "team". CoP is a more specific concept with its own theoretical background, and this is what we will have in our mind also when, in the next chapters, we will use, also for the sake of simplicity, the words "team" or "group".

We will start with a short history of the team, we will try to understand how the institutional framework in which it is situated (i.e. the Faculty of Informatics) works, and how this framework impacts on the team. We will see that some activities are directly influenced by the institutional framework of the team, and that this is visible also in daily conversations. Afterwards, we will focus on team activities and on meetings, that will be widely described. At the same time, we cannot forget that each member has an important load of individual activities to accomplish, we will see the features of such activities and analyse their relevance in the overall everyday life of the team. At this point, we will have a broad overview on the team, so we will be able to start with a finer analysis of the team activities, inspired by the CoP construct. This analysis will be focused on six interrelated dimensions, that revealed to be particularly important in the ethnographic phase: the regularity of encounters and the balance between team and individual activities; the hierarchy and leadership; the interplay between symmetry and asymmetry in roles; the multiple identities of team members; the boundary work; the team building practices. At the end of the chapter, we will have a complete portrait of the team practices and of the relationships linking team members. Moreover, it will be clear in which practices mutual engagement is shown and reproduced.

Before concluding this introductory section, it is worth noting that, when analysing the features of the team, we will go back to the literature for taking new concepts, that are

particularly meaningful for explaining the phenomena under discussion. This reflects the iterative nature of the methodology used in this study: findings solicit new and more focused reviews of the literature to check if and in which way the phenomena observed are treated; this strategy permits a sounder analysis and a more comprehensive understanding of the relationships among the phenomena investigated.

6.1 The Team and its Institutional Framework

The team, IR group, is born in 2007 when the professor who is currently leading it was appointed at the Università della Svizzera italiana (USI), also known as University of Lugano. Since Università della Svizzera italiana, and more specifically its Faculty of Informatics, represent the institutional framework that encompasses the activities of IR group and its possibilities and opportunities of action, we will spend a few words on it.

The University of Lugano is the youngest among the Swiss universities: funded in 1996 with three faculties (Architecture, Communication and Economics), it grew up quickly and now it counts more than 2000 students, most of them coming from foreign countries. In 2004 was established the Faculty of Informatics, that now counts more than 200 students. The University of Lugano provides full academic education: it offers bachelor, master, PhD and executive programs. Out of its 23 master programs, 19 are held exclusively in English. The use of English as a lingua franca is not an exception at this university, and this is confirmed also by the high number of foreign students. Moreover, most of the publications by researchers of the University of Lugano are in languages other than Italian.

The Faculty of Informatics is for sure the most intercultural: in fact, English is used as the lingua franca in teaching, research and administration. Presently the Faculty offers a bachelor program, eight master programs (one of them is jointly organized with the Faculty of Economics), a PhD program. The academic staff is composed by 22 professors (six full professors, six associate professors, and 10 assistant professors) 25

lecturers, 92 PhD students[2]. The Faculty has also two important research institutes, the "Advanced Learning and Research Institute" (ALaRI) and the "Institute of Computational Science" (ICS). The group analysed for this project does not constitute a research institute, and consequently it has not, officially, an institutional status. Actually it is a group formed by the leading professor for developing research and forming the PhD students in the information retrieval domain. The chief of the group was a full professor in the UK before being appointed in Switzerland, and actually he kept a part time position there.

The group is conducting research in information retrieval, encompassing different aspects. In fact, the members of the team are not simply researching how to retrieve information in the most efficient way, but they are also dealing with opinion expressed by a text, for example, or with authorship attribution, and they are applying that topics especially in those cases where information is unstructured (chats or blogs). Consequently the team is dealing also with topics that are not standard in the domain of information retrieval, touching also, in some cases, the human-computer interaction aspect. Their approach is mainly mathematical and probabilistic. In Switzerland few groups are dealing with these topics, and they are all organized in a specific association, called DBTA, a special interest group of the Swiss Informatics Society.

At the moment in which the empirical phase of this research started, ten people were part of the team. Other than the chief, a senior researcher, two post-doc researchers and six PhD students were composing this team. The senior researcher, one post-doc researcher and two PhD students were there from 2007, the others arrived the year later. The last person who becoming a member of the team, a PhD student who started in January 2010. The group is really heterogeneous from a cultural point of view, having three Iranians (all PhD students, two women and one man), two Italians (the professor, a man, and the senior researcher, a woman), a Swiss-Italian (PhD student, man), a Malaysian (PhD student, man), a Polish (post doc-researcher, man) and an Australian (post-doc researcher, man). It is also interesting that the proportion of women is higher than the average: actually, in informatics a strong horizontal segregation persists, and in the

[2] Università della Svizzera italiana, December 2010

Faculty only 14% of the PhD students are women. These data are comparable with the Swiss and the European ones: the Federal Statistical Office (2011) indicates that in Switzerland only 14% of the PhD students in informatics are women (ay 2010/2011), while in Europe (European Commission 2009) this proportion was of 18% in 2006. The proportion of international students and researchers is also very high in this group, and this reflects the internationality of the Faculty, where 93% of the PhD students and 86% of the professors do not come from Switzerland, and the majority among them come from countries other than Italy. This is quite exceptional if we compare these data with, for example, the number of foreigners PhD students in all the faculties of USI (84%) and at the Swiss level (49,3%); consequently the Faculty of Informatics can be considered a particular international Faculty in an already international university. We can say this Faculty constitutes a sort of "multicultural organization", following Cox (1991).

The group can be considered very active, being involved in 11 research projects: it leads four projects funded by the Swiss National Science Foundation (SNF), the agency that supports both free and oriented research, and that, in Switzerland, constitutes the primary source of funding for outstanding projects and has a key role in fostering scientific knowledge. Then the group leads also other projects funded by different agencies, for example, one project funded by the State Secretariat for Education and Research (SER), another funded by a facility in patent retrieval, one funded by a cooperation programme between Switzerland and Russia, and one funded by AT&T Labs. Then, the group is involved in two COST actions, an EU funding instrument for fostering cooperation and scientific excellence in some specific domains of science and for facilitating networking and mobility of researchers in Europe. This collaboration, as explained by the chief of the group, offers to PhD students the important opportunity to spend some short term periods in other research teams in Europe.

It is possible to say that the team is well-positioned at the European and international level, since it has a good network with other teams studying the same topic in other universities, and its members regularly participate in the most prestigious international conferences in their field. Participation in conferences is very important for the visibility of the team. The chief of the team is particularly careful to create opportunities for

building the team. The most relevant opportunity for the members of the team to meet and discuss are the weekly meetings: actually the team meets quite regularly, always at the same time (usually 10.30 on Friday morning) for around one hour and a half. This time slot is chosen because all the members are available. The attention of choosing a moment that is free for all the members is very meaningful to understand how collaborative relationships are cultivated in this team. The chief often focuses on the importance of regularly having the meetings, even when he is not there. The topic of the meeting is decided at the end of the previous meeting, and it can be proposed by any member. Meetings have also a strategic social role because, at the end of each meeting, all the members of the team go to have lunch together outside the university campus. We will deepen the features of those team meetings and of the other relevant team activities in the next section.

The activities of the group, both those at the team level and those at the individual level, are obviously linked to its institutional context, even if it is possible to say that the team is able to organize quite independently a large part of its collective activities, especially as far as it concerns research. At the individual level, activities are often influenced by the academic calendar of the university, as far as it concerns teaching; the rules of the Faculty can have an influence also on some aspects related to research. This is observable when members of the team have to respect some constraints or deadlines imposed by the Faculty, as in the case of the PhD students who have to respect specific yearly reporting procedures, or of the post-doc researchers, who are submitted to short term contracts that can be renewed only few times, depending on the budget.

The activities we will focus on in this project are conducted at the team level and are related to research. In this case, the influence of the institutional framework is very low and usually not directly observable, with the exception of few cases. Actually, the collective activities, and meetings especially, represent a sort of “exclusive place” that the team has built for itself. The most evident team activities that show a direct connection to the specific context, are represented by those meetings in which PhD students rehearse presentations that they are then supposed to do for accomplishing their doctoral studies (research prospectus review, after the first year, and proposal review,

after the second year of doctorate). Also the criteria for choosing invited speakers are influenced by the constraints imposed by the Faculty: actually these criteria are very pragmatic ones, because they are related to the budget that the group can dedicate to invite researchers. The very different impact of the institutional framework of the Faculty on the type of activity analysed, witnesses the complexity of universities, that can be considered, as far as it concerns research, as "control-free spaces of work" (Gläser 2012: 1), where the definition of tasks, workflows, and quality, cannot be directly imposed or controlled by the institution itself.

The group, to support its activities and optimize internal and external communication, relies on various artefacts, like the team web site, the wiki, the mailing list: all these artefacts can be considered tools for facilitating team building and participation. The visibility of the team to the external public is assured by an internet web site, hosted on the web site of the Faculty of Informatics. The web site is strategic for external communication: it presents the mission of the team, i.e. its research areas and projects, its members, and all its publications by year; normally it is kept up-to-date by the most senior PhD student. Since it is particularly relevant to define the identity of the team, internally and externally, it can be considered as a tool that facilitates team building. Internal communication is supported by the mailing list and the wiki, that constitute important spaces not only for sharing information, but also for supporting and deploying collaboration; they also have a value from the point of view of team building. The wiki is used mainly for putting suggestions about the activities concerning the team: for example, list of potential invited speakers, or list of possible papers to prepare for a reading group, or list of the next important deadlines. Often it happens that during a meeting the wiki is projected and consulted for discussing the speakers to invite or the papers to choose. The mailing list is used for any important and urgent communication to give to the group: messages can have many purposes, anyway they share a very precise, concrete, concise nature. Most of the time they are very short messages, also forwarded ones, dealing with organizational issues (paper for the next reading group, little tasks to do in few days, announcing one's own absence in a meeting or in some other group initiative), informal activities (choice of day and time to go out as a team),

personal issues (reconnecting with the all team when away from the office, announcement of absences or births), spreading of important info, such as promotion of summer schools or similar initiatives (messages by the chief are often characterized by this aim). It is actively used by most of the members: in one year around 300 messages were produced, quite a lot if we think that most of the time the team members are sharing the same space at the Faculty. The mailing list is managed by a PhD student, who can add (or cancel) names to the list, after the final agreement of the group and of the chief.

Physically the members of the team are located on the same floor of the building of the Faculty, near the main building of the university. It is a very modern and new building, with lesson rooms on the ground floor, and offices and a big open space on each of the two other floors. The group is located, with other academic staff, on the second floor, where there is a big open space in the middle of the floor, with small offices around. The chief has his own office, the two post docs share the same office, the senior researcher shares her office with other researchers. The PhD students have their own desks in the open space, most of them sit in nearby desks. Meetings are usually located in the same meeting room on the ground floor, or, when only few people are there, in a smaller meeting-kitchen room in the floor where they all work.

Team Mission and Activities

As explained by the chief during an interview, the team is especially oriented towards research in the discipline; in fact, this is also what appears in the team web site, and what emerges from observation. Actually, team meetings are clearly oriented towards enhancing disciplinary skills. At the same time, the team is positioned in an academic Faculty, where all its members have teaching duties, and where the education of PhD students deserve an essential role; actually, the team is mainly composed by PhD students, who need to learn how research should be done. Consequently, we could say that the “official mission”, as depicted by the chief and as presented also in the web site, has to be concealed with the features of the environment where the team works. We will

better understand this issue by focusing on the characteristics of the team activities, and by discussing, in the following section, about the individual activities.

The most important team activity is without any doubt constituted by the weekly meetings. Since they are also the primary data of this project, we will speak diffusely about them in the next two paragraphs. For the moment we focus on the other team activities, so to have a full picture of what happens in the team. Actually, in addition to the weekly team meetings, the group is used to have invited speakers from other universities, usually once per month during the academic year. Invited speakers are suggested by the members of the team and then selected together. The wiki is used for gathering the names of potential invited speakers; in this way, everyone in the team can see the names and consult the profiles of the researchers listed there. Occasionally, but in any case before the beginning of a new semester, part of a meeting is devoted to speak about the people to invite. Then, the chief sends invitations to the possible speakers. When a speaker agrees, then one of the PhD students, usually the most senior one, is in charge of dealing with practical matters, such as: organizing the time of the lecture and the accommodation for the speaker, receiving and distributing an abstract of the intervention, asking to the speaker to suggest a paper to prepare beforehand and distributing it to colleagues, setting a schedule for colleagues who would like to have an individual meeting with the speaker. The chief always motivates the members of the team to gather background information about the speaker and possibly to have a time slot to discuss with her and to ask her relevant questions about one's own research. Usually, the week before of the invited lecture, the meeting is devoted to the discussion of a paper suggested by the speaker.

The group is also used to have guests for brief periods. For example, in 2010, when the empirical phase took place, three PhD students coming from other universities worked in the team. One PhD student from a Russian university worked there in April, May and June; another PhD student, from the same university, worked in the group in June and July, and from June to August another PhD student, coming from a Spanish university, worked there. In that period these students were integrated in the group, and they could take part to the meetings. Some of them also presented their own research, and they

collaborated with the other members for some tasks. The attention the team devoted to the initiative of hosting external PhD students is confirmed also by the fact that the profiles of these students were added to the team web site. Moreover, it is important to underline that one year after one of them decided to come back for another period.

All team members are expected to collaborate among them, to take part to the team meetings and to have an active role in proposing papers or inviting speakers. During the meetings everyone is supposed to be active and to intervene for clarifying questions and doubts, for deepening a topic or for introducing new themes. Collaboration within the group is considered to be relevant, because it facilitates scientific practices, and because it constitutes an added value for progressing also in one's own research. Actually it is important to underline that collaborative work strongly depends on the activity considered, and is usually devoted to research activities. In fact, some activities, such the administrative ones, or the teaching, are usually conducted by a single member, without a contribution from the team. On the other hand, the activities that the team considers to be strategic, such as doing research, are those where more contribution from all the members is required. The importance of scientific practices within the team is comprehensible given the nature of the team itself. The focus of the project is on mutual engagement among the members of the team, consequently we will mainly consider the team activities, since in this case it is possible to observe how collaboration unfolds. Once again, this does not mean that this research is concerned about epistemic practices: the focus of the analysis is on those social and communication activities that support, and are necessary for, scientific practices, and not on the scientific practices themselves.

The team meetings

The weekly team meetings were conceived first of all as a reading group, a moment in which to go deeper into a topic while discussing together a paper chosen and prepared beforehand. As the chief told to the researcher, the idea to get together for a reading group developed as an opportunity for better forming PhD students: being the Faculty quite small, very few courses for PhD students are organized, and, even when organized, if the topic is tailored on the research domain of the group, obviously only the PhD

students of the group participate. Consequently there was the need to have a flexible instrument to provide some more opportunities from an educational point of view. The idea of the reading group is that a person, normally a PhD student, proposes a paper that can be interesting for all the team (even if of course it will have a stronger link to one's own PhD project) and then presents it very briefly to the group, so to initiate a discussion. The paper is chosen normally the week before, so that everyone, or, at least most of the group, can prepare it and have a fruitful confrontation on that. It is possible to say that this format is very similar to that of the "journal club" as described in Golde (2007); the main difference is that in this case this moment is shared by people belonging to the same team and working together also for other projects.

Actually the weekly meeting is more than a reading group: it is used also for giving announcements, keeping colleagues up-to-date with important matters concerning the team or one's own activities, speaking about one's own research or presenting one's own paper, sharing work and tasks to accomplish together. For example, often the meeting is used by PhD students for rehearsing presentations, or for discussing a specific piece of research they have done. During the summer, when they are, as a group, preparing for a very important conference in the field, meetings are used for discussing how to conduct the specific tasks and how to share them. Some meetings are also taken solely by organizational or coordination matters concerning the team. It is possible to say that the weekly meeting of the group is now like an institutionalized place where to treat any different matter concerning the team, from the smallest practical detail concerning a specific work to new research approaches and topics; it is, as we stressed before, the "exclusive place" that the team has reserved for itself, for conducting activities that are perceived to be strategic for everyone.

Team meetings are generally managed by the chief of the group, even if everyone can propose a topic to speak about, and the roles assumed during the meeting can be quite interchangeable. In fact, meetings can be organised, or can start, even if the chief is not there. Actually the chief himself is always motivating the group to keep the meeting as a regular appointment to get together. Often it happens that, if the chief is not there, meetings are not organized, but, when the chief was unexpectedly absent for many

weeks, and the post-docs were not there, the PhD students started to organize reading groups by themselves.

To better understand the features of these meetings, after a first observation it is possible to divide them in four different categories. First, the reading group, the basic format that gave birth to the initiative. Second, the meeting about the work of one individual member, where a PhD student presents her own contribution. Third, the coordination meetings, where there is not a central topic, but different small topics concerning organizational and practical matters are discussed. Finally, the work meeting, where all the members work on a specific job and negotiate together for sharing important tasks.

The prevalent form is the reading group, while the last category, work meeting, constitutes an exception, and it is usually concentrated around the period of the deadline of the conference that provides the benchmark for the international disciplinary community. We will present now a brief and real scenario of what happens in a meeting, so to better comprehend how this activity develops.

How a meeting usually works

Friday morning, 10.30. Three PhD students, Jan, Greg, and Mike, arrive together in the meeting room, a small and a bit dark room on the ground floor of the building. Smiling, they quietly enter in the room, with some sheets and their mac in their hands. Greg and Mike sit around the table, one in front of the other, chatting silently, they speak about a paper Greg is preparing, and they wait for their colleagues. Jan prepares the blackboard just in front of the table, in case he has to use it, and then joins his colleagues at the table. After few minutes Ross, one post-doc researcher, enters and sits down, then, Maggie, the senior researcher, arrives with Sheila and Paris, two other PhD students. Maggie has with her some biscuits, she offers them to everyone being there, then she places them in the middle of the table. They have also some sheets and the mac with them. In the meantime Alan, PhD student, arrives with Mat, the other post-doc researcher, they are joking together.

10.40, everyone is there, except the chief. They decide together to start to discuss: the chief would be happy to arrive and see they have already started, Sheila says. The

discussion starts with one first question about the paper they prepared: this paper is particularly complicated and it needs a lot of attention when reading it, says Ross. Actually, Greg and Alan start to joke about the fact they did not had the time to really focus on all the details. The first question is about a critical and difficult point in the paper, to answer it is necessary to reconstruct the reasoning of the authors and to understand the steps before. In the meantime Francis, the chief, arrives, he excuses himself for being late and takes, very silently, the usual chair, near one corner of the table. He has his agenda with him and a pen. The discussion on the paper continues, and, to better answer to the first question, one of the PhD students, Jan, who also proposed the paper, goes to the blackboard to write the main formulas. Then he tries to explain the step between two different formulas. Mike, the most senior PhD student, goes to the blackboard and asks the permit to modify some calculations. His colleagues from the table interrupt him for making some questions, and Jan answers, while Mike finishes to write the formulas. His colleagues take notes, then the most junior PhD student, Paris, asks more information about a concept used in the paper: it seems that this concept is new for all the PhD students, so Mat takes the turn and explains for some minutes using a scenario from everyday life. Maggie integrates the example with few sentences. Now it seems that the paper is lot clearer. Afterwards, Ross opens a discussion on the main contribution of the paper, since until now only details were discussed. He explains he likes the theoretical part of the work, but not really the experimental one, that is quite complicated and looks not very well-structured. Team-mates joke about the fact that probably the authors did not have enough more space for explaining and cut some sentences. Then the chief asks also to the others what they think about the paper. After few seconds of silence, Mat expresses a very positive opinion. Mike criticizes the paper because, he argues, the contribution is not really so innovative as you would expect from conference papers. Sheila makes him to notice that he is very pretentious towards other researchers, and everybody laughs. Some discussion arises about what does it mean to write an innovative paper. Then the chief asks if they think that there is in the paper something useful for their own work. Everybody has some ideas, then Sheila explains that she tried to apply a method worked out there, but without success. Greg asks her

some details about her work, then Maggie proposes her to look to another author's contribution on the same method. Finally the chief poses attention on the references, saying some of them are really useful and advising to give a look to those works. Then he reminds the group that one week after an invited speaker will arrive, he asks to Mike about the abstract the author has sent, he speaks briefly about some recent work the invited speaker has done, and motivates all to have a time slot with her. Mat, Sheila, and Paris, are interested to speak with her, and Mike, who is in charge of organizing all these practical details, takes some notes. The next meeting they have to prepare for the invited lecture. Mike says he asked to the speaker one of her recent papers, and he will send it around as soon as he will receive it. The chief reminds then that in two weeks an important deadline is coming. All the PhD students are working on that, also the junior one, who asks some clarifications about the submission procedure. Some jokes follow on the deadline. It is already 12.15, the chief asks if there are other things to discuss. Jan tells his colleagues about a very useful statistical course for PhD students that just started in another faculty, and advices them all to go. Colleagues ask details about the time of the lessons, while the chief asks some information about who is teaching. Some jokes about the fact that, after the course, everybody would be supposed to understand everything about statistics. The meeting closes around 12.30, the chief asks if everybody is joining for lunch, and they leave all together the room.

Intersections between meetings and the other activities

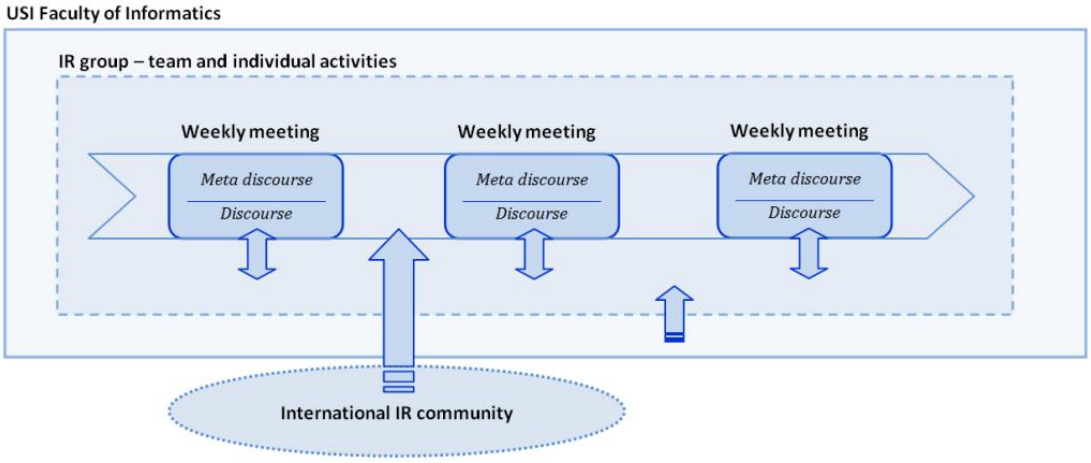
After this scenario, a last thought is lacking for completing the overview on the functioning of team meetings. It should not be forgotten that meetings are a complex activity, situated in an even more complex context, where other team activities, various individual activities, and activities proposed or requested by the Faculty, intertwine. The figure below briefly illustrates how team meetings are situated within the broader context of team activities and of the institutional framework of the group.

Meetings are regular team activities, that are characterized by two aspects, or levels of work. First, a main activity, i.e. talk (here indicated as “discourse”) about different topics concerning the discipline. Second, a meta discourse on the organisation of the meeting and on the activity itself to be conducted. Meta communication is particularly strategic for shaping and redefining objectives and functioning of the meetings, and also for reflecting on the mission of the team itself. Then, team meetings are embedded in the broader activities of the team, and they are directly connected and influenced by them. In fact, there is a mutual influence between meetings and team activities, since the overall team activities influence the organization of the meetings and the chosen topics. Furthermore, during the meetings, also other team tasks, that go beyond the meeting activity, are discussed, and, if there is the need to take a decision about these tasks, meetings are the favourite place. Individual activities also have an influence on team meetings. It is also worth to remember, as we already stated when starting this chapter, that there is an institutional framework, constituted by the rules, habits and practices of the Faculty: even if its impact on the meetings is quite low, it contains and shapes, more or less directly, all the team activities.

Finally, it is important to keep in mind that the group has a strong link with the international community. The members are really careful to research trends in their discipline, topic that is often discussed during meetings, and they regularly participate in the most recognized conferences (as, for example, SIGIR, the Special Interest Group on Information Retrieval, supported by the Association for Computing Machinery; ECIR, the European Conference on Information Retrieval; TREC, the Text Retrieval Conference, competition that then gives the benchmark for people working in information retrieval). Moreover, the chief is involved in the program committees of various conferences (including SIGIR), he is editor in chief of an international journal, and he has a wide network all over the world. We can say that the international community has, as far as it concerns team meetings, more influence that the Faculty.

The next figure positions the team meeting activity inside the broader activity structure and context in which the CoP operates.

Fig. 6.1: the team meetings inside the activity structure of IR team



Individual Activities within the Team

Apart from the team activities, every member of the team has an important load of individual activities, those features obviously depend on her own position. The chief has to do teaching for bachelor students, then, he has to supervise different projects and six PhD students, to whom usually he devotes one meeting per week. Furthermore, he has different service activities, he keeps the contacts with a large network and looks for opportunities for new funding and collaboration. He is editor in chief of an important journal of the field, he is member of different editorial boards, and he is involved in more associations and committees. He has a relevant role in the Swiss association DBTA, mentioned beforehand, and he is often member of the program committees of the most important international conferences in information retrieval. While speaking with the researcher about his own activities, he underlined the importance of dedicating time to PhD students and of asking for funding, so to have the possibility to financially support the team members and to provide new opportunities for them. He also emphasized the importance of taking a day off from the university for focusing on research and on the reading or reviewing of papers. In fact, the chief, being the founder of the team, he is like its engine: he has a long term vision in managing the different

activities, and a strategic role for building all the network and for positioning the team at the international level, having also a long experience of research in European projects and being regularly involved in international conferences.

The senior researcher and the post-docs are more focused on research and teaching, with different priorities depending on their academic background. Of course for the post-docs publications are strategic in that moment. The senior researcher has a particular position, since her topics of research are between information retrieval and human computer interaction. For this reason she is part also of another group of the faculty, the human computer interaction group. This group is really different from the team we are analysing, since it is especially a reading group, it gathers also people from the Faculty of Communication and it has not a hierarchical structure. Moreover, the senior researcher supervises also four PhD students: three of them are not part of this team, and one of these is working in a foreign university, where the senior researcher previously held a position; the fourth of them is the last PhD student arrived in the group. Actually, this is a case of joint supervision by the chief of the group and the senior researcher.

The senior researcher and the post-docs offer an important support to the PhD students of the group, having a higher level of expertise but not having the work load of the chief. The fact that they do not have a leading role in the team, like in the case of the chief, facilitates them in building a closer relationship with the PhD students, as underlined by the senior researcher. Their different backgrounds permit to well cover most of the research areas of the team. It is worth noting that the label "post-doc researcher" encompasses very different situations. This is shown also by the fact that one post-doc is there for a one-year long project, supported by an external foundation, and he has not any teaching activity. On the other hand, the other post-doc researcher has been there from 2007, working on two different projects, he is currently funded by the faculty, and he is also teaching. These two different situations influence also the general attitude of the two researchers towards their present work: for example, while the first one is really focused on research and publications, the second gives high priority also to teaching and shows to be very open in providing a sort of informal mentorship to the PhD students of the department. Nevertheless, it has to be underlined that both of them are not in long-

term positions, and they are engaged in finding new opportunities. In fact, this reflects the features of the academic career in general, where post-doc positions are viewed as instrumental to the achievement of a more stable position, and very likely this can be obtained only through applying to other universities. Actually, both the post-doc researchers left for other positions in the autumn 2010.

PhD students have obviously as their main objective the accomplishment of their own PhD projects. Each of them has a specific topic, with some more points in common in two cases. One PhD student started end 2007, one at the beginning of 2008, three in autumn 2008, and the last one beginning 2010. Usually each semester they are expected to do assistance to one course of the Faculty: in fact, before the beginning of the semester the Dean of the Faculty shares assistantships to courses among the PhD students. Of course it can happen that for one semester some PhD students are not expected to assist to any course, as it was the case for some members of the team. In any case, as they told to the researcher, they can devote at least 60% of their time to their own PhDs. Generally they are working on a project funded by the Swiss National Science Foundation or by some other research institution, and this project mainly constitutes their PhD project, or a good part of it. As told by one of the PhD students, the goal is try to adapt in the best possible way the PhD project to the funded project. One exception is constituted by one PhD student, who started his PhD project in the group with his own funding, from his home country.

PhD students are expected to take part to the courses that the Faculty organizes especially for them (as said beforehand, these are very few given the size of the Faculty itself). The life of doctoral students is marked by some official steps[3]. First, not later than one year after the start of the PhD, doctoral students have to prepare their research prospectus, that comprises both a written (not more than four pages in which one's own research area is discussed) and an oral form (a presentation in front of a committee, composed by the academic and the research advisors and by two other members of the Faculty, and lasting not more than 30 minutes). Then, not later than the end of the second year, PhD students are expected to present their project proposal, a more precise

[3] Università della Svizzera italiana, Faculty of Informatics, PhD Program Regulations, June 2011, http://www.inf.usi.ch/phd-regulations-122916.pdf

description of the PhD project, encompassing also the more specific research objectives and a research plan. Similarly to the research prospectus, this step also requires to prepare a written proposal (not more than 20 pages), and to give a presentation in front of an internal committee. After that the project proposal is approved by the internal committee, it is sent to an external committee for providing additional comments. This second step was established by new rules published in 2010, consequently the two most senior PhD students had to prepare their proposal even if they were on the third year. Finally, the dissertation is supposed to take place in the fourth year. Usually there is not a fixed deadline for finishing the PhD. In general, the funding accorded by the specific funding agency tends to determine the moment in which the project has to be concluded. Before finishing their PhD, students are also expected to take part in international conferences and to publish their own contributions.

When starting the empirical phase, in February 2010, one of the PhD students was preparing his prospectus, and other two just had it. Moreover, during the empirical phase, all the PhD students had the opportunity to participate in conferences and to conduct activities abroad: one of them did a two months internship in the US, while two others were preparing for doing a similar experience in 2011, and the two most senior PhD students applied to a SNF grant for conducting research in two important groups in the US (applications that then were accepted and permitted them to be visiting researchers in the US for six months, in 2011).

6.2 The Team as a Community of Practice

This team can be considered a community of practice: its members work together and have a specific mission, i.e. research and education in their specific scientific field; they share very similar daily activities, some of them jointly conducted by a subgroup of this community, or by the all community; they are committed to participate in common activities; they have their own language, that partly is the same of the wider community working in the field, but that is made also by the history and the events of the group. It is possible to say that in fact the team presents a strong degree of joint enterprise, mutual engagement and shared repertoire. Moreover, it is the place where junior researchers are socialized to the academic profession, so where a trajectory of learning can occur. Then, the team has its own particular characteristics, shaped also by the way participation is legitimized and boundary work is conducted. Before presenting the specific and more relevant features that characterize this CoP, we will engage in a first analysis of how joint enterprise, mutual engagement and shared repertoire are enacted.

Shared enterprise is represented by the aim of advancing research in information retrieval, learning, and teaching, but also by the willingness of working together, sharing knowledge and experiences, creating new knowledge in the field. The fulfilment of such complex purposes should permit to build an environment where each member can more effectively accomplish also the individual objectives (gaining the PhD, advancing with the individual research project, building a strong curriculum, etc.). Team meetings are strategic moments where the joint enterprise is showed and negotiated. The chief strongly contributes to remind and refine the enterprise through his attitude of promoting team activities and pushing active participation of each member. Regularly the chief underlines the importance of meetings, of exchanging of ideas, of giving suggestions to each other, of participating in conferences and promoting the research conducted in the group. We will better see later in this chapter that the chief is particularly active in doing team building, and this can be undoubtedly considered as a form of promoting a certain vision of the team mission. Joint enterprise is of course built and reformulated also by the other members, often not so explicitly as in the case of the chief, but in more silent,

or implicit, manners. For example, active participation in team activities can be considered a form of adhesion to the enterprise. Then, joint enterprise can be seen in the mutual expectations among the team members: expecting that colleagues will give feedback and help, or making to notice when they are not doing it, is a clear way of recalling the joint enterprise.

Mutual engagement is the central aspect of a CoP: it is the link between joint enterprise and shared repertoire, it permits them to develop, and it keeps together the CoP. We previously anticipated (par. 3.2) that one of our aims is also to better define this concept, that is at the core of our first and second research questions. For us, mutual engagement has to be understood as co-orientation of the members of a CoP among themselves: being co-oriented means not merely to pay attention to each other, but to commit together for achieving common aims. We argue that mutual engagement, intended as co-orientation, can be observed very concretely in the daily life of a CoP. More specifically, co-orientation can be comprehended by paying attention to specific cues, visible at two interconnected levels: structure of the CoP in terms of roles of the individual members, and communicative interactions among members of the CoP. Concerning the first point, hierarchy, leadership and active participation in team activities are highly important; we will better see these phenomena later in this chapter. Regarding communicative interactions, the willingness to work together with the colleagues, that is shown in listening, offering or asking help, answering to doubts and questions, taking commitments, is essential. Such communicative interactions have to be analysed carefully because they reveal strategic features of the relationships among colleagues: this is why discourse analysis, as we argued in the previous chapter, can give a valuable contribution to the study of a CoP; we will conduct this analysis in the next chapter.

The shared repertoire exists and develops at two different levels. First, the specific language of the discipline, characterized with its own concepts and meanings. Then, the language of the group, composed both by the group interpretation and knowledge of the discipline, but also by the group anecdotes and specific shared meanings. This is directly observable in interactions and in meetings. The knowledge of the language of the discipline permits to the CoP to fully participate in the wider IR community. On the

other hand, inside the disciplinary knowledge, the group has its own knowledge of specific concepts, theories and methods, so that a peculiar approach, that differentiates it from other groups and constitutes its "added value". This is very clear during the meetings, when specific theories or methods, of particular interest of the group, are deepened and then further discussed in subsequent encounters, or maybe applied in specific pieces of research. As far as it concerns the specific repertoire of the group, it is worth noting that this is shaped not only by the discipline, but also by the daily routines of the team, and by the meaning that the members of the team give to these routines. To give a very simple example, the word "meeting", for this CoP, has very specific connotations, that shape actions and expectations of its participants.

After having provided a first, and very basic, description of the team, we will now turn to some of the most relevant and specific features of this CoP: these characteristics are of course linked to the three points discussed above, but they are specifically focused on interpersonal communication and relationships among the members of the team. They emerged during the analysis of this CoP, but, in fact, they are helpful also for analysing other CoP, and they permit to better differentiate this CoP from others CoP in a similar field or in a similar institutional context. Being these features so relevant, some pieces of data exemplifying them will also be presented. They are related to: regularity of encounters; hierarchy and leadership; symmetry and asymmetry in roles; multiplicity of identities; boundary work, that is shown in the interplay about building its own specificities and opening to the wider community; and team building practices.

Regularity of Encounters and Balance Between Team and Individual Activities

The team is characterized by a strong regularity of face-to-face encounters. The fact the members work all in the same open space, most of them in nearby desks, that they all need to go to the Faculty for conducting certain activities, and they have to attend the weekly meetings, all these variables favour chats and exchange of information among colleagues, feature that the literature recognizes to be particularly relevant in fostering collaboration (Kiesler and Cummings 2002). Easiness of encounters, due to spatial proximity, can facilitate sharing of information, interpersonal relationships and group

cohesiveness. Moreover, the team members share a high degree of motivation towards the group: their work at the university is the main occupation and in general it represents the type of activity they would like to invest in for their future. This motivation is also shown by the regularity of attendance at the group meetings, and by the willingness of the PhD students to organize meetings even when the chief and the post-docs were absent, in the months of November and December 2010.

Regularity of encounters and internal communication could be potentially threatened by the fact that academic work is an engaging activity, with many tasks that can be conducted individually: from this point of view, contradictions can be possible between individual and team activities. Academic work, as it is the case in other high knowledge-intensive professions, is characterized by very different facets, and more or less engaging tasks depending on one's own position. In general academic work is considered to be constituted by at least three different types of activities, i.e. teaching, research and service. Service activity (being part of committees, for example) represents a load for professors especially. Teaching in general is present at all the levels of the academic hierarchy, since PhD students serve as teaching assistants, as it is the case of this group. Research represents for sure the activity in which all the members dedicate most of their time and efforts: the topics of the meetings have a stronger link with research than with the other two activities, and, in all the interviews, research work was regularly mentioned as the most important activity in which everyone is engaged. Of course teaching and research have very different weight and implications depending on one's own academic position: academics who are higher in the hierarchy can easily delegate parts of these activities, or, in any case, conduct them quicker or with a highest confidence; at the same time, they are formally in charge of the quality of the work being conducted.

These features of academic work are important to keep in mind when speaking about the motivation towards the group: in fact, many academic activities, service and teaching especially, can be conducted individually; research also, in this case, presents a very important part of individual activity, since the different members work on different projects. Consequently, time devoted to group activities, such as the meeting or the

invited lectures (but also more simply to chats with colleagues), subtracts time that each one can devote to individual tasks. Actually, sometimes meetings are cancelled, especially when an important deadline is approaching or when the chief is not there. This tension cannot be completely solved, but can be minimized by building direct links between team and individual activities.

The potential contradiction between team and individual activities is softened by the role of team activities in supporting the individual ones. The fact the chief motivates everyone to be proactive in team activities tends to augment the value of such activities for every individual. This could seem counterintuitive, since full participation means also a strong engagement in terms of time and energy, but a simple scenario can clarify this dynamic. For example, the possibility to choose topics for the meetings, or to choose the invited speakers, let also individual interests emerge and augments the attractiveness of these activities. This is essential for softening the tension between individual and team: attractiveness of team activities favours participation in shared activities, and this also tends to foster group cohesiveness and collaboration.

Face to face encounters are not the only possible form for communicating: communication is also possible at distance thanks to specific team artefacts, like the mailing list and the wiki. As explained beforehand, the mailing list is especially important for spreading punctual information, for distributing the material for the reading group, and for remembering appointments. The wiki supports especially group decision-making, since it is the place where to put suggestions for papers or speakers. This permits that everyone can receive the most relevant news and plans of the group, or can conduct some team tasks despite of physical presence.

Hierarchy and Leadership

Formal hierarchy in the team is likely to reproduce the typical hierarchy of the academic career: from the top position of the chief, the professor, who is giving form to all the main team activities, to the post-docs, who are the favourite interlocutors of the PhD students especially as far as it concerns specific research related issues, to the PhD

students. Among the PhD students, a sort of informal hierarchy exists following their level of expertise in specific topics and their seniority in the team.

Despite the high level of informality that the members of the team show in face-to-face meetings and in email exchanges, the hierarchical structure is well defined. Actually the team has been founded by its present chief, a professor with a precise willingness to have such a group for fostering research in his specific field. This provides a clear mission and vision, specific short- and long-term activities, and a visibility to the external community. The chief has a key role: he provides funding for the different research projects, network with the international community, he makes clear lines of action and also more specific tasks. The fact, for example, to motivate the members to participate in certain conferences, to take part to the group meetings, to suggest invited speakers and to update the group web pages with the most recent publications, clearly contributes to spread a certain vision of the work to be conducted in the team, but also of the academic profession in general, vision that, in fact, is the "legitimated" one.

The chief has a clear idea of how to distribute work in the team: some practical tasks (such as managing the organization of the invited lectures, or updating the web pages) are delegated to specific members, usually after a democratic decision. Typically the chief also chairs, or at least opens and closes, the team meetings, giving them a specific format. Moreover, in most of the cases, he is consulted by the other members of the group, not only for taking strategic decisions about their own activities, but also for better deciding how to deal with smaller or everyday tasks. His recognized position in the hierarchy enables him to establish the structure of the team.

The chief shows to favour a participatory structure in the organization of team activities, such as the weekly meetings and the invited lectures: not only everyone is asked to bring suggestions for the future activities, but also, during the team meetings, the chief is able to leave the floor to the other members of the team. For example, the invited speakers are chosen together, and everybody can put at any time suggestions of potential speakers on the wiki. Also the topic of the group meeting is chosen together, usually at the end of each meeting. The chief always motivates everyone to bring suggestions, and, in the absence of suggestions, usually he asks specific members of the team if they want to

propose something. It appears evident that the chief supports especially PhD students in being proactive, taking the initiative, but also talking among each other and sharing information and knowledge. It is possible to say that the chief privileges participative leadership when organizing team activities, and he has an "empowering leadership style" (Asmuß and Svennevig 2009: 12): he motivates individual participation and team responsibility, this being reflected, as we will see in the next chapter, in his chairing style. Even if the literature shows ambiguous research findings as far as it concerns the effects of participative leadership on satisfaction, effort and performance (Yukl 2006), it is worth noting that this type of leadership is considered to be the best option in fostering innovation and creativity in high-knowledge intensive environments, and also in academic settings (Agrell and Gustafson 1999; Anderson and King 1993; Kolb 1992).

Leadership is enacted not only by the chief: this can be clearly observed in specific activities. During the meetings, for example, it is possible that other members of the team are positioned higher than their formal role and become sort of leaders at a certain point of the discussion. This is facilitated by the fact that the chief supports participation, enacts an empowering chairing style, and often leaves the discussion to the other members. It should be underlined that we privilege here the view that leadership can be discursively constructed during interaction: it is not a fixed and stable attribute of a single individual. Fairhurst (2008) well explains the differences between these two approaches, named respectively "discursive leadership" and "leadership psychology".

The discursive construction of leadership is linked to another phenomenon that we will deepen in the next paragraph: the interplay between symmetry and asymmetry in roles. The fact that the roles covered by the participants to a discussion can change and, for example, become symmetric, is a facet of the possibility to construct leadership by talking. Actually, during specific moments of an interaction, a person can be recognised as the leader, maybe because she has more knowledge about the topic of discussion, or it can happen that nobody at all assumes this position. These dynamics are really relevant when analysing team communication, since they tend to favour the development of mutual engagement, as we will see later in the next chapter. Before concluding this section, it is worth underlining that the presence of such dynamics related to leadership

do not undermine the formal role of the chief: he has a clearly recognized position within the group, also informally. On the other hand, this does not mean that his ideas or comments are never questioned; we will see some examples in the next chapter, when analysing deeper the team meetings.

Play Between Symmetry and Asymmetry in Roles

As we anticipated in the previous section, the participatory structure favoured by the chief during certain activities, makes the team hierarchy to fade out, and this leaves space for more symmetric relationships. For example, this happens when, during a meeting, a topic is discussed and nobody has a deeper expertise than others, or when a controversial task is debated. In these cases, the confrontation becomes very open, the presence of a chair becomes gradually less intrusive, and different contributions tend to be equally valued. Usually, at the end of such interactions, an explanation is taken to be more valid than others, or a certain solution is accepted. Sometimes these explanations, or solutions, are built together: they are not explicitly given by one member but they are the results of more contributions taken together. We will further reflect on these dynamics in the next chapter.

Asymmetry in roles taken up during a meeting does not necessarily reflect the hierarchy. It can happen that other members of the team rather than the chief initiate exchanges or moderate part of a meeting. During reading group sessions, for example, it is typical that the person who suggests the paper to read, usually a PhD student, takes the lead of the discussion, explains the more important points and tries to address the questions of colleagues. We now go through an example that clearly depicts this phenomenon. Jan, who chose the paper for this reading group session, chairs the discussion, and at a certain moment he positions himself like a leader and a teacher. At the beginning (turn 1), he finds a way to softly reproach his colleagues who did not read the paper: by using an indirect approach, he makes all his colleagues to notice that only after having carefully read the paper individually it is possible to engage in a fruitful discussion. It is interesting that the chief, Francis, seems to be the one who most cares for reacting to him: in his formal role of leader, probably he feels himself more concerned by Jan’s

intervention. As a consequence he intervenes, first with a vague "let's see", like to say that the fact nobody read the paper is not so relevant to have a good debate; he does not give any judgment and it seems he is giving priority to start the discussion in any case. Then, two turns later he says he will try to engage in a good discussion, and he feels the exigency to clarify that he knows the paper, even if he did not read it recently. This intervention seems to confirm Jan's argument that it is worth to read the paper before the meeting so to have a good discussion. On the other hand, the fact Francis already read the paper some years ago underlines his broad expertise due to his long career in the field. It is also important to note how Sheila wants to make explicit she read the paper. Sheila is underlining her willingness to be well prepared for the meeting and it seems she is distancing herself from whose who did not read the paper; but, at the same time, while pointing out that the paper was difficult, she is also implicitly giving a justification to everyone for not being prepared. In fact, Jan's perception that his colleagues did not read the paper reveals to be wrong at 38, after Francis poses an explicit question; only the chief here seems to be entitled to directly ask who has read the paper. Then, at 44, Jan takes explicitly the role of the chair of the discussion: he lists the most important steps of the paper, writes on the blackboard the most important formulas, and moderates the discussion. From this point the position of the chief becomes symmetric to that of the other members, while Jan chairs and acts as a teacher: he explains and answers to most of the questions, that are addressed to him. Examples taken by this meeting will be analysed also in the next chapter, since interaction here is very interesting to observe at the light of our research questions.

Example 6.1

1.	J	I'm not sure if it works to have discussions since lot of people haven't read it
2.	F	let's see
3.	S	I tried to read, read it, but I didn't understand it all
4.	F	(…) *(laughs)*
5.	J	yes, actually I was expecting to *(smiles)* have a nice feedback
6.	F	ah I will try, no I read it, yes, not yesterday, few years ago *(laughing)*

(...)

37. F ok, so, let's start with the paper, who read it?
38. *(everybody raising the hand)*
39. F oh, better than before, you thought that nobody read!
40. J *(at the blackboard)* yes. so, as far as I know, because maybe this is not the latest one, the latest theoretical paper on distributed IR
41. MT (...)
42. J mm?
43. MT (...)
44. J yes, there was an ECIR paper, let's start, no I mean, on yes, resource selection, on sampling there were some. Ok, so, I will try to, briefly present the main ideas, and then we will try to discuss it, and if you have questions. So, the idea is very simple, right? First, they define a cost function, right *(writes on the blackboard)* for (0.28). So, do you have questions about the cost function? (0.2)
45. G no

(23rd of April 2010)

In the same meeting it is possible also to find moments where relationships tend to be symmetric. For example, at one point there is a debate about a part of a function. This is opened by a question by the most junior PhD student, Paris, a question that points out a fault in Jan's explanation. Then, the debate involves especially Jan, Mat and Francis, with Mat and Francis defending the same point, and, after quite a long discussion, Jan admitting to be wrong about that point. To facilitate understanding, we will not report the full discussion, but only some of the most meaningful parts (in any case, the turns that are not reported here tend to repeat the same dynamic). It is notable how the turn taking is quick, sentences are interrupted, and disagreement is explicitly stated: as an example, we can observe how Jan has not any problem in interrupting also the chief (turns 185, 187) or in stating an explicit "no" to previous sentences by Mat (turn 193). Actually, this debate about the question if the function is increasing or not has involved so much its participants with the effect of creating a symmetry among them.

Example 6.2

183. P I didn't understand how that can be decreasing, the first one you were saying it should be non-decreasing, how can be decreasing? I didn't understand
184. F no well
185. J as an example
186. F it is theoretically possible (…)

187. J first you submit a query, it processes queries, retrieving documents, so, the time the costs for retrieving the first document, is higher than for retrieving others, because you already processed the queries (…), so query processing is time minus time, so, for the first document this may be high
188. P ok
189. J for next documents it will be low, but maybe increasing? Or maybe it's constant or I don't know, or again yes as says
190. MT that's non-decreasing, the time cost is decreasing, anyway you can have a non-increasing function, so the cost is non-increasing with the numbers, it's when the database returns lot of rubbish, lot of non-relevant documents, and the probability of relevant documents increases at some point. So, it's more likely you can see relevant documents from position 10 to position 20
191. J yes but you only consider this part, yes, in this part is like this, but if you consider this as a all process, and process loss, you said probably first ten documents
192. MT still increasing, is always increasing
193. J no but if, first ten documents cost something but then they provide ten others for free

234. F well, you know, mathematically you can but (…)
235. MT what would be possible, would be if the expected probability of a relevant document increases with the size of s, which is not likely, ok?
236. J ok, let me find the (*looking into the paper*; 0.8) yes, yes because the definition of post monotonic difference it's (*looking into the paper then writing on the blackboard*; 0.9) yes, it makes more sense, it means that, the deltas, will, so the cost for retrieving next document is not less, than because for retrieving previous document. So, here I was wrong (…)

(23rd of April 2010)

Even PhD students can take the role of leader if they are particularly skilled in a specific topic, and often the chief motivates them to do so. In the next example Francis asks to Paris, the most junior PhD student, to propose a paper about patents to the next reading group. It is interesting to notice the interplay between asymmetry and symmetry in roles here: from one point of view, it is the chief who is asking the PhD student to do something (turn 623); at the same time, he is elevating the role of the most junior member, as "the one who knows more about patent retrieval here than anybody else". In this turn, he is also implicitly giving to Paris the main responsibility for the choice of the paper, in response to Paris' desire, at 624, to choose the paper together. In fact, Francis shows to be willing to help her, but in the statement at 627 he is clearly asking for active participation and he is also giving freedom to Paris for a personal choice. Turns from 628 to 631 are interesting also from the point of view of non-verbal communication: these sentences are exchanged in a quite playful atmosphere, the two are laughing, this

probably showing their awareness of their roles, as far as it concerns academic hierarchy, but also individual expertise, that can potentially subvert the former. Actually, in 631, while laughing, Francis seems to make explicit how the position of a person in terms of expertise can be relative and context dependent: clearly Paris is not a top expert, but, as already said at 627, she is the expert here. These two sentences (627 and 631), taken together, can serve different functions: first, probably Francis wants to say that what is important now is the role of Paris within this group, and this entitles her to be the expert on that topic; second, Francis probably wants also to keep a realistic view, on the wider context of the discipline. Then, the fact he explicitly says "even if you are not a top expert" after having said "you are the one who knows more about patent retrieval here than anybody else", can be also read like "it is not necessary to be the top expert to give a contribution", this probably constituting a rule in the repertoire of the team. It is interesting that the chief is elevating the role of the junior PhD student while, at the same time, being very realistic and showing a pragmatic attitude. What is important, finally, is the creation of a discussion that can involve everyone and be useful for all the members of this CoP.

Example 6.3

623. F do you want to pick a paper, on patent retrieval?
624. P yes, I can, but I don't know if, I can talk to you (…)
625. F yes, we can pick it up together
626. P for the topic (…)
627. F you are sure you are the one who knows more about patent retrieval here than anybody else here
628. P ah, so
629. F even if you are *(laughs)*
630. P (…) *(laughing)*
631. F even if you couldn't yourself you know, a top expert, you know *(laughs)*

(23rd of April 2010)

Multiple Identities Coming Together

As mentioned beforehand, the group is very differentiated, not only because of the different hierarchical positions of its members and of their different expertise, but also because of gender, culture and membership to more groups. In the previous chapter, we briefly referred to gender and cultural differences: it is not our aim to deeply study such phenomena, but they are key features of any team and it is important to try to highlight their most meaningful facets so to better comprehend this CoP. Actually, some interesting accounts for these two variables emerged during a group discussion, and we will refer also to that data in this section. First, we will speak about the thematization of gender (especially as far as it concerns roles in the team and life domain issues), and second, we will reflect on the possibilities of integration into the department and into the team for people coming from all over the world. It is worth noting that this treatment of gender and cultural issues is for sure very quick and superficial, but it will be functional to our research questions and, most importantly, it will permit to further comprehend how the functioning of a CoP can be influenced by them. We will then focus on the different types of expertise in the group and finally on the issue of membership of more groups.

As far as it concerns gender differences, and, more specifically, roles, it is possible to say that they do not reflect a gendered division of labour, and also positioning is not done depending on gender. As we already stressed, and as we will see also in the next chapter, expertise is the keyword in this CoP. This is not to contradict those studies that show how the division of labour is gendered and how gender differences are created in work routines. Probably this fair management as far as it concerns roles and division of tasks is specific of this group, whose leader seems to be oriented towards an equal treatment of all the members, or can be influenced also by the fact the group is located in a very young and dynamic Faculty. About life domain issues, usually a very gendered domain, it is important to underline that the chief favours a flexible organization of work, he does not ask for continuous presence in the department, and he has a flexible attitude towards family issues. This is exemplified by two anecdotes from team meetings: once a post-doc came at a team meeting with his little daughter, while another time the chief himself left

earlier because he needed to pick up his daughter from school. Then, it is also important to say that the time schedule of the team meetings is always decided, and modified, only by common agreement, taking into account the exigencies of everybody. Nevertheless, all the members of the team seem to be well aware of the different implications that academic career in general can have depending on gender and family obligations, especially because of the high work load, with often unpredictable outcomes, and of the mobility that this type of career requires.

Academic career is known for being particularly engaging, and, since in the observation phase it emerged that team activities are organized only by taking into account, as far as possible, the different personal needs, a group discussion on life domain issues was organized. The main aim of this discussion was to better understand how the team members could manage all their different activities, how they were able to give an account for their own way to organize team activities, and if some differences among the participants emerged on that last point. In this discussion it was clear that when doing academic research work-life balance is difficult. Then, participants also stressed that the possibility of conciliating different activities depends first, on the hierarchical position, this disadvantaging people at the highest levels of the academic career; and then, on the family situation, this disadvantaging married people and parents.

It is remarkable that in this discussion gender related issues were only briefly mentioned by two female participants, but not further deepened. On the other hand, the intercultural issue, more specifically the problem of learning a new language, was thematized as a fact that disadvantages the achievement of a balance and that makes integration in the region more difficult. It is anyway interesting to note how gender was thematized: a keyword here is that of the “good wife”, that can support in the academic career, while another issue, strongly related to that, concerns the difficulty of “dealing with the responsibilities of another wife”. This thematization actually supports an old-fashioned and conservative (but still very widespread) vision of gender roles. In any case, topics related to women’s role quickly faded away, and a debate developed about how couples and families can deal with mobility. It seems that the thematization of gender as a

possible problem to be seriously addressed emerges only when considering family issues; in any case, this issue is not further deepened.

It is not easy to understand if this specific thematization of gender is a sign of the "gender fatigue" phenomenon (Kelan 2009), since maybe this type of thematization is the only possible and acceptable; or if it is due to contextual factors, such as the small number of women in the group, the general "friendly" atmosphere within the team, and the relevance covered by interculturality, that seems to be the most predominant interpersonal variable, with the most visible effects. It is also important to say that nobody in the team spoke about insurmountable problems in managing their present work situation: it is true that the presence of the chief could have discouraged such an admission, but it is remarkable that such problems did not emerge even in individual interviews.

Regarding interculturality, we already explained that the team is composed exclusively by "foreign" people, coming from Italy, Iran, Poland, Malaysia, Australia, Russia, with the exception of only one person who grew up in this region. The composition of this team is not exceptional in the Faculty, where English is the lingua franca and most of the people, both at the student and at the professorial level, come from external countries. Integration in the Faculty, especially with other PhD students, is facilitated by this internationality, by the small dimensions of the Faculty itself, and also by the fact that the vast majority of the people working within the Faculty are situated in the same building, where PhD students occupy the same open space. The fact of not speaking the language of the region, i.e. Italian, and of not having lot of free time for really focusing on it, is seen as an obstacle. On the one hand, it is true that, as explained by the team members themselves, most of the people in the Faculty are used to speak in English, and many of them also do not know Italian, so the fact of not knowing Italian does not cause marginalization within this context. On the other hand, it is difficult to have a network outside the Faculty. Moreover, the necessity to use a lingua franca sometimes can be tiring, as explicitly mentioned by a PhD student; this can be observed also in the trend to use the mother tongue, when it is possible.

For sure language is not the only factor when speaking about interculturality, because differences concerning attitudes and behaviours usually have a more serious role and can constitute a potential source of misunderstanding. It is likely that in this group this is minimized: small intercultural differences are often mentioned in this team while joking and making irony on stereotypes. This shows the awareness of these differences, and, at the same time, an attitude to deal with them in a playful manner. It should also be taken into account that the members of this CoP invest a lot of time in individual activities: we can imagine that, if a higher level of teamwork was asked, or if there was a higher interdependency between tasks, the management of intercultural differences would have been much more difficult. On the other hand, it should be noted that the members of the team seem all eager to be in contact with other people and other cultures, and think this is positively challenging. It is true that the choice itself to come to work in a similar environment can be considered a sign of the willingness to experience intercultural contact. The way the team is managed by the chief, who is careful to team cohesiveness, is also helpful for facilitating smooth integration, as we will see also later in this chapter when speaking about team building. We do not want to draw an idyllic picture, but we could say that the Faculty in general provides a good setting for people from all over the world, and this team in particular seems to provide an atmosphere favouring a good working climate, that is positive for people coming from foreign countries since it constitutes a good basis for building integration and dialogue.

As far as it concerns academic expertise, we will give a brief definition, since we are often mentioning it because of its strategic role in influencing the dynamics of this team. Expertise does not simply indicate the specific knowledge of a certain field and the competence to learn for working in that field, but, as explained by Carassa (2000), it indicates a dynamic knowledge that is constructed and modified by continuous participation in an environment, in a group, in a community of practice. It is only by enacting practice that expertise can be gained: the expert is the person who has the ability to know how to behave in a very specific situation. This is in line with a situated view of knowledge and action, as briefly sketched in the theoretical background. Furthermore, this definition of expertise can be better understood and valorised in the

light of situated learning theory, because participation in concrete practices is at the heart of both.

In this team, it is worth to underline that expertise accounts not only for the formal hierarchy, but also for the more informal positioning of each member within the team. Actually, a higher position is recognized to certain members because of their expertise, which is conceived as the mixture of active knowledge and competence that is shown in the participation both in team and external activities. This can be easily understood when referring to PhD students. There is not any official distinction among them, but it is clear to all the members who is more expert in which field: this not only for a question of background, but also for the participation in academic activities and for the time spent in the team, these last two factors being strictly intertwined. Expertise is highly valued: for example, when discussing a topic, the most expert on that theme also receives considerable attention by colleagues, takes the turn more often, explains, makes comments or answers to questions. In this way, everyone in the team can really profit from others' expertise. Consequently, it is possible to state that in this team there is a sort of "expertise power" (Dwyer 2008: 217), that, in informal and daily activities and interactions, is as relevant as (or even more relevant than) the legitimate power established by the department and the academic hierarchy. Academic background is an important factor constituting expertise and it is reflected on the different topics in which everyone is working on. Background is not only a matter of topics, but also of approach: in fact, work conducted by the different members of the team spreads from the more mathematical and probabilistic approaches to approaches more focused on the interactive side of information retrieval. Moreover, team members come from different universities and departments, where they had the opportunity to develop various types of expertise, that now well complement each other.

Membership of different groups is also an important issue in this team. As previously mentioned, the activity in the group is the main task for everyone, but it is important to consider three different levels of membership. First, there is a sort of cascade membership: the fact to be a member of that group means to be a member of the Faculty of Informatics, of the wider USI community, and of the international disciplinary

community. Second, there is a transversal membership: the fact of being a PhD student, a post-doc researcher or a professor, means to be part of the groups, respectively, of all the PhD students, or post-docs, or professors of the Faculty. Finally, there are multiple, or parallel, memberships: a person can belong to other groups, very likely the time and effort devoted to these other groups is minor, but nothing impedes to be a member of other CoP. A clear example is that of the chief and of the senior researcher, who hold a part-time position in a foreign university; the senior researcher and two PhD students are also part of another group of the Faculty. Being part of committees also represents a possibility of belonging to different groups. It is worth noting that, when speaking about membership of different groups, we are considering academic and/or professional groups, i.e. a certain number of people working and confronting each other regularly, with objectives that are linked to their own professional practices. Of course it is also possible to be a member of a group that has not a work related nature, but this type of membership is not considered for the purposes of this research. Membership of different groups is meaningful because it represents a component of expertise, and it also influences how membership of the CoP here considered is managed. Surely, the fact that membership of this team is the main occupation of everyone is a facilitator for engagement and cohesiveness.

Boundary Work: Opening to the World Community and Building its Own Specificities

The team shows to do careful boundary work, that is observable in the interplay between being open to the international IR community and building its own distinguishable and recognizable profile. We will analyse that focusing on three different aspects: promoting publications on the team web site; inviting speakers; hosting PhD students from other universities. The team has its own specificities, as confirmed by the chief in an interview: the way to approach the discipline, dealing with the retrieval of unstructured information, distributed information retrieval, text mining, interactive information retrieval. At the same time, the team cannot survive without building a network with

other groups and institutions, and without being careful to the current trends of the discipline. Actually the team has a strong network both at the Swiss and international level, this being facilitated by the fact that the chief and the senior researcher hold part time positions in other universities and have a wide experience in collaborating to EU projects and conference committees. Moreover, being the chief actively involved in the Swiss association DBTA, he has a good network in Switzerland, this being proved also by the project to organize doctoral courses in information retrieval at the Swiss level.
For the chief of the team both the aspects, building a profile as a team and being open to the wider community, are important and need to be cultivated. He is particularly careful in assuring the visibility of the team. In the following example, he is speaking about the importance of keeping the web site up-to-date with their new publications:

Example 6.4

19. F (…) we should, not only inform the group, inform the rest of the world of the papers that we have. So, we have on the web our web site, in the group web site, there's a list of there is a publications, if somebody looks at that, it seemed we published very little, instead, because all your publications are missing, you know, your poster as well and so on, remember always when you have a paper accepted to put it up there, how many papers do we have? Are you looking at that?
20. G yes, how many papers?
21. F no, how many papers this year, for example *(I looking to G's screen)*
22. G one

(8th of October 2010)

Making the work of the team well-know and assuring it will be spread towards the international disciplinary community is strategic for the team, and the chief often underlines this. Regular participation in the TREC conference, which is constituted by a sort of competition that then provides the benchmark for the international community, assures a wide visibility to the team, since the best groups in the world participate. In fact, when the deadline for this conference is approaching, most of the members of the team are working on that and also team meetings are devoted to that, as happened in July-August 2010. Participation in other internationally recognized conferences is also strategic. It is important to underline that some members of the group succeeded in

having work presented at the most important international conferences of the field both in 2010 and in 2011; moreover they had publications in other international conferences. Participation in international conferences is vital for the visibility and for the international network. Moreover, it also constitutes the best moment where to show the team contribution to the field, consequently where specificities of the team and alignment to the wider disciplinary community come together leaning towards an ideal balance.

The tradition to have invited lectures also reflects boundary work: on the one hand, there is the need to know about new research, to deepen new and relevant topics, to build the network, but, on the other hand, it seems there is special attention to carefully control the information that is going out from the team. The chief is sensitizing his students in trying to get the maximum from invited speakers: he always suggests to schedule a meeting with them, to study before their profile and their past works and then try to gather relevant information for the personal research project. In the following excerpt it is interesting to notice how the chief is underlining the importance of obtaining, from invited speakers, the information each one repute to be relevant, without giving not so much details about the personal work:

Example 6.5

146. F (…) well, you know, whenever you meet the person say, oh I know what you are doing
147. J yes
148. F because that reconnects directly what you are doing, so you don't have first of all talk half an hour what you are doing, and then get ten minutes of what he is doing, it's better to get the other way around, we want to get information from them, not to give them information

(5th of March 2010)

Excerpts 6.4 and 6.5 make clear that the team is engaged in boundary work: there is the priority of spreading some information (i.e. the publications) to a very wide community, but also the need to keep some other information (especially details about the work presently done by PhD students) internal as far as it is possible.

Having visiting students is another way of building a strong network and augmenting the external visibility. When these PhD students are hosted in the group, usually for two or three months, they become full members and can participate in the team activities, being also entitled to give their own contribution (suggesting speakers or topics). They are also motivated to present their own work, or a work they prefer, and they are integrated in the team leisure activities, as a consequence they are socialized to the group in a comprehensive manner. These visiting students are legitimated to have a full role in the team, even for a short period, but this can be a good starting point for future collaboration or for other periods to spend at the University of Lugano (as actually happened for one of the students, who visited the group both in 2010 and in 2011).

It appears that, when dealing with the education of new PhD students, the group has permeable borders. In other cases, like the information to publish in the web site or to give at conferences and at other official venues, the contents are more controlled and the boundary work becomes more intensive. Having a good balance between internal information and information to share in the wider community, and between building its own specificities and being aligned with what the disciplinary community does, are for sure particularly strategic for any academic team.

Team Building Practices

We conclude our analysis of the dimensions we repute relevant to deeply understand a CoP by focusing on team building. This also permits to recall and summarize the most meaningful characteristics of the team presented until now, and to anticipate the next chapter, focused on meetings. Team building is a very used and common concept, sometimes very loosely defined. For our purposes, we will keep the definition by Klein et al. (2009: 186):

> Team building (…) does not target skill-based competencies, is not systematic in nature, and is typically done in settings that do not approximate the actual performance environment. (…) we define team-building as a class of formal and informal team-level interventions that focus on improving social relations and clarifying roles, as well as solving task and interpersonal problems that affect team functioning. Team building works by assisting individuals and groups to examine, diagnose, and act upon their behaviour and interpersonal relationships.

Team building does not directly address the disciplinary knowledge or skills of the field considered: it refers to the conditions that permit to people in a team to effectively interact and work together, in a collaborative environment. Consequently it can be considered a strategy to foster mutual engagement in a team. Drawing on an extensive literature review, the authors indicate the four "models" that today are widely recognized by academics and practitioners to be particularly relevant to team building: goal-setting, developing interpersonal relations, clarifying roles, creating additional capacity for problem-solving. These four models can be characterized as components positively influencing team functioning, and, in fact, team building tends to enhance team's outcomes, especially from the point of view of the process and the affective outcomes. The purpose here is not to evaluate which component of team building is more or less effective, but to understand how team building takes place, which practices have a team building value, how these practices work and which can be their effects. Empirical data reveal different phenomena that can be grouped into this concept: we will see below how team meetings can be considered a sort of team building intervention, but we will also try to understand which other practices of the team are important for team building.

The leader of a team covers a good position for doing team building, and here we will consider the chief of the team as the main agent enacting this practice. Sometimes team building is constituted by specific interventions designed by people other than the chief of a team, as, for example, external experts or consultants. In this section we will consider the actions of the chief. Without any doubt, the way the chief exercises his leadership has a strong influence on building the team, since he has the adequate position for introducing those team building practices that are vital for the group (Dyer 1995).

In this CoP, different team building practices can be observed: the meeting is a strategic team building practice; then, the team artefacts (web site, wiki and mailing list) have an essential role in external and internal communication, in the display of team identity; finally, the organization of moments to get together outside work is an important initiative for strengthening social relationships within the team. At a more specific level, it is necessary to understand how these practices are organized and exploited: the simple existence of meetings or of a mailing list constitute a first necessary step, but they are

not sufficient for establishing a team building process. We will first reflect on team meetings, and then on the other practices.

We have said that team meetings follow four different formats: reading group, about members' work, organizational, work. We also said that usually meetings open with announcements concerning the group, and that everybody can bring news and information to share. Of course, the majority of the meetings has a strong accent on learning and sharing expertise, that is the vital mission of this CoP, but it is remarkable that each meeting presents a notable part with team-related concerns. Attending meetings not only means to conduct together an important core activity of the individual work, i.e. learning, but also being constantly up-to-date with information concerning the team, its activities and its members. Consequently, team meetings can be considered as a place where any group issue is made transparent: from this point of view, organizational meetings have a key role. The fact the chief organizes meetings in such a way that the four different formats alternate themselves, so that also meetings for discussing solely about internal issues are present, and that, in each meeting, a moment for sharing daily information is always planned, are relevant aspects in a team building perspective: in this way, the chief not only makes sure that there is always enough space for discussing team related issues, but also for letting individual exigencies to emerge. The habit of using meetings as a place for taking decisions about team activities is also essential, since it helps guarantee transparency, equal treatment, and a good sharing of information.

In some meetings the part where organizational and internal issues are under scrutiny can take considerable space: usually the chief is the leader of the discussion, even if sometimes points can be raised also by other participants, and he always asks if there is any other news to share. It is not exception that in these moments, as we can see in the next three excerpts, the chief addresses the all team as a single subject, using the first person plural pronoun. Moreover, the chief is used to explicitly ask to organize meetings even if he is not there, share information about which activity each member is engaged in, and use the reading groups as an opportunity to discuss also the individual work and receive feedback from colleagues. Underlining the relevance of group activities and

clarifying their role are important aspects of team building; for this reason, we will deepen these two issues in the next two examples.

In example 6.6 two sentences taken from the same meeting are presented: in both of them the chief, Francis, is very explicitly asking to organize a meeting every Friday (turn 1 and turn 560, at the beginning and at the end of the meeting). At turn 1 Francis motivates this very simply, saying it is a good way for the group to encounter, probably meaning that this is a good way to be up-to-date about what everyone is doing and to share information. In the second part of example 6.6 (turns 276-278) Francis is also asking to organize the meeting even if he will not be there the week after, but it is interesting to see that he first asks about the deadline for a conference, SIGIR, and then, only after having known that the deadline will be the day before the meeting, he asks team members to organize a reading group. This confirms the attention of the chief in trying not to overload the PhD students who are preparing a contribution for an important conference. In fact, at turn 276, he is saying they can organize the meeting if they want, so he is not giving any order. However, at turn 278, even if he is using the verb "suggest", he asks to propose a paper to be discussed during the next meeting, so he makes implicitly understand that his sentence is something more than a suggestion. In this way, he is exerting his authority here: we can say that the border between symmetry and asymmetry in roles is in fact very fleeting, because it can suddenly change. In general, Francis prefers to motivate the organization of meetings when he is absent, but the final decision is left to the team. This underlines Francis' willingness to keep the team together and create opportunities of encounter; at the same time, this reflects also his empowering leadership style.

Example 6.6

1. F (…) you should have the meeting anyway ok, you know, even if it is a short meeting or something, because it's a good, it's a good way to have a reunion of the group

560. F (…) ok, well, I don't have anything else to say, for this time, so, this is the first meeting in this semester, from next, well, next week you guys keep a meeting every Friday

(8th of October 2010)

276. F (…) so, ok, so, that's to say next Friday I'm not here, you can have your meeting anyway if you want, when is the deadline for SIGIR and stuff?
277. J till the 11 am (…)
278. F oh, next Tuesday, so Friday you will be free, so I suggest you do have the group meeting, pick a paper, anybody suggesting a paper? That you are reading, that you think is very good?

(21st of January 2011)

The chief often takes the opportunity to recall the role of the meetings. In the next excerpt, for example, he is proposing what he considers to be an ideal format of the meetings: to speak about members' work (in this example he is motivating Sheila to give them the presentation she is preparing for the SIGIR conference), or to choose a topic that then directly links to the work somebody is doing, with the aim of gathering valuable comments. Actually this format was followed when the chief was absent in autumn 2010. It is interesting to note, at turn 27, that he is implicitly underlining the relevance of sharing information about the individual work, and, at turn 53, that he is stressing the importance of giving suggestions to colleagues. This helps clarify not only the role of the meetings, but also what is expected by the members of the team; both of these are considered strategies for team building. Important also to observe that Francis is speaking using the first person plural pronoun: it seems that he wants to focus on the team identity and on shared responsibility.

Example 6.7

27. F (…) I think we should use these meetings on Friday either to see some short presentation, by the way, people like us, or, for example, because many don't know, many of us do not know exactly, what for example Sheila put in SIGIR paper, I guess, when we get closer to SIGIR and Sheila is preparing, I guess you will give a presentation at SIGIR
28. S yes
29. F yes *(smiles)*. In that case you may wanna give the presentation to us, so that we can
30. S yes

(…)

53. F and we should do, we should do this thing that I proposed you in the past, so, have, let's say a theme, so, what we do, we read that paper, and we, maybe in that context you can even talk about the current work that you are doing, and then everyone of us should (…) mind on suggesting some

(16th of April 2010)

The opportunity of each member to present the individual work during a meeting, to present something that is relevant to the personal research project, or to receive direct benefits for improving skills and knowledge, is a vital issue for augmenting the attractiveness of the meetings themselves: these practices strategically help maintain a good balance between team identity and individual identity, a critical issue in teamwork, as explained by Shore et al. (2011). In this way, each individual can fully participate in the team life, and, at the same time, can rely on a good environment for regularly affirming, implicitly or explicitly, individual identity, preferences, priorities. There is the potential for everyone to emerge, and inclusion in the team does not mean complete "homologation" in an entity that is disconnected from personal needs and does not permit any novelty. This is a valuable organizational strategy for building a team in a similar academic context; without such an approach, probably participants would be less interested in team activities, and this would compromise the team identity itself. Even if usually this is not considered a team building strategy, in this case we can consider the possibility of letting individual interest to emerge as a sort of team building intervention for facilitating interpersonal relations.

It is worth noting that meetings are used also to take decisions about the sharing of tasks. In general, in the group it is clear who is the main referent for updating the web site and for dealing with organizational issues when external speakers are invited. When there is the need to redistribute these tasks, it is decided together during the meetings. More importantly, when particularly engaging work has to be done by all (or most of) the members together, as in the case of the work for the yearly conference that provides the benchmark in the discipline, meetings are used for discussing possible strategies and deciding who will deal with a specific task. This helps a lot the work processes, and the democratic decision-making should facilitate clarification of roles and creation of a good atmosphere.

After having focused on the reasons why meetings can be considered a team building intervention, we focus now on the role of artefacts in such a process. The next two examples, always taken by a team meeting, refer to the wiki and to the web site

respectively. The wiki is very often used in meetings for going through the lists of suggested papers or of suggested speakers. In excerpt 6.8 Francis recalls to the team to use the wiki also for putting "group deadlines". This example is very interesting for different reasons. First, the chief is speaking, as already observed, using the first person plural pronoun. Second, by stating "keep the deadlines in mind", at turn 97, the chief is making very clear a vital aim of the team and of every member, i.e. to participate in conferences. Third, Francis is asking to all the members to make their own contribution, by putting deadlines on the wiki, in this way he is not only recalling the role of the wiki, but also he is calling for a sort of both personal and collective responsibility. Finally, he is speaking about "group deadline", this stresses commonality of aims and intentions in the team.

Example 6.8

97. F ok. Guys, you know, keep the deadlines in mind, *(laughs)*, ok, do we still have in the wiki the deadlines? We used to have that
98. J I'm not sure
99. F so, if you put, you know, whatever deadline you think it's a good group deadline to the wiki, we can find there. Ok, well, that's all I have to say *(closes his agenda and his calendar, takes the paper)*. So it's, anything else in general, as we go to talk about the paper?

(21st of January 2011)

Example 6.9 presents the same excerpt that we already commented when speaking about boundary work. It is particularly meaningful also from a team building perspective: the chief is speaking about the web site, that here is seen as a showcase for the team and its work. He is asking to keep the list of publications up-to-date; the risk is that of appearing as a not very active group, and of losing the opportunity to be cited. It is clear that the circulation of publications has a key role and that the web site is considered to be necessary for the image of the team in the wider community. This preoccupation towards the web site, the visibility and the productivity of the team, denotes Francis' willingness to build an effective group, that is recognized also at an international level, and it also recalls the team mission we discussed before.

Example 6.9

19. F in fact, I think this also, we should, not only inform the group, inform the rest of the world of the papers that we have. So, we have on the web our web site, in the group web site, there's a list of there is a publications, if somebody looks at that, it seemed we published very little, instead, because all your publications are missing, you know, your poster as well and so on, remember always when you have a paper accepted to put it up there, how many papers do we have? Are you looking at that?
20. G yes, how many papers?
21. F no, how many papers this year, for example *(J looking to G's screen)*
22. G one
23. F yes, I think we have more than one
24. G I think so, well Sheila's ECIR
25. S it's not there?
26. G it's not there
27. F there's the ECDL poster, there's CIKM poster
28. J CIKM
29. F there is also a short paper, what else
30. G something that Ross did before leaving
31. F yes, exactly, couple of papers by Ross, maybe I can put that, anything we have done should go there, with the pdf, because it's a way for people find it out and cite it, well, read and then cite it.

(21st of January 2010)

The mailing list is also important in a team building perspective. In one year, it generated more than 280 messages, sent by different members of the team. We clarified how it is used at the beginning of paragraph 6.1, when introducing the team and its institutional framework. The fact that is often used for giving also very personal announcements (like, for example, the birth of a baby) is a sign of the good and open relationship among the members of the group. Clearly the mailing list has a complementary role to all the other team activities and it represents a very small intervention supporting team building. On the other hand, it is relevant since it is a very quick and immediate instrument to get in touch with all the team, given also that the "virtual presence" of participants is quite high. Then, it helps to support interpersonal relationships and it assures an equal sharing of information.

Finally, it is worth noting that, at two points of two different meetings, it emerged that the chief did some team design: in fact, on one occasion he underlined that the group,

with ten members, is already big, while on another occasion, he affirmed he wants to keep an international group. This implies that Francis has his own and clear idea about what a team should look like in terms of numbers and composition: he prefers not to have a too big group and he values internationality. As a consequence, we may think he values diversity in terms of culture and academic background, as it is showed in this team. At the same time, the team building practices he is supporting seem to mean that he is aware of the challenges that keeping an international and diverse group can present.
It is clear that the chief can rely on a "fertile environment" for his team building practices: during the interviews, members of the team showed to highly value teamwork in general, and expressed a strong satisfaction for the fact of working in a team. Moreover, like one member said, "I think we have kind of more or less self-motivated group": consequently, being the members of the team very motivated towards the team mission, they are eager to do group activities since they are vital for them for advancing in research. Actually, the most senior members, who arrived when the group was very small, explicitly stated that working in a bigger group is preferable and the fact the group acquired new members was positive. On the other hand, the most junior member expressed a great satisfaction for working in such a team and for having the possibility to rely on others' experiences and expertise, as we can see in the next excerpt:

> the good thing about the group is that you can really use others experience, because I had experience of working just by myself and not having not being in a group, it was…actually I started another PhD, before, and so having…it was just me and my supervisor, having a group is really important to be able to yes, talk, to get their experience, you collaborate, and yes, but when you are stuck and you really don't know what to do and your supervisor is not at hand, is really useful to just be able to yes, to find a solution.
>
> *(interview, March 2010)*

Before finishing this part, it is worth noting how the team identity is displayed in the use of personal pronouns. The use of "we" and "us" is predominant in meetings: going back to examples 6.7, 6.8 and 6.9, it can be observed that the chief is always addressing the team using the first person plural pronoun (turns 27 and 53, excerpt 6.7; turns 97 and 99 of excerpt 6.8, turns 19, 23, 31 of excerpt 6.9), even if, for example, at turns 27 and 53 of example 6.7 the use of the singular pronoun could have also been possible. This use of

the pronouns can be considered a sign of team identity, solidarity, shared commitment, and collective responsibility. When used by the chief, it could also be considered as a precise strategy for creating commonality and lowering hierarchical barriers, even if its generalized use seems to link to spontaneity and to the existence (and the feeling of) a collective identity.

To sum up, data show that the activities the leader has conceived for the group and his style of chairing the meetings are very valuable from a team building perspective. The different formats of the meetings alternate each other so that the group can satisfy different needs, both at the team and at the individual level, as, for example, sharing news, discussing tasks, deepening specific topics. Style of chairing the meetings supports democratic decision-making, sharing of information, clarification of roles and of objectives: this is mainly possible thanks to the presence of a slot for giving news and for speaking about team issues, slot in which meta-communication activities are not exception. The different ways used by the chief to address the team as a whole, calling for a "collective responsibility" in organizing meetings, proposing activities, using the artefacts, are also strategic. The main team building activities are listed in the following table, accompanied by the more specific practices, that, inside each activity, are relevant in a team building perspective.

Table 6.1: main team building activities in the team

Macro-practice	Micro-practice	…helpful for…
Meetings	Alternation of the four different formats	Addressing more needs, assuring space for meta-communication
	Participative style of moderation	Supporting team and individual initiative
	Slot for news and team issues	Constant sharing of info, possibility of solving problems and redistributing tasks, opportunity of reshaping the team mission
	Democratic decision-making	Enhancing transparency and involvement of each member in the life of the team
	Possibility of discussing the individual work	Supporting the balance between team and individual identity
Mailing list	Active usage for sharing both team and personal information	Facilitating connection with the team and exchanges of materials, supporting work processes
	Active usage for planning meetings	
Web site	Promoting team activities	External team identity

Wiki	Proposing team activities	Supporting team and individual initiative, enhancing collective decision-making
Going out together		Strengthening interpersonal relationships

6.3 Summary of the Chapter

In this chapter, we deeply presented IR group, its history, composition, activities, the institutional framework in which it is embedded, the young and international Faculty of Informatics. We characterized the team as a CoP, and we answered the first research question. We recall here the most basic features of this team. IR group was founded in 2007 by its current chief, and, during the empirical phase, it was composed by ten members (six PhD students, two post-docs, a senior researcher, a professor) coming from different countries. It has good international connections, with most of its members frequently participating in the most important conferences in the field, and a specific external identity, made visible in its website. Then, we further described the team along six features: regularity of encounters and balance between team and individual activities; hierarchy and leadership; play between symmetry and asymmetry in roles; multiplicity of identities; boundary work; team building practices. We argue that these dimensions are vital for better analysing a CoP. The team is characterized by a high regularity in face-to-face encounters: in fact, its activities constitute the main occupation of all its members, who work in a shared space and in nearby offices, and are also supported by the team artefacts (such as the wiki and the mailing list, actively used). Its members show a high diversity in terms of provenience, gender, academic background. Its hierarchical structure is very clear, and it follows the typical academic structure, but, during informal moments and meetings, the hierarchical structure tends to fade out; what is more, often a new hierarchy, based on the expertise of each member, can emerge. Actually, we noticed that the chief favours participation and democratic decision-making, and he is likely to enact an empowering leadership style. Weekly meetings are particularly interesting from this perspective, since it is possible to observe, in different pieces of interactions, how positions can become symmetric, or also asymmetric but with

the highest position taken by a member other than the chief. Meetings are the most important team activity: they are born with the general aim of helping PhD students in acquiring disciplinary competence, but they are also the place where decisions about the team and its activities are taken and more general issues concerning the life of the team and the features of academic research are discussed. Actually, they serve as a place for reshaping and negotiating the identity and the enterprise of the team. Meetings are also the favourite place where team building practices are enacted. Consequently they provide the background where mutual engagement can be shown and can grow.

We can conclude that this team can be considered a CoP with strong internal ties, good external connections, and a special ability to reflect on its own practices. The existence of an empowering leadership style and of specific team building practices helps constitute such a CoP. Team meetings have a strategic role for the existence of this team. For this reason, in the next chapter we will focus on meetings, with the aim to understand how they work and what is their role for building and showing mutual engagement.

7. Team Meetings: Organizing, Debating, Learning, and Talking

As we already explained in the analytical framework, team meetings constitute the primary data of this project, and the variety of topics treated can be structured around four formats: reading group, about members' work, organizational and internal issues, work. They represent a regular, periodic activity embedded in the broader activities of the team, and positioned, as described at section 6.1, within the institutional context of the Faculty of Informatics. In this chapter, we will deeply go through the meetings: first, we will explain how the discourse analysis on the meetings was conducted; second, we will answer to our second research question, showing how mutual engagement is built and reproduced in this type of interaction. We will do this by presenting and analysing some pieces of interaction. For clarity of exposure, the presentation will follow the four main thematic axes that usually develop during the meetings, and that we will explain in the next section.

7.1 The Framework for the Analysis

The analysis of the corpus is guided by a conceptual framework that takes into account both the features of the discursive interaction and the type of content discussed. As far as it concerns the first point, i.e. the analysis of how the discursive interaction works, this is guided by some concepts suggested by the literature: taking inspiration from Drew and Heritage (1992), we gather these concepts under the umbrella term of "strategies of talk at work", to highlight the centrality of the discursive interaction for the development and accomplishment of the work activities themselves. These strategies are: style of moderation; meta-discourse; subject-position; patterns of questioning and answering and topics shift; commitments and violations of commitments; togetherness. During the analysis, it emerged the necessity to keep into account also of the specific content treated

in the different parts of each meeting, since, as we already stressed, meetings in this team are a very complex phenomenon, and the strategies of talk at work can change depending on the topic being discussed. We group the various contents treated during each meeting in four "thematic axes": organizational issues, scientific debate, learning together, academic small talk.

A framework is built to gather all these different analytical dimensions, that make possible an analysis at two interconnected levels: the thematic axis in which the discussion develops, and the strategies of talk at work that emerge in the interaction. Relations between themes and strategies of talk are investigated: actually, their analysis proceeds hand-by-hand, because the awareness of the type of theme discussed helps better understand the relationships among the strategies of talk at work enacted during the discussion; on the other hand, the presence of certain strategies of talk at work characterizes specific themes. The table below presents the framework that guides the discourse analysis on team meetings:

Table 7.1: conceptual framework for studying team meetings

	Levels of analysis	
	Thematic axes	**Strategies of talk at work**
Analytical dimensions	Organizational issues	Style of moderation
	Scientific debate	Meta-discourse
	Learning together	Subject position
	Academic small talk	Patterns of questioning and answering, topic shifts
		Commitments and violations of commitments
		Togetherness
		Joint laughter

The Four Thematic Axes

Referring to the four thematic axis, these dimensions are in principle mutually exclusive but they can merge at some points, especially when there is the shift from one theme to

another one; actually, borders between the dimensions are not always clear cut. Organizational issues refer to matters that are linked to the planning of activities, the sharing of tasks, the concrete organization of specific events or moments for doing something together, little decisions about the everyday life of the group, announcements. We can say that this conceptual dimension encompasses topics that go beyond the main activity of the meeting. As stressed in the previous chapter, team meetings are complex, they are not only differentiated because of the various contents treated, but, more importantly, because this activity develops at two levels: a meta-discourse level, where such activity is explicitly negotiated and redefined; and a discourse level, where the activity itself is conducted. Moreover, some issues here discussed refer to the broader activities of the team, such as the invited speakers, the participation in conferences, the organization of the space on disk, the updating of the website, only to name the most commonly discussed. Actually, all these topics, together with moments of meta-communication, are located within the organizational issue dimension.

Scientific debate refers to those moments of a meeting more focused on disciplinary issues, general research related contents and topics. This is the core activity of meetings, and of reading groups especially: concepts and methods are debated, trends of the discipline are treated, people express their own opinion on papers, and often this brings to a discussion on the peer review process. Scientific debates are often a prelude to learning together parts: it can happen that some methods or concepts brought into the discussion are not familiar to someone in the team, consequently specific comments and questions arise, and this causes the shift from a debate to a moment where the focus becomes the construction of common knowledge, thanks to the contribution of more expert members.

Learning together refers to those pieces of interaction where members are helping each other and giving feedback, or they are speaking about new concepts, methods, theories, and are collaborating for better understanding them. Giving feedback and collaboratively building explanations to understand new methods or concepts can seem two very different activities, and, in fact, they are if we consider how interaction develops: giving feedback presupposes that a research problem, or the work of a specific member, is at the

centre of the discussion, while collaborative building of explanations normally is not linked to any person and relationships are more symmetric. On the other hand, both the moments presuppose a strong personal effort of every member for helping colleagues in a very concrete manner, and often also feedback is given in a collaborative manner, in the sense that good advices can be developed thanks to different and smaller contributions by more people. We choose to call these moments "learning together" not because the other moments do not offer learning opportunities, but because we want to stress the high potential that these pieces of interaction have in terms of learning: the result of asking and giving feedback, or of working together for understanding new concepts, is something new, that enhances the knowing process of all the participants to that discussion. Individual feedback given by the chief is also included in this dimension, and in this case the chief acquires a clear position of teacher; it is worth noting that we have only few of these examples in the corpus, and that, in general, the chief is used to give his own feedback only after the comments by the other members, probably a planned strategy to give the floor first to the team, and then to add only the points not addressed in the previous discussion.

Academic small talk refers to chats about events of the department or of the community, it is a relaxed and very informal moment often characterized by jokes, and it is usually placed towards the end of the meetings. We will see that it is important in the process of socialization to the disciplinary community, and it has interesting implications in terms of mutual engagement.

The Seven Strategies of Talk at Work

As far as it concerns the strategies of talk at work, most of the chosen concepts have their background in discourse analysis or in conversation analysis. They are thought so as to be especially apt for studying mutual engagement within CoP. We will now go through each of them.

The style of moderation is a very important issue in any meeting: actually, a meeting has always someone who plays the role of the chair, and the chairing style has proved to be a strategic factor for shaping a meeting (Asmuß and Svennevig 2009; Boden 1994).

Holmes et al. (2007) well show how certain chairing styles, enacted by a team leader, enable participation, while others have the opposite effect. Consequently, it is vital when studying meetings, and it is strategic also when focusing on mutual engagement, to understand if a discussion is moderated in an authoritarian or participative way. When moderation is soft and participants are free to intervene at any moment, to propose new topics, and to pose questions, the chairing style is defined to be open and participative; when it grows into a more structured form, the leader prefers to choose the topics and to decide who can speak and when, the chairing style becomes more centred and authoritative.

Meta-discourse refers to those pieces of the interaction where there is a reflection on what was done or on what will be done. Meta-discourse is quite easy to detect in activities that are not heavily based on communication, since it delimitates the borders between communicative exchanges, mainly with the purpose to agree on some activity, and action. Here, it signs the moments in which some specific features of an activity, that will be done suddenly after, are anticipated (see example 7.2, page 140, when the chief explains what will be done during the meeting, and example 7.18, page 171, when Jan shifts the topic anticipating what he will say in the next sentences); but it also indicates moments in which a reflection on the team activities is conducted (see example 6.7, page 119, in the previous chapter, when the chief proposes what are meetings useful for). Meta-discourse is useful to analyse to see how the team conducts reflexive work on its own activities.

The concept of "subject position" refers to that of "positioning" by Davies and Harré (1990), and it differs itself from that of "role", that is more common in sociology and goes back to George Mead, because it focuses especially on dynamic aspects and it is inscribed in a view of conversation as joint action. Positioning means that individuals, while they interact in a specific situation, they position themselves compared to the other people with whom they interact, and are also positioned by the others: this position is interactively constructed, so it can even change during the same event (like a meeting, for example). Davies and Harré (1990: 48) explain positioning in the following way:

> it is the discursive process whereby selves are located in conversations as observably and subjectively coherent participants in jointly produced story lines. There can be

> interactive positioning in which what one person says positions another. And there can be reflexive positioning in which one position oneself. However it would be a mistake to assume that, in either case, positioning is intentional.

Patterns of questioning and answering permit to analyse how questions emerge, if they are linked to the topics being discussed, and if they are followed by consistent answers, since these dynamics are vital in meetings. Questioning and answering in conversation was first studied by Sacks, Schegloff and Jefferson (1974) in their analysis of turn taking. We do not refer to their works in this study because we sustain a more diversified and holistic view of conversation, following Clark (1996), who considers turns where questions and answers are built as "joint projects" that participants involved in the discussion can take up or not, and joint projects are supposed to have a development and an end. It is important to underline that Clark's approach to language shares the same assumption of the "immanentist" view by Davies and Harré, who underline the situated character of the functioning of discourse. For the purposes of this research, the focus will be on the consistency among the different turns that encompass questions and their respective answers, and on topic shifts, i.e. the change of the topic from one turn to the next one. Looking at the consistency between questions and answers, and at topic shifts, helps understand if such joint projects are taken up, when they are completed, and when a new project emerges.

Togetherness is a general concept used also in everyday language for referring to the situation, and also the sense, of being together, of belonging to the same group. It is not merely a fact, but also a feeling. In this case, we will use this concept for understanding those parts of the talk where the presence of the first plural personal pronoun, the "we" or "us", indicates the group as a whole. As explained by Mühlhäusler and Harré (1990), the use of the pronoun "we" can have more functions, such as: establishing solidarity, integrating with the audience, or also diminishing responsibility for what is said. In this case, the concept of togetherness focuses especially on the first two aspects, i.e. solidarity and integration with the audience, since they are very present in the corpus.

As far as it concerns commitments, we can say the analysis of how a commitment is taken is basic for understanding mutual engagement within a CoP. Often it is not easy to understand if a commitment taken in a specific moment is then respected or not. For this

reason, analysing moments in which violations of commitments are underlined is particularly useful. This permits not only to reflect on the type of commitment that has been violated, and on the possible reasons for that, but also on the way in which a very delicate issue is highlighted in the team. Actually, making to notice a violation of a commitment is highly face-threatening, and it could harness mutual engagement within the team. We will try to understand how such a face-threatening activity is conducted, and, for doing this analysis, we will refer to the concept of "joint commitment" as developed by Carassa and Colombetti (2011) and Carassa et al. (2008), who, building on the work of Gilbert (1996), explain:

> contrary to individual commitments, a joint commitment is a commitment of two or more subjects, which we shall call parties of the joint commitment, to engage in a common enterprise as a single body. Taken together, a number of subjects jointly committed to do X form a plural subject of doing X. The main difference between individual and joint commitments is that joint commitments are not separately "owned" by their parties, but they are, so to speak, collectively owned by all parties at the same time. (Carassa et al. 2008: 192)

Joint laughter refers to moments where jokes and irony emerge, and all the members of the team detach themselves for a while from serious discussion for laughing together. Recent literature (Kangasharju and Nikko 2009) shows the strategic value of laughter in work meetings, especially when it refers to the repertoire of the team and includes all the members. Laughter is very present in the observed meetings and is very interesting because it seems to serve different functions.

As far as it concerns the structure of these meetings, yet at a first look it is possible to notice some specific peculiarities, that also reflect the structure of the team itself, and that we deepened, to some extent, in the previous chapter. We will sum up the four most relevant specificities to take into account for conducting a sound analysis. First, meetings are participative, and they are lead in an interactive way. Clearly the role of the chief, who moderates the meetings, is given, but it is possible to say that leadership on the discussion is distributed, it is not concentrated in the hands of the chief, whose position as a chair fades out in many occasions. Actually, the level of guidance the chief gives to the discussion diminishes when the other members participate a lot, giving many contributions. Other members of the team can also lead the discussion in certain

moments, especially if the topic is something they proposed or something in which they are particularly expert.

Second, following the participative nature of these meetings, the topic of discussion is very open, and also the structure itself of the meetings. Everyone can suggest a topic for the next meeting, usually a paper to read. If there is not any paper to read and there are not presentations by anyone, the meeting becomes a moment to get everyone up-to-date with what is happening both at the group and at the individual level. Meetings can also be cancelled sometimes, especially if important deadlines are approaching, if there is not anything previously planned or urgent to discuss, or if the chief is not there.

Third, the chief is often seen as the "engine" of this activity, but this does not mean that meetings cannot be organized if he is not there. The chief motivates members to organize group meetings also when he is not present. Anyway, even if everyone considers these meetings to be relevant, the attitude of some members of the team when the chief is absent can be effectively summed up by the sentence that once a participant said to me: "no reason to meet if Francis is not here, we know more or less what we are doing". This situation changed when, in autumn 2010, the chief was unexpectedly absent for three months, and, because of a coincidence, two of the three post-docs left. After a first period, in October, when meetings were not organized anymore, then a discussion aroused among the PhD students and they decided to resume the group meeting: as a consequence, in November and December, five meetings were organized also without the chief. Probably, in a situation where a clear leadership was absent, and after a critical moment in which only few team activities were conducted, PhD students felt the need to take up this initiative.

Finally, it seems to be very likely that the format the chief gives to these meetings follows a type of pattern that works for team members and that is agreed by them, and this was observed when the chief was absent for three months. Actually, this was a very interesting moment to better understand the group dynamics. Meetings in that period were planned first of all as reading groups, with the usual space for announcements and organizational issues, and then they blurred into the genre of discussing one of the members' PhD project. There was not any strategic change in the format of the meetings,

in the way they were organized and conducted; what is more, the idea to use the reading group as an opportunity to speak about the research of a specific member was previously proposed by the chief. Actually we already saw in example 6.7 (page 119) that, in a meeting in the month of April, the chief said "we should do this thing that I proposed you in the past, so, have, let's say a theme, so, what we do, we read that paper, and we, maybe in that context you can even talk about the current work that you are doing, and then everyone of us should (…) mind on suggesting some …". In reality, the meetings took this format in an emergent manner, it was not explicitly planned; at the same time, this format turned out to be very effective and the two members whose work was discussed in two different meetings not only showed to be very satisfied about it, but also spontaneously expressed to the researcher, during a subsequent interview, their appreciation of this opportunity.

To better understand how meetings work, and to be able to comprehend their importance in terms of mutual engagement, in the next paragraphs we will analyse deeper this event, basing our arguments on significant examples from the data. We will conduct the analysis applying the concepts presented in the conceptual framework. For clarity of exposure, we will follow the four thematic axis (organizational issues, scientific debate, learning together, academic small talk), and, for each of them, we will focus on the strategies of talk at work. We will afterwards sum up the main results and see how themes and strategies of talk at work, jointly considered, can help us identify relevant discursive practices that are vital for creating mutual engagement. To facilitate the reading of the next paragraphs, we draw below a map that exemplifies, for each thematic axis, the main recurrent topics that will be deepened through the presentation of relevant data.

Table 7.2: the general topics treated in the different thematic axes of meetings

Thematic axes			
Organizational issues	**Scientific debate**	**Learning together**	**Academic small talk**
meta communication and establishing commitment	discussing papers	questioning / commenting on new / difficult concepts	about people in the field
announcements and conferences	peer review process	presenting the individual work, asking for feedback	about conferences
decision-making on present or future activities/ tasks	trends in the discipline	giving suggestions / help	
team policies / boundary work			

7.2 Organizational Issues: the Essential Frame for Making Meetings Work

We start our analysis on meetings by studying how organizational issues are treated and in which ways the strategies of talk at work are used in this case. We will focus especially on the starting of a meeting, on meta-communication, on decision-making processes, and on violations of joint commitments. The discussion of organizational issues in meetings is very often introduced and strongly moderated by the chief, who brings the most relevant points to be discussed and the decisions to be made; in doing so, he uses, in most of the cases, the first person plural pronoun. It is not possible to understand to which extent this strategy is spontaneous or planned, but its widespread use seems to indicate that it is emergent. In any case, it clearly refers to the existence of a collective entity, i.e. the team, and underlines the collegiality of actions and decisions. Organizational issues are the part where meta-communication takes place, where team activities are introduced and team actions are reflectively discussed. Meta-communication is often linked to some expression of joint commitment, and we can consider joint commitment to be one of the facets of mutual engagement. Joint commitment is a very relevant aspect of any interpersonal relation and it is even more important in a CoP, where commitments are not imposed by a super personal reality, but are created through interpersonal interactions; consequently, the existence of the CoP

itself relies on the existence of joint commitments, that represent a facet of mutual engagement. In this CoP commitment is particularly strong, and this is not surprising since there is a very clear mission that encompasses the entire work activity of each member. Team meetings in this CoP can be viewed as a reality that sets the rules for the interactions unfolding during the meetings themselves and for the potential commitments to be expected or taken. Joint commitment in meetings can be observed not only when there is an explicit commitment to do something, but, more interesting, when there is a sort of "violation" of the joint commitment, and this is underlined by someone who implicitly "reproaches" colleagues, using irony or laughter. Actually, the "reproach" makes also very explicit which is the joint commitment underlying the violation and the relevance of this commitment for the team. The act of noticing the violation can be face threatening for the person who made this violation, or also authority-threatening, if it is the chief who did not followed the team rules. Probably this is the reason why irony and laughter are used.

We will first see how organizational issues are introduced and treated in general, and then we will focus on specific phenomena. To have a vivid and realistic picture of what happens in the meetings when covering organizational issues, different excerpts are proposed below, they will refer to: starting of a meeting, meta-communication and announcements; boundary work; decision-making processes for inviting speakers and for redistributing tasks; expressions of commitment and violations of joint commitment. Even if at a first look it could seem difficult to establish a clear link among them, it is worth to keep in mind that they all contribute to constitute the background on which the team meetings can effectively work and their development is negotiated. Moreover, the discussion of organizational issues is also an important regulative practice for the more general everyday life of the team: this is especially the case when activities that are conducted outside team meetings are presented or negotiated, like in the case of announcements and of the invitation of speakers.

Getting Started, Announcing, and Doing Boundary Work

Examples 7.1 and 7.2 show how the chief typically starts a meeting, and present meta-communication elements. In the first case, the meeting was planned for Alan to give a try to his prospectus talk, the presentation that every PhD student of the Faculty is supposed to give to an internal faculty committee after the first year of doctoral studies. Meetings in general are used by PhD students for rehearsing presentations, and this is one of these cases. Here Francis, the chief, before leaving the floor to Alan, gives two different announcements, one concerning Alan himself, who will do an internship in the US during the summer, and a second one concerning a project that will bring in the team, for some months, two PhD students from the University of St. Pietersburg. Two things are particularly interesting: first, it seems that Alan is receiving in this precise moment the definitive confirmation he will do the internship; second, this news is far less detailed than that about the project with the University of St. Pietersburgh. Probably Alan's application for the internship was discussed in the group before, and no other details are needed: actually, at turn 1, Francis says "as you know, Alan will be going (…)". This shows that themes and issues treated in the meetings have a sort of "cumulative" nature. The second announcement is more detailed: Francis focuses on the different future steps of the new project, two "Russian ladies" arriving, with whom and about what they will work, and then the visit to the University of St. Pietersburg. It is worth noting that Francis underlines the research topic (clusters) on which the two guests will work, and says with whom the two guests will work, but he does not says explicitly that the two "Russian ladies" are PhD students. This becomes clear from the sentence that follows and from the more general contextual information that people who visit the group for a specific period are usually PhD students; this also denotes that the group has informal rules and uses a sort of repertoire, that permits to minimize some information while some other information (such as that on the topic) is reputed more relevant. Turn 6 finishes with a meta-communication on the meetings, "today Alan will give a talk on his prospectus"; then, Francis sets the rule for the presentation in a quite formal way, "remember you have about twenty minutes", but, at turn 7, he states another rule, that of the team, "in this case you can actually take longer". It is worth noting that expectations

about the presentation seem to be clear on both sides: Francis says "we will ask you a lot", and actually Alan replies that he planned to keep a short presentation so to have more time for the discussion. From the point of view of the strategies of talk at work, we notice the strong use of the first person plural pronoun, particularly remarkable at turn 7, and Francis' subject position, that clearly here is that of the leader and chief, who starts the meeting, gives important announcements, introduces today's activity, sets the rules and gives the floor. This is a very usual pattern at the beginning of the meetings, and it can be observed also at example 7.2.

Example 7.1

1. F before you start a couple of announcements. As you know Alan will be going for three months
2. A you confirm?
3. F yes, yes yes
4. A ok I do not know *(laughs)*
5. F well at least, we haven't set the date, we have just to sold out print because you will need social security number in the US, and therefore whatever I do (…) And also Jan and I we have written a proposal for a collaboration with the University of Saint Pietersburg, and we got funded, and there will be two Russian ladies coming over for three months, one chunk or two chunks this has to be decided, during…well, next month, they will be working with Jan and Ross as well on clusters. They will be here for three months, Jan and we will go in visit there for one week and then (coming) a couple of weeks after the summer. (…) and probably we will put (…) in the open space. Ok. Alan will soon be presenting his prospectus, so today Alan will give a talk on his prospectus, remember you have about 20 minutes
6. A *(laughs)* ok ok
7. F in this case you can actually take longer, we will ask you a lot
8. A yes, yes, I have set the time to be presenting in twenty minutes because I'm thinking about gathering all the ideas, all the comments from you, so in this presentation I have not included the depth of knowledge

(12th of February 2010)

In the following excerpt, always taken from the first minutes of a meeting, there is a clear meta-communication activity, introduced yet at the beginning of the first sentence, "today we will be talking about TREC"; the use of the first person plural pronoun stresses commonality and mutual engagement on the topic. Then, the chief introduces what seems to be an already taken decision, "all we are going to participate to the blog". In fact, it is usual for the team to take part to this track of the conference. The TREC

conference is very important since it is constituted by a competition that then provides the benchmark for the all discipline. We note that also here the first person plural pronoun is used. Afterwards, the sentence is concluded in such a way that it seems to open the need for a subsequent decision-making process (if to participate in the session track or not), and the floor is given to Greg, who will explain the details of the session track, a new task of the conference. It is possible to infer that Greg is personally interested in the session track, and he has prepared his presentation so as to give a clear picture of it and to facilitate the decision-making process. Even if this turn is very short, it clearly positions Francis as the chief, who, very similarly to the previous case, starts the meeting, sets up the topic, anticipates the need for a decision-making process, gives the floor, and, what's more, explicitly underlines a joint commitment: "all we are going to participate to the blog", that will initiate an important course of action engaging most of the team in the subsequent weeks.

Example 7.2

1.	F	ok, so, today, we will be talking about the TREC, and all we are going to participate to the blog, and maybe eventually in the session track, right, so, Greg is gonna tell us about the session track

(30th of July 2010)

The next example is taken from a meeting organized when the chief and the post-docs were not there. The excerpt comes after a long part on organizational issues, and concerns an important announcement for the team, i.e. the results of a specific part of the TREC blog track competition, top stories identification. In fact, while trying to solve this task, the group had some difficulties in modelling the problem, and it seems not a big surprise for the PhD students present in the discussion, that the group did not achieve a good result. The announcement is given by Mike, the most senior PhD student of the group, who is used to coordinate the work for the blog track. His irony is then reinforced by Sheila's intervention. What is interesting here is the joint laughter, the ability to laugh at their own mistakes. After this moment of laughter, this issue fades away. Laughter and

irony when commenting the part of TREC where the group did not achieved good results, is common and constitutes a sort of repertoire of the team.

Example 7.3

115. M and I received the tsi, top stories identification results, and we are almost *(smiling)* at the bottom of the table as far as I can say *(laughs)*
116. S nooo *(laughs)*

(everybody laughing)

(5th of November 2010)

Another typical organizational issue treated in the meetings concerns international conferences and deadlines; in particular, not only the chief is always motivating people to participate and to submit their work, but he is using the meeting for keeping every one up-to-date with news and accomplishments in this domain. In the following example he is asking who had a paper accepted at ECIR conference. It is interesting to notice, at turn 21 and at turn 25, that PhD students are well informed about the accomplishments of their colleagues. Another issue treated here is who will present the paper (turn 22); actually, the conference is taking place when Mike and Sheila are spending their six-months scholarship in the US, and they cannot come back to Europe during that period for visa issues. Consequently, the chief proposes to present the paper by himself, being a co-author.

Example 7.4

20. F good. Who has got a paper in ECIR? Nobody?
21. M *(raises his hand, S and I indicating him)*
22. F ah, you got a paper? But you will not present it, I will present
23. M yes
24. F then you
25. M Sheila got a poster

(21st of January 2010)

Examples 6.4 and 6.5 (page 113 and page 114) in the previous chapter are very relevant to understand how internal issues are treated, and, more specifically, how external communication is organized. As we already explained, the two examples, focused respectively on the importance of keeping the web site up-to-date and on how to prepare for the invited lectures, show the boundary work of the team: they represent sort of "team external policies", because they focus on the relationship with other groups and researchers, and on the external image of the team. The chief is motivating to keep the web site up-to-date with all the publications, "we should, not only inform the group, inform the rest of the world of the papers that we have". Then, he is explaining how to manage the individual meetings with the invited speakers; he reminds the aim of having invited speakers, "we want to get information from them, not to give them information". The use of the first person plural is very evident here, and it is clear the chief is stressing the team identity and collective responsibility. These issues are treated only periodically and not on a regular basis, and, in fact, it would be strange if that team would regularly need such type of boundary work; it is in any case relevant that they are addressed in a very direct way by the chief, and that this is done by stressing the collective identity of the team. We will not go further in these last two examples, since we discussed them in the previous chapter, being an important element for characterizing the entire team.

Decision-Making, Planning and Committing

We saw how meetings are started by the chief, how announcements are given, how boundary work is conducted. We will see now how decisions concerning team activities and tasks are introduced and managed, and then we will see some examples referring to violations of the joint commitment and the negotiation of the team shared enterprise. In the next excerpt, a very democratic decision-making process is started, the choice of invited speakers, a recurrent and episodic process in the life of the team. The meeting is at the beginning and the moderation of the chief is strong, he introduces different practical concerns the group needs to discuss. Here he wants to gather suggestions for choosing invited speakers, and Greg offers himself for projecting the wiki page with the list. The team wiki is used for listing the names of the researchers who could be

interesting to be invited for a lecture; then, usually each semester, there is a discussion on these names, so as to decide together the speakers to invite. It is interesting to note here that the chief at turn 116 speaks using the plural form, while it is clear that he did not introduce names of researchers living in the US. Clearly this use of the personal pronouns creates a sense of involvement and of commonality. Note that at turn 116 the chief clearly underlines a constraint posed by the department, that of the budget for inviting researchers; this confirms what we stated at section 6.1, i.e. the dependency of the team from its institutional context. It is remarkable how this important team activity is collectively planned.

Example 7.5

114. F all right. Other thing before we go to the paper, is, the visitors for next academic year, ok, so, suggestions
115. G I have the list, I can project
116. F yes, ok, let's go for the list then. Well, because the list there that we put online, the suggestions we put online, were mostly, there were lot of Americans, now, the problem with the Americans if that we can catch them only if they are here for other business, otherwise the university doesn't really allow to pay all the trip, I mean

(4th of June 2010)

We have said that organizational issues encompass also expressions of joint commitments. As far as it concerns the explicit commitment to do something, often it happens after a more or less specific request by the chief, and it addresses very definite team tasks. For example, sometimes the chief asks explicitly to specific members of the team to present something (usually to the most junior members or to the guests, as we saw in the previous chapter, in example 6.3 at page 106, when the chief asks Paris to propose a paper); it can also happen that he makes more indirect questions for motivating members to present. When people who are used to carry out episodic tasks are not present for a period, the chief makes an explicit request to the other members to commit to this task; often this type of request is framed as a collective decision making process. In the next example, the chief actually introduces such a request with "we need to decide who is the person who (...)", using the first person plural form, to underline

that this is a participative moment, an indirect way to ask for a commitment. Note that Jan offers his availability without hesitating, and with a very short and simple sentence, "I can do that", without asking clarifications about the task and without asking for other's opinions. He probably knows that his colleagues will trust him in taking this charge, probably he also knows very well what he is supposed to do and he knows he will be able to do it without problems or without being overloaded. It can be also very likely that this task is reputed interesting for networking. It is also true that, since two of the PhD students will soon leave for six months, and normally the most junior PhD students are not expected to conduct such tasks, Jan was among the few who could potentially be good candidates for such a job. We also note that the chief has with him a list of things to be discussed, this underlining the importance of the meeting as a moment to treat specific issues.

Example 7.6

16. F by the way, I have done the the organizing here, but we need to decide who is the person that, handles the visitors, and since Mike is leaving we need to replace him
17. J *(raises his hand)* I can do that
18. F you wanna do that? Ok, good *(puts a check on his list)*

(21st of January 2011)

Direct requests among members of the team are less usual. The next example depicts such an exception: in this case it is Mat, a post-doc, asking to Luke, PhD student and guest, to clean a collection they need for working on the TREC conference, for which they are now planning the different steps. It is interesting to note Sheila's joke: she ironically makes Mat to notice that Luke does not have necessarily as a priority to work on that. It is not clear if she wants to point out a sort of violation by Mat, who is like to give a specific order to Luke, or if simply she does not want that a guest is overloaded by team tasks. Since then Luke does not express any explicit commitment, later Mat comes back to this request, but in an even more indirect manner, maybe because he is aware that in any case it is unusual to ask during a meeting for such a commitment in front of everyone. Luke shows to have understood the point and not only he commits to that task,

but he gives himself a strict deadline (this afternoon, turn 717), and gives a justification for not having accomplished the task until now. In general during the empirical phase it turned out that such commitments are respected. The fact that only few examples of direct requests among team members can be found in the meetings probably means that such requests are made in other moments (maybe during face-to-face interactions among the parties involved); it could also be that the group in general is not used to make explicit requests, but its members rely more on offers from colleagues.

Example 7.7

586. MT clean the collection, that's the other thing, using Luke's
587. S no, he's not interested anymore, just taking the all-time just working on what you propose
588. L I mean, I have to
589. S but you don't *(laughs)*

(…)

716. MT I think it would be good to try cleaning the collection
717. L ok, this afternoon I'm really try to handle this work, finally
718. S *(laughs)*
719. L I wasn't working at that thing because it wasn't that task, tough, by the way

(30th of July 2010)

Finally, we focus on the violations of joint commitment, a very interesting meta-communication activity that permits to better understand rules and roles in the team. It happened during the meetings that some team commitments were violated by team members, and other members noticed it: this is normally done by using irony, and it is often followed by a moment of joint laughter. We can interpret this as a rhetorical device to soften a serious reproach, or to save the face of those reproached. It is important to remember that this type of reproach always comes from PhD students and is generally directed at other PhD students. We will see here two examples that well depict this phenomenon: in the first one, a PhD student, Jan, at the beginning of a reading group, implicitly reproaches his colleagues for not having prepared the selected paper, while the second example is an exceptional case of reproach, even if implicit, to the chief.

The meeting from which next excerpt comes is a reading group, we already presented it at section 6.2 (when discussing symmetry and asymmetry in roles), we will briefly remember the most important events. Jan proposed the paper for the reading group, but, before the meeting, it seems some people did not read the paper. In fact, later in the meeting, it turns out that this impression was not completely correct since most of the people prepared it, or at least tried to read it. Jan starts the meeting expressing his doubts about the effectiveness of discussing a paper that a lot of people did not prepared (turn 1); he positions himself as the leader of the discussion here, and also as a teacher. Jan's first sentence is an implicit way of reproaching those who have not read it, and who consequently violated the commitment to come to reading groups well prepared for making insightful comments and consistent questions. As a reaction, the chief answers with a vague "Let's see", he does not really address Jan's comment, while Sheila cares to justify herself saying she tried to read, but she did not understand, implicitly meaning that the paper was difficult, and placing the responsibility beyond her own willingness. Francis next and short comment is impossible to hear because of some noise, then Jan, smiling, says that he was expecting "a nice feedback", reasserting in this way the joint commitment, but using nonverbal communication for softening his reproach. It is interesting that, as a consequence, the chief himself is the first to react, to explicitly say that he read the paper, even if few years ago, and that he will try to give a feedback. This shows not only that reading group is important, but also that Jan's expectation is adequate and in line with the team activities, so his reproach is, in fact, legitimated.

Example 7.8

1.	J	I'm not sure if it works to have discussions since lot of people haven't read it
2.	F	let's see
3.	S	I tried to read, read it, but I didn't understand it all
4.	F	(…) *(laughs)*
5.	J	yes, actually I was expecting to, *(smiles)* have a nice feedback
6.	F	ah I will try, no I read it, yes, not yesterday, few years ago

(23rd of April 2010)

The following example depicts a violation of the commitment made by the chief. It is worth observing first, how Mike, the most senior PhD student, addresses the violation, but without directly threatening authority thanks to his ironic mood, and second, how the chief replies, it seems he is taking up Mike's proposition (turns 280 and 282), and, at the same time, he maintains his intervention on the same ironic register initiated by Mike. To better understand this example, it is important to remember that this meeting already constituted a sort of violation of the joint commitment, since the paper discussed was proposed by Greg and is linked to his work, but he is not there. In fact, this is quite a full moment for the PhD students of the team, since they are all preparing contributions for the SIGIR conference, whose deadline is the Tuesday of the following week, as mentioned also by the chief at turn 278. Probably because of this deadline, most of the members of the team had not really the time to focus on this paper, and, since Greg, who proposed it, is not there, the discussion on the paper is shorter than usual, and conducted especially by Francis and Mike, with few interventions by Sheila. Very probably, always because of this deadline, nobody reacts promptly to Francis' request, at 278, to suggest a paper for next week. During the meeting the chief, at two different moments, already noticed, even if implicitly, that Greg should have been there for discussing: for example, at turn 165, he states "That's a pity that Greg is not here, I think was Greg who proposed this paper? Yes, see why he proposed, why he thinks it's good", and then, at turn 258, he closes the discussion saying "Ok, anyway, since Greg is not here, so, next meeting would be next Friday", and starting to discuss the plan for the week after. So, after the proposition of Francis to suggest a paper for the next week, even if he will not be there, we can say that the overall situation was ready for someone to address the violation of the commitment. Then, it is also true that in general the chief is not supposed to suggest papers, this is normally done by the PhD students. Mike uses irony for addressing the issue, at turn 279, and then, after joint laughter and Francis' vague and ironic "yes", he reinforces his previous sentence saying he also will suggest papers before leaving (he will soon leave for a six-months scholarship). The chief, using the same ironic register that has created a sort of playful atmosphere, seems to accept Mike's proposition, as to stress the symmetry in roles, a way to say that Mike also, or any other member, can do

the same as he is doing. This does not mean that the rule changed in the group and now people who suggest papers then can be absent on the day of the discussion: the repeated moments of laughing and the way in which these sentences are pronounced make evident that this is a moment of joke, and the message that is reinforced is just the opposed to the literal one. This excerpt makes alive, underlines and renews two precise commitments in the group: first, the person who proposes a paper then is supposed to be present also during the discussion; second, the decision to have a reading group and which paper to prepare is a democratic one. It is also interesting to note that Mike, at 279, speaks about "tradition", this making evident that the members of the team are well aware to have specific rules that regulate their different activities.

Example 7.9

278. F oh, next Tuesday, so Friday you will be free, so I suggest you do have the group meeting, pick a paper, anybody suggesting a paper? That you are reading, that you think is very good? (0.6) no? (0.8) If you cannot think to any, I will suggest. Ok, I will suggest a paper *(writes on his agenda)* but I won't be here to, to discuss with you (0.5)
279. M so, there's gonna be a tradition, the one who suggests the paper is not here? *(smiles)*

(everybody laughing)

280. F yes *(laughs)*
281. M I will suggest papers the week before leaving *(laughs)*
282. F so, you can suggest the paper for the 4th of February *(laughs)*

(laughing)

(21st of January 2010)

After having explored the different moves that underline a joint commitment, we should ask from where group commitments, like those discussed in the last two examples, come from. It is possible to say that these commitments consolidated as the best practices in the group, and they are redefined during meetings, especially when speaking about organizational issues. Clearly the chief, when founding this team, had an important role in launching ideas and establishing missions, but then, the other members, through active engagement, slight modifications of team practices, propositions of new practices, contributed to better shape joint commitments. As far as it concerns meetings, for

example, the role of the chief for sure has been strategic for launching the initiative and for giving to these meetings a participatory style, but then the role of the other members is vital for consolidating and reshaping the practice. The presence, in each meeting, of a brief moment for discussing team issues and for doing meta-communication on the activity itself, is an evidence of the fact that commitments are renewed and redefined. Discussions on organizational issues, and meta-communication, are usually initiated by the chief, but then the other members are expected to give their own opinion.

The following excerpt well shows how the planning of the next meeting opens a meta-discourse on the meeting activity itself, a reflection on its role and on what is expected by the participants. First we briefly sum up what is happening here. This example starts with Francis asking about preferences on different options, discussed before, as far as it concerns the choice of the paper for the next reading group. In previous meetings there was a sort of agreement to discuss a paper by Mike; since in this meeting Mike is not there, and probably he will not be there also the next week, the chief would prefer to postpone the discussion about Mike's paper and to prepare a paper suggested by Jan. At turn 47, the chief asks also for other opinions, but, what is more interesting, is his statement about the fact that, going back to past experience, it is not opportune to have more than one paper for meeting. His laugh seems to soften this statement, that addresses a lack in the team, i.e. the impossibility to prepare more papers; at the same time, he is pushing, in a relaxed atmosphere, a new rule. Jan explicitly agrees with him, and Francis openly states the reasons of this rule: the fact that sometimes it is already hard to prepare one paper, and he adds that this is difficult also for him. It is clear the chief prefers to create symmetric relationships in the group, pushing commonality and facilitating work. More important from the perspective of joint commitment is the sentence at turn 53, that we already commented in the previous chapter, when discussing team building (page 119, example 6.7): the chief is proposing an ideal format of the meeting, where a topic is chosen democratically, then a paper is proposed, and, during the discussion of the paper, people have the possibility to speak about their own work. Here, the chief is also overtly stating what is expected by the team members: "every one of us should mind on suggesting some (...)". In fact, this format is not completely new, but it is reaffirmed in

that context, and, more importantly, it will be followed in other meetings, also when the chief is not there.

Example 7.10

47. F ok. Any new suggestion on the preference, of one or the other? I guess after past experience, we should avoid having two papers *(laughs)*
48. J yes
49. F it's already hard to have one, for some people, me for example, mm
50. J we could tell Mike (…)
51. F yes, that's true, in that case yes, so maybe we can have that one first
52. J yes
53. F and we should do, we should do this thing that I proposed you in the past, so, have, let's say a theme, so, what we do, we read that paper, and we, maybe in that context you can even talk about the current work that you are doing, and then everyone of us should (…) mind on suggesting some (...)
54. J yes, exactly, that's what I want to do with that paper, because, well, yes

(16th of April 2010)

This short excerpt briefly shows how the general commitment for members of the team taking part in the meeting is redefined, reinforced, and accepted by the members. Actually, at turn 54, Jan states that this is what he is thinking to have as a next reading group (and this is what will happen). The general commitment, here openly expressed, to give suggestions to colleagues, is vital to keep in mind, because it can be considered the base of the other more specific forms of joint commitment that we previously discussed: it establishes the desirability of offers for help, and it also legitimates requests for help to colleagues. To conclude, we can say that the rules of the team strongly depend on the historical sequence of different events, where meta-communication activities take place and these rules are shaped; at the same time, these rules strictly intertwine with concrete practices, and they are also shaped by such practices. In this process, rules and practices together can strengthen, and then become a sort of resource for the team, part of its repertoire.

Main Results

To sum up this part, we saw that organizational issues comprise a wide set of topics related to: planning of team activities, announcements, decision-making on specific tasks, boundary work, meta-communication and negotiation of joint commitment; all of these being relevant to mutual engagement. These so different topics can appear far from each other, but, in fact, they are vital for shaping team mission, enhancing transparency, reinforcing joint commitment, and making team activities proceed. They are the essential frame for the "real" and central activity of the meeting, i.e. talk, confrontation and debate on research related contents. When speaking about organizational issues and when doing meta-communication, the subject position of the chief is very clear: these themes are normally situated at the beginning and at the end of the meetings, and are chaired by the chief, who introduces the topics, makes announcements, starts strategic reflections and decision-making processes. The use of the first person plural pronoun to indicate a collective identity and to underline equal participation is very strong, and probably it is a leadership strategy. Members of the team show to be very careful and to actively take part to decision-making processes. Everybody seems to be well aware of rules and expectations in the team, this being shown in the excerpts were violations of joint commitment were presented.

7.3 Scientific Debate: How to Become an Academic

We analysed how organizational issues are discussed; we proceed now by immersing ourselves in those parts of the meetings that we called "scientific debates". More specifically, we will see how a debate is chaired, and what happens when a piece of research is commented. Scientific debates are more likely to happen in reading groups, where a chosen paper is at the centre of the discussion. This dimension encompasses pieces where the members of the team discuss specific objects of research, or specific methods, give their own opinion on a paper, speak about trends and topics in their own discipline, and, very often, argue about the peer review process. Scientific debates

present a pattern and topics that are far more uniform than organizational issues. We will focus here first, on the typical format that a scientific debate can assume, this being strongly influenced by the chairing style of the leader; then, we will focus on the initiation of a scientific debate when the leader is not there; finally, we will see also some excerpts that show how evaluations and critical comments of specific pieces of research are formulated. Scientific debates can also introduce learning together parts, when the paper addresses topics and issues where most of the members are not expert, and consequently many questions are posed to colleagues who have a better knowledge of that topic.

Chairing the Debate

Scientific debates can present very different characteristics. Often they are initiated and moderated by the chief, but, at the same time, the chief is also able to "disappear" if a rich exchange among the other members develops. We see first how the chief is used to moderate the debate. Example 7.11, and especially turns 108, 133, 202, 211, 248, represents the typical format the chief uses to chair a debate during a reading group. This example is taken from the same meeting of example 7.9, where we discussed how Mike dealt with the violation of the commitment by the chief. The chairing style Francis enacts in this part consists of general questions about the paper (as in turn 108 and in turn 202), coupled with more specific questions (turn 133); then, there are questions about the ideas that can be used for the individual work (turns 177 and 211), and, before the discussion closes, the chief assures himself that there is not anything else to talk about (turns 233 and 248) and anticipates the plan for the following week (turn 250). It is worth noting the use of the second person singular pronoun (see for example turns 177 and 211), this clearly positions Francis as the leader of the group and the chair of the debate, while the other members, in this case PhD students, are positioned like those who are expected to "report" to the chief.

The recurrent question about ideas and models that can be used for the individual work has different functions. From one point of view, a reflection on these topics means that a person has understood the main ideas of the paper and its specific methods. Then, it

focuses the attention on the individual work that everybody is carrying on, and this permits to the team members to share information, problems, and solutions. Finally, it is also a way to teach to the young scholars how a paper should be read, a strategy to say that it is important to take inspiration from previous work and to build on that, and we can say this is actually one of the basics when doing scientific research. It is possible to say that in general this way of making questions, that can constitute a good pattern for moderating a debate, represents something more: first, it is a good format that can be applied in different situations for critically reflecting on a piece of research; second, it constitutes a sort of "scaffolding" for helping the PhD students in their reasoning and for acquainting them to the role of academics. As a consequence, we can say that this chairing style is highly valuable from the perspective of the young researchers, this being a supplementary reason for considering it to be empowering.

Example 7.11

108. F so, what do you think of this model, this approach, taking the news and retrieving, well, from target index, things that then you can use as a query, against the
109. M yes, actually that was the only interesting part of the paper, you have the news and you want to retrieve the entries in the social media that are implicitly talking about that news ….

133. F also, what do you think of the retrieval model? They combine the language model, which is good, but they have this probability related to the date, and the probability related to the credibility (0.3)
134. M yes, they all use these formulas
135. F what do you think of that?

177. F did you find yourself, you guys, anything useful for your work in this?
178. M it's very similar to top stories identification

202. F but do you think there is, what do you think is the main contribution, the value of this paper? (0.5) is it in the idea, this idea of using that query modelling to retrieve social media and then the fusion, or is that, the, the technique, the combination of all these models, and retrieval models, query modeling, all the combination of all the elements?

203. M yes *(looking into paper)*, I guess that generating different queries and combining, that's part of their contribution, also the experiments, having, crawling all these media and making judgments, although I didn't see if they made public, that's very interesting then
204. F mm

211. F anything here that you can use? That you guys can use? (0.7) no? *(laughs)*
212. M yes, I said the top stories identification
213. F sorry?
214. M as I said for top stories identification
215. F yes, ok
216. M *(takes the paper)* although this stuff, long term and multiple pronouns [(…)]
217. S [for], yes, they originally used it for finding credibility of the documents for retrieval, and they have a SIGIR paper I guess, no? but they have a paper for that. But then, I used this for retrieving, I tried to use for opinion mining stuff and blog related it was not useful, I haven't tried for blog 06
218. F mm mm

248. F ok. Anything else about this paper, to say? (0.4) this is not presented yet, because it's next month. (0.6) you didn't send anything to WSDM I suppose?
249. M maybe Mat

250. F ok. Anyway, since Greg is not here, so, next meeting would be next Friday, but next Friday I'm in this Italian conference, Italian information retrieval, whatever it is, Italian information retrieval workshop, in Milan. As I said most of the stuff there is in Italian, although the title of the papers they are now published online, the list of title, it's iir, the conference

(21st of January 2010)

Before finishing to comment this example, it is important to notice how often conferences are mentioned: at turn 217, one of the PhD students mentions SIGIR, the most important conference for people in this field; then, at turn 248, Francis asks if somebody has sent a contribution to WSDM, another international conference, and, at turn 250, he speaks about the Italian Information Retrieval Workshop. Always at turn 250, Francis, while closing the discussion about the paper, says "since Greg is not here": actually, the paper discussed was proposed by Greg, and, as we already stressed previously, the tradition for the group is that the person who proposes a paper has a leading role in the discussion, presents the main idea and explains why the paper is relevant. These words seem to account for a quite fast closure of the discussion, that

usually is much longer (here it took not more than twenty minutes while it can take the double, or also one hour). It is important to say that in this meeting the role of the chief as a moderator is particularly strategic for the fact that few people read the paper (an important deadline approaching), and the person who proposed it was not there. In other meetings that follow the pattern of the reading group, moderation by the chief is softer, so he is less present in making questions, even if in general he always tends to follow this pattern. In this discussion sometimes the chief has to push a bit the debate, as in turn 202, when he makes a question and, after some minutes of silence, he gives possible answers.

The next example focuses on a reading group that started before the chief arrived, since he was a bit late. This fact is already meaningful: the role of the chief is recognized to be important, but his presence is not necessary: if he does not arrive punctually at the meeting, the other members feel free to start and to manage the discussion by their own. In this case, Ross asks the floor: for taking the role of chair, he starts with a rhetorical question, using also the first person plural pronoun, presupposing a common willingness to engage in that activity. At turn 5, Ross expresses his concerns in understanding all the details of the paper, and then, at turn 7, he poses a question to his colleagues focusing on the peer review process. In this turn it is interesting to note the use of the first person plural to engage in indirect speech. The reviewing process is a recurrent topic in scientific debate parts, and it can be considered as a sort of repertoire for these meetings. It is worth noting how, at turn 9, Ross is ironically suggesting that maybe the reviewers did not understand completely the paper, and then, at turn, 12 Mike reacts referring to Ross' works, even if Ross' question addresses more specifically the reviewing process of this paper. Actually Mike here is posing attention to another aspect of the paper, the type of research problem addressed: Mike suggests that probably this paper has an advantage, compared to Ross' ones, because of the problem it addresses, and this comment will come back also later in the discussion.

Example 7.12

1. R can we start to discuss this paper?
2. M if you are ready yes
3. R I like this paper, I like this idea, because the idea is clear to me
4. S mm mm
5. R the paper seems to be focused, but I got lost in the details
6. S exactly
7. R all those parameters. So, my question is, how would you approach reviewing this paper, because, I know, I got some rejections in the past because people would say, sorry, we fail to understand the all content of the paper. Now the point is, this paper got accepted, right, so, do you think that people, I know, just went all through these details and they understood it, or they just, I know, like the idea, and they skip, the details of the paper
8. S I don't think, because the details are so much that they cannot just to skip, it's not a paragraph, even, although the idea is very nice, also to me it seems nice, but if I was the reviewer and I didn't understand the detail, I don't know, I tried as much as I can to understand *(laughs)* [but if I don't, probably I read until (…)]
9. R [*(laughing)*] but my point, so this, do you think the reviewers
10. A *(laughing)* understand completely
11. S probably yes, because otherwise, I mean I understand, details are so much, either the reviewers understood or, I don't think it's that much that you can just ignore it, I mean, it's not
12. M yes, I think the difference between this kind of paper and your paper, because this is, very, well-known problem in ir community and I think (…) your problem

(5th of March 2010)

We see that Ross, who is moderating this part of the discussion, obviously speaks more than his colleagues. On the other hand, his colleagues show to follow carefully Ross' line of reasoning: their interventions are highly consistent with the points raised by Ross, and, at turn 10, Alan also completes Ross' sentence. In fact, this excerpt is the starting point of a long discussion on the peer review process, where the chief, being the most expert in this domain, will subsequently have a leading role.

Being the Reviewers

A recurrent issue in scientific debates is represented by discussions on the originality of papers. In this case, the members of the team behave as if they were the reviewers of the paper under discussion; actually, the interaction in the example we commented above, then will also go in that direction. Being active in such discussion means not only having

carefully prepared the paper, but also having a certain breadth and depth of knowledge of the discipline. The next excerpt shows a discussion on the originality of a paper, where Sheila is arguing in favour of the paper, while Mike, at turn 127, has not any problem to clearly express his opposite opinion. Francis, the chief, seems to support Sheila's view, but earlier he also supported part of Mike's arguments; in fact, it appears that he is equally balancing the two positions. Roles here tend to be symmetrical, even if in Francis' attempt to find a "middle way" between the two different opinions we can see a sign of his deeper expertise, and also of his formal position as chief. We notice that, even in the presence of the chief, the discussion is very open, everybody can freely intervene to say the personal opinion, and different opinions tend to be equally listened to.

Example 7.13

125. S I guess the problem was something new as well, I mean the (…) collection, (…)
126. F yes, yes yes, sure I mean
127. M I don't see the novelty of the problem, it's the retrieval, you have the news and you want to retrieve the relevant documents
128. S but yes, the problem is that ok, it's a different problem, it has its own properties, like the language model is different or some, I mean, maybe the novelty is not that much, but the all story in general
129. F yes, the novelty is partly related to the approach, yes, the fact that you have news sources and you want to find related stuff that is being discussed in the media (…)

(21st of January 2010)

The next example is similar to the one discussed above since there is also an evaluation on a paper; however the issue at stake now is not originality, but internal validity. After having deeply studied together the different steps and arguments presented in the paper, all the PhD students, except Mike, are convinced that the authors do not really provide a proof of their arguments (see especially from turn 270 to turn 279). They focus on methodology (turn 257), then on the publications by the same authors (turns 259-270) and on the possible strategies used for developing these ideas (turns 265-270).

Example 7.14

257. M in blog retrieval for example they use this method
258. J yes, they [(…)]
259. M [(…)] paper 2008, that, it's the same guy
260. J I guess the idea was like that, they tried for blog retrieval they published separately, they tried for form something
261. S right
262. J there are several references
263. M yes
264. J for online community search, blog retrieval, and for, for something else (looks into paper), but (…), retrieval the best group of documents, so
265. M but those are all applications, here they [(…)]
266. J [yes], no no, then they, they have two more like, what
267. S [relevance feedback]
268. J [relevance feedback] and
269. G [clustering]
270. J [clustering], which are not well, not worse than the all papers *(laughs)*, so they kind of put all this mathematics, that is standard mathematics, and they published another paper, on, on geometric representations, so they went from applications I'm sure, so, they had three applications, now they have two more, they want to publish them, either you go with the poster, or, if you have a nice, I mean, if you can represent a nice theory, you can go with the full paper. At least that, it's my feeling.
271. M yes maybe it's right, but still, it's a huge work to prove all this
272. J but it doesn't prove [anything]
273. S [where's their proof?]
274. J [that's the problem]
275. S where is their proof? I don't see
276. J they don't prove anything
277. G it's just applying some math, it's not
278. S no, I'm really [(…)]
279. A [and showing it works)

(5th of November 2010)

It is interesting to observe that Jan, while commenting the paper at turn 270, also gives a general strategy on how to proceed with a publication when starting from application, instead of starting with theory. Actually, it is very common in debates about papers to quickly step into more general considerations, about publications, or even advices about how to publish, and this can be considered to have a high value for being better socialized to the role of academics. We see that turn taking here is very fast, but, at the same time, the various interventions are highly consistent: the different turns tend to complete each other, and there are overlaps (turns 145-152). The general impression is

that relationships are very symmetric, maybe this being facilitated by the fact that only PhD students are present in this meeting.

The next excerpt is taken from the same meeting as that above, but just from the first lines of discussion of the paper. It is particularly useful to observe how positions are interchangeable and tend to be symmetric; moreover, this excerpt is the prelude to a learning together part, that we will also comment at the next section (example 7.17, page 167). Some turns before Jan has been asked by Sheila to start the discussion, since he proposed the paper, but Greg, at 150, states he would like to start from the end of the paper, taking for granted that everybody read and understood the main points. He then also explains the reasons of such a request (turn 154), this probably being a way of asking a sort of permit to his colleagues for treating that part of the paper first; in fact, this can be considered as a strategy for helping follow the discussion. Jan at 153 says to Greg "Start": this signs that Jan accepts Greg's proposition, he gives him the floor and positions him as the chair of the discussion that will follow. Then Greg briefly comments the previous step of the paper, Jan agrees with him, and then intervenes for correcting Greg, at 156. Actually, Jan's correction has to be read more as a critique of the paper, than of Greg's explanation: the point is that the authors, for Jan and Greg, do not show why geometrical space is useful. It is interesting to note that Greg at 158 asks also confirmation to his colleagues, this helping the creation of a common ground for starting the discussion. Greg's question, at 160, is reputed to address a good point, Sheila briefly completes it, and she also makes some comments; she appreciates a part of the paper, and then her comments go in the same direction than Greg's ones. It is difficult to interpret the brief moment of laughing at 164: very probably it signs that Greg's point is shared also by his colleagues, who are not able to give a prompt answer. This is underlined also by the fact that Sheila at 165 says "I don't know", and then, as to give in any case a contribution, even if she has not an answer to the point raised by Greg, she says which part of the paper she finds good. Actually, since nobody has an answer to solve Greg's question, that he well formulates at turn 168, a learning together part opens in the middle of the debate.

Example 7.15

150. G actually I would like to start from the end of the paper
151. J from the end?
152. G yes
153. J ok. Start *(looks at G's paper and comes back to sit near to him)*
154. G no, because, at the beginning, it just, shows up how you can, derive geometrical
155. J that's true, [that's true]
156. G [space], how useful is it
157. J yes, it doesn't show how useful
158. G yes, it claims is useful, right?
159. J yes
160. G so, in practice, how can we use it, so
161. S so, the application (…)
162. J that's a good question
163. S no [the distance (…)]
164. (?) [*(more people silently laughing)*]
165. S I don't know, the relevance feedback was nice I guess
166. G yes
167. S then how interpret the relevance model as arithmetic mean, and then when the geometric mean would be a better choice, and shows that is better, so
168. G yes, my main question is, to apply the geometric mean, what is needed?
169. J ah yes, that's a very good question, yes
170. S mm mm
171. G just this function here?

(5th of November)

It is worth noting the general symmetry in roles here, and the fact that everyone is very careful to the discussion but intervenes very freely, this being also evident from acknowledgments, rephrasing of questions (as in the case of Sheila at 161), overlaps. Meta-communication is highly useful for framing this part of the meeting and for anticipating what will be done; taking inspiration from Clark (1996), we could say it represents an effort for grounding the common project. Greg's point is not only highly considered, as we see here, but it is important to remember that then it will be deeply addressed, as we will see later in the next section.

Main Results

Scientific debates are a central activity of meetings, and especially of reading groups, and they follow always similar patterns: from more general observations on the chosen

piece of research, to more specific comments on methods and concepts, to considerations on the peer review process. The moderation of the chief has clearly a formative value, helping PhD students to pose their attention on specific points, and implicitly showing how an academic should approach a scientific text. In this situation the subject position of the chief as leader and most expert is clear. On the other hand, this does not mean that relationships are always asymmetric: debates can be moderated also by members other than the chief, and, when the debate is particularly vivid, the chief can also disappear to leave the floor to the youngest researchers. Everyone can intervene to give the personal opinion or to make questions. Actually, these debates tend to develop differently depending on the various interventions; this is why sometimes, especially when discussing concepts and methods that are new for most of the group, scientific debates can blur into a learning together session. We can consider scientific debates as having a very clear structure, that then can be developed and completed following the needs and the priorities of the youngest researchers. For the less expert members of the team, they have a strong value for getting more acquainted not only to the discipline, but also to the role of academic: in this way, skills such as reviewing and discussing can be practiced. As far as it concerns mutual engagement, scientific debates are important not principally because of the type of content treated, but especially because of the way talk develops: there is high consistency among questions and answers, topic shifts are often framed using meta-communication, everybody can intervene and give the personal opinion, and everybody can lead a part of the discussion. This specific way of conducting the debate facilitates comprehension of the topics at stake and participation, this being essential in fostering mutual engagement.

7.4 Learning Together: Collaborating for Knowing and Understanding

After having studied the thematic axis that refer to organizational issues and to scientific debates, we now turn to a core activity for the team, that can be detected in the "learning together" parts of the meetings. Learning together refers to moments where new concepts and methods are discussed, solutions are built collaboratively, or feedback is

asked to colleagues. To be more precise, in this section we will comment examples that show how colleagues try to find answers to some concepts they do not know, how advices are given, and how concrete help on specific points is offered.

Sometimes there is a strong link between scientific debates and learning together: it can happen, as we saw above, in example 7.15, that during a scientific debate, the discussion focuses on some specific topics where nobody has a prompt explanation, and consequently the members of the team try together to answer to questions; this opens a learning together part, since the mission becomes that of understanding a certain theme together. Reading groups and meetings focused on members' individual work are rich of sequences that can be defined as learning together. In general, this thematic axis is very interesting for studying interaction among colleagues and mutual engagement in this team. We will first go through two examples, taken from reading groups, where doubts and questions are solved together. We will subsequently analyse three examples where feedback and advices are spontaneously given to colleagues. A final example presents a spontaneous offer for concrete help. Excerpts will be quite long in this section, this for better showing and appreciating how the interaction collaboratively develops and for giving a complete picture of the phenomena we are analysing.

Answering to Questions and Learning new Concepts

In the next two examples we will analyse meetings that refer to the format of the reading group: they are particularly interesting because colleagues try to solve together some doubts they have about specific points in the papers. Example 7.16 is extracted by the same meeting of example 7.8 and it shows very well the "learning together" thematic axis: in this meeting most of the members are there, the chief included. In this part the meeting is led by Jan, who proposed the paper they are discussing; this paper is quite well-known in the community, it is written by one of the most recognized researchers in the field, and it is linked to Jan's PhD general topic. Jan presents the main ideas of the paper in a very structured way, he goes at the blackboard and writes down the most important formulas, explaining the different steps. He is positioning himself like a teacher, here, and the way his colleagues (Sheila and Greg especially) are addressing

questions to him, in the following turns, confirms this positioning. When Sheila intervenes, at turn 49, Jan just started to introduce the topic few minutes before, and he just finished to write at the blackboard the first formula, the cost function. Actually Sheila's question, introduced with a polite "excuse me", refers to some values of that formula, and she proposes her own interpretation (turns 56 and 57). Sheila's question can be seen as a way of asking confirmation about what she understood, but in doing that she is also challenging Jan's explanation, that was not complete at that moment. The chief intervenes at 52 for better clarifying, like to prevent possible misunderstandings. Jan shows to follow Francis' explanation (turn 53), and Sheila at 59 reformulates the meaning of the function, introducing her sentence with "I guess", avoiding to be too much prescriptive. The issue here is which part of the function computes the fixed cost for retrieving both relevant and non-relevant documents. Actually, at 60, Jan shows the part of the function where the cost indicated by Sheila is computed, but at the next turn Sheila, even if she says "ok", she does not look very convinced. For this reason Jan reaffirms his position, Greg also intervenes like for completing Jan's very brief explanation, then, Jan cites the part of the paper that defines the cost function, that seems to be the best choice to avoid misunderstandings. Interesting that in this turn Jan uses the first plural person pronoun in his explanation, choice that looks like a rhetorical device for integrating audience. At this point (turn 66), Mat also, the post-doc researcher, intervenes for better clarifying the function. After Mat's explanation, Greg (turn 70) makes a question, posed in a very soft way, about a very specific part of the function, the value "c plus". Jan provides an answer yet at the subsequent turn, introducing it with the rhetorical question "you are interested in retrieving relevant documents, right?". The answer is completed by Mat, then Greg, at turn 75, asks for clarification, Jan provides a full answer, Greg shows to get the point (turns 77 and 79). It is important to observe how his colleagues, Greg and Sheila in this case, follow Jan's reasoning step-by-step, acknowledging with a short "ok" their understanding of the previous sentence. This is probably a spontaneous way of facilitating the explanation, and can be considered, following Clark's (1996), as an effort for grounding the joint project that the team is presently accomplishing (answering to Sheila's intervention at 49). Jan at 80 makes a

more general observation about the paper, that does not provide explanation on the point just addressed, and Greg also says to have noticed the same issue (turn 81). It is interesting that at turn 82 Jan explicitly affirms he also had the same question as Greg at turn 70 ("it was my question as well"), and then he better reformulates the answer, even if, in fact, the answer was already provided. It seems that Jan at turn 82 is giving an account for the answer he gave at turn 71, citing also Mat's completion at 72; in doing so he sums up the meaning of the two values they are discussing, c minus and c plus, he engages in a sort of scenario-based thinking, and he uses another time the first person plural pronoun. At the end of this sentence he also asks confirmation to his colleagues, "right?", and since no answer is given, he then adds "no?". In any case Jan seems to be very at ease with his position as chair and "teacher". The discussion will then continue later, and this part will constitute a vital step in which other explanations are built.

Example 7.16

49. S excuse me, but isn't it the cost the retrieval has, so even for relevant retrieval you have a little cost, but it's
50. J this one
51. S no, that's for something else, that's not for retrieval
52. F that's the cost, that you access the system and you spend some time downloading document
53. J right
54. F that's it
55. S ok
56. F but the other one clearly link to how many good documents
57. S exactly
58. F (…)
59. S so I guess even for retrieve for relevant documents we should have a cost, but it's very
60. J it's here, retrieve s documents this is the cost of retrieving s documents, the real cost
61. F (…)
62. S ok
63. J no no, it is, by definition, this is the cost for retrieving s documents
64. G it's for query processing. (…).
65. J so, I just cite, cost function cis comprising such factors such as connection time, computation costs, and charges for delivery so basically they want to separate computational cost here and retrieval cost here, so we want to since we want to minimize all [the blocks]
66. M [(…)] for the loss
67. I mm?
68. F sorry?
69. M on the right side you have (…) ok? how much are you gaining, for positive classification, how much you are losing whenever you put unrelevant documents, on the left side it's the fixed

70. G are you sure that c plus is less or equal than 0?
71. J well, again, if you give, so, you are interested in retrieving relevant documents, right? C plus is the cost for retrieving relevant documents, so, means that if you retrieve relevant documents then you increase the cost anyway. You need to decrease
72. M otherwise the optimum will be returning no documents
73. J yes
74. M so, it's not positive
75. G so, and c minus?
76. J c minus should be positive
77. G ok
78. J or non-negative
79. G ok
80. J they don't say it in the paper
81. G yes they don't say
82. J that's true, and that was my question as well, but it seems like, as Mat said, otherwise we should retrieve zero documents and we will have the minimum cost, and, in the practical paper I would say, they use c plus as zero, c minus as one. We just made enough very good but to use as zero (.) so ok, it means that the more relevant documents we have less we have this condition, the less is this *(indicates the blackboard)*, somehow, and the more irrelevant documents we have the biggest the highest is the cost, right? no?
83. G mm

(23rd of April 2010)

Some important considerations emerge here for the analysis of mutual engagement. This interaction develops in a moment that is clearly dedicated to a sort of reconstruction of the reasoning of the author of the paper, with Jan, who proposed the paper, at the blackboard for writing down the most important formulas, this being a good strategy for facilitating understanding. The sequence is opened up by Sheila's question, then continued by Jan and Mat's explanations, who give the opportunity to Greg also to ask for clarification. We clearly see that there is an effort for building consistent answers, and the more experienced colleagues here, Jan and Mat, do not spare explanations; they also heavily use the blackboard for facilitating the understanding. This is a first relevant point for the construction of mutual engagement: explanations are collaboratively built, as we can see between turns 65 and 69, by Jan and Mat who show to know more about the topic, and who collaborate in giving a full answer, extending each other turns, and acknowledging. We can infer that phenomena of extending turns and acknowledging are strategic for a collaborative building of answers, so as the use of artefacts, that facilitate understanding, and the sharing of relevant information with colleagues. As a second

relevant point to retain, we notice here that colleagues are used as a resource: not only for asking questions, but also for building more adequate explanations, like Jan does at 82, when he cares to sum up the main points of the discussion referring also to Mat's previous sentences. A third point to notice is that the sequence finishes only when the answer is clear to everybody and all doubts are sorted out. Finally, it is worth noting that the chief intervenes only two times in this part (turns 52-56), even if he is following very carefully this interaction; it seems he wants to give the stage to the youngest members, and his silence can be seen as a way of letting the PhD students to freely interact to solve by themselves the problems posed by the paper. In fact, this sequence would have not developed if the chief, at 52, would have provided a complete answer, but this would have harnessed participation in the team, and consequently also learning. At the end of this sequence, not only the participants could adequately reconstruct a part of the arguments of the paper, but also address together specific doubts and questions. The successful completion of this sequence, thanks to different contributions of more people, tends to reinforce the mutual engagement among team members, who know they can rely on colleagues and, in any case, give a contribution.

Example 7.17 refers to a meeting the group had in November, when the chief and the three post-docs were not there, and one PhD student also was missing. The example is quite long and the language is specific of the discipline, but it is interesting to note that, similarly as before, they make an effort all together for better understanding a difficult part of the paper; actually, they are engaged in a reconstruction of reasoning. In this process, Greg, at turn 320, poses a problem, by admitting that, after a certain equation, the number five of the paper, he "got lost". Few turns later Sheila interrupts, she explains the difficulties she had before arriving at the point mentioned by Greg, and Jan and Mike provide an answer using the form "I guess", meaning that they also tried to infer this information from the paper, probably with some difficulty. Then Jan tries to answer at 330, Sheila clarifies at 334 her own question, and Mike tries to provide an answer at 335. Jan, for better explaining, shows the Wikipedia page about the Fréchet mean, then Greg, in the subsequent turns, that here for brevity are not reported, gives his own interpretation of the section of the paper they are discussing. The answer to the question

Sheila made at 368 is provided between 369 and 384 by Jan and Greg together, with Sheila briefly interrupting at 372 and at 375 with two interventions, the first one for reformulating Jan's previous sentence, the second for completing Jan's statement at 373. These two interventions by Sheila not only show that she is correctly inferring the explanation, but they also direct the subsequent turns. It is interesting to note that, while Greg previously admitted his ignorance about the topic ("It's the first time I hear about Fréchet mean"), at 381 he provides an important contribution for better understanding one of the main ideas of the paper, the difference between arithmetic and geometric distance.

Example 7.17

320. G I got lost from 5
321. J from 5 they try to, to show that
322. G until 5 it is ok
323. J yes
324. G and then you get, you got the difference
325. S no, even before that for instance, I didn't get why, how they approx, why they should approximate with KL divergence, I mean (…)
326. J from the book I guess
327. M I guess
328. J so, the problem is that there is no closed form solution, as they said
329. S mm mm
330. J for the Fréchet mean in that form, in that space, and I guess people in math, in this case approximate with KL divergence because if you go for all the derivations later, you will see that's indeed very close, if you look into the equations in six and seven, they show that sum of two KL divergences is almost the quadratic distance with all, more or less, some additional term
331. G mm mm
332. J they show that sum of two KL divergences is almost the quadratic distance with all, more or less, some additional term
333. G in general is additional term (…)
334. S so, the problem is I didn't get this derivation
335. J yes, the derivation is I guess, it's not
336. M (…) because, if you put the distance log c – log i there *(indicates blackboard)*, you can (…) with the geometric mean
337. J yes
338. M get the derivatives, and
339. J yes
340. M calculate i, I guess maybe they come from other side, the only similar thing to this distance is KL, so you can derive this distance from KL, so if you put that, then you can prove the
341. S how do

342. J I guess is all very interconnected
343. S how do you see that is similar to KL?
344. J well
345. S from where?
346. J difference of logs
347. S ah, the distance, considered distance, from log, ok
348. J yes, if you, ok probably I show you Wikipedia page, that tells almost everything (connects mac to beamer) (0.13)

(…)

368. S ah, I didn't understand feature information metric
369. J again, they just said ok people used it and was fine, let's try to use it
370. S so, it's a metric, what does it mean? It's a
371. J metric is the distance between two points
372. S it's how the distance, how is used
373. J I guess what they tell is that is the distance on a sphere, is an arc, instead of line, is just an arc
374. G yes
375. S so, shortest
376. J [shortest]
377. G […]
378. J yes, exactly
379. G and therefore two things are close, they are closer, and if things are far, they are farer
380. J yes yes
381. G I mean, if you make it like a sphere, instead of a surface, I mean, in this paper *(uses a sheet to better explain)*, if two things are here and there, from here and there the distance is different from when you consider a curve, in two points here two points there
382. M that's
383. G intuition, if you take a look at the figures, the triangle and the (…)
384. J yes, that's true. So, I guess there was no theoretical reason for using that metric and that space, was just an empirical reason that some people used it, and they show that ok, if you use it also, we are fine, for some tasks, like clustering, but you see that we can go with, with, I don't know, some other distance functions like that, and then we have harmonic mean, maybe for some tasks it makes sense, anybody knows, and other means, so, there are many means in many metric spaces, meaning that if some metric space it sounds good, we can just go with that mean. (…)

(5th of November 2010)

What is remarkable here is that the detailed discussion about this specific section of the paper helps elicit all the doubts and questions, and then it helps not only to figure out solutions to these questions but also to build deeper knowledge about more general topics (geometric spaces, means, distances). The reconstruction of reasoning permits to clarify any sort of doubts. For example, Sheila's question at 368 arises also thanks to

Jan's detailed explanations in the turns before, while Jan's initiative to look together to the Wikipedia page permits everyone to better think about the main topics of the paper and to better understand them. Wikipedia is used as a relevant and authoritative source to help understanding and support the discussion. Everyone seems to offer the individual knowledge to colleagues, and everybody feels free to express ignorance or lack of understanding. Note how Jan, at the end of this excerpt (turn 384) cares to sum up the main points, very similarly to what he did in the previous example; he is also using the first person plural pronoun more times, this stressing the collaborative construction of the explanation. Jan is here positioned like a teacher, this being marked also by non-verbal communication (he is standing in front of his colleagues, near the blackboard); the main questions are, in fact, addressed to him, and he is always trying to answer. On the other hand, the turn taking pattern, very free and quite fast at certain moments, indicates the high degree of informality, the potential for changing subject position, the intrinsic trend in establishing symmetric positions. Then, we can also observe that turn taking, even if it is free and spontaneous, it is managed in an orderly manner. The general impression in looking at that interaction is that all the PhD students work hard for establishing, step-by-step, a common ground so to solve a common problem in the best possible way.

Before going to the next examples, what is important to keep in mind from the presentation of these two long excepts, is how attentively questions are answered and solutions are collaboratively built. In general, during these moments, the members of the team show to enact a particular effort for grounding their project: questions are always consistent with the topic at hand, generally everyone tries to answer to questions and doubts and everyone can give a personal contribution. The leader often permits that the discussion develops among the PhD students. Turn taking is free and it develops in a general atmosphere of symmetry in roles, or interchangeability of positions: at some moments the most experts in specific topics can acquire a higher position; on the other hand, because of that, they are expected to be particularly committed in answering questions.

Advising Colleagues

The next two excerpts are taken from meetings that follow the pattern "about members' work": we will better show how colleagues are used to comment each other work and to give advices. Example 7.18 is taken by the same meeting as example 7.1, where Alan gives to his colleagues the presentation that he is preparing for his prospectus talk. After Alan finishes his presentation, some questions about specific points arise, then also some considerations about what Alan could do during the internship he will have in summer. After that, Jan takes the floor, he uses meta-discourse to introduce his speech, and he makes some general remarks on the presentation; in fact, this was missing, since his colleagues first focused on more specific issues. In particular, at turn 155 Jan makes a very precise critique: Alan's presentation is lacking structure; it seems Jan is careful to be kind and soft, introducing his judgment by saying "In my point of view", and terminating the sentence with "I would say". Then at 157 he makes some examples from Alan's presentation, referring also back to a previous comment by Sheila. At turn 160 Francis intervenes, he is approving what Jan has just said, and he adds another suggestion, i.e. to put an outline at the beginning of the presentation. Then Jan suggests also to take inspiration from a part of Maggie's speech, when she described the difference between information filtering and information retrieval; here there is a moment of joint laughter since Jan suggests, very pragmatically, to take the record and just transcribe. Jan's comments continue some minutes later, when, to be more concrete about the editing Alan could do to his presentation, he refers to the first slides, that, for him, where more clear and "nice". The sentence "maybe you want to make it as nice as the first part" deserves a peculiar attention: it shows a delicate balance between making a critique of a part of the work, appreciating another part of the work, and giving a tangible suggestion for making improvements. Interesting also how Jan finishes the sentence, saying "I would add that", like to underline that the advice is not an absolute judgment, but also he stresses his personal engagement and credibility. Important the suggestion by the chief, who focuses his attention on how to better present "the amount of work" Alan did and the intrinsic value of exploring a field as just-in-time information retrieval.

Example 7.18

155. J and actually I'm back to your presentation. In my point of view it was not very well structured, I would say
156. A mm
157. J so, yes, there is a flow, so you go from one topic to another topic, but the the all idea is not that clear, like you go from motivation to to what you are doing right now, why you are doing this, why you are going to do something else, and so I will, like Sheila said you have to show what have you done, like you showed what you tried to do but then just you switched the future work and again about this future work you said ok this is the future work again very briefly
158. A mm mm
159. J like the goal (…) from you is just the same. You tried to make it more precise maybe like
160. F no, totally good. Also this it would help if you put an outline at the beginning
161. J yes, maybe like this yes. And there is another type of structure, like a logical structure, and I guess that you have just to transcribe what Maggie have just said, about all these steps like ok there is IR, IR is divided in, we go this way, this was very very fluent, and probably you have just to take the record and just transcribe *(everybody laughing out loud)*

176. J and last comment about the slides. So, the first half about the motivation and the context is very nice, it's very clear, the picture, the (…), and, but then, when you go to your work, is just (…), and maybe you want to make it as nice as the first part, and it maybe it will be more clear, because with all this pictures is much clear, and I would add that
177. F yes, and I think you you under present the amount of work you have done. For example, you didn't say anything about this mechanical turk (…)

(12th of February 2010)

This excerpt well shows the most relevant dynamics when giving feedback and suggestions to colleagues: making criticism usually goes hand by hand with giving concrete suggestions and also with appreciating the work already done. Even if colleagues could position themselves on a higher level than the participant whose work is being discussed, and even if a certain asymmetry in the roles is for sure present, this is not evident in the data and it seems colleagues prefer to avoid that. The chief in particular seems careful not to be too much intrusive, he first gives the floor to the other members, and here he appears to be balanced between showing problems and underlining strengths.

The next excerpt is taken from a meeting where the team is discussing a paper by Mike, the most senior PhD student of the group, so, in fact, this meeting represents an hybrid

form between “reading group” and “about members’ work”. The paper was rejected by an important, and also very competitive, conference, and the discussion starts directly from the feedback given by colleagues, who could read the paper in advance. From turn 49 to 68 Sheila and Greg especially are discussing how to improve a table with the results of the experiments Mike did for this work. In fact, the general idea is that the paper presents a good piece of research that could be submitted to other venues. At 49 Mike explains what he thinks to do to improve the presentation of the results: he thinks to remove some rows of the table, but then Sheila proposes an alternative, i.e. to create another table and remove some other information (turn 50). Mike at turn 55 gives an account of his choice to present the results of the experiments in such a way, referring to the work done for another conference (ECIR), and after Greg also intervenes, giving some precise suggestions at 58 and at 59. From this point, Greg’s and Sheila’s suggestions follow each other very quickly, and it seems they are building up their sentences in a complementary manner, referring one to the other. At turn 66, building on Greg’s suggestion at 63, it seems Sheila finds a solution for Mike to improve the tables, and Jan also explicitly agrees on that. We can say this is a collaborative building of a solution for improving the table in Mike’s paper. Sheila in general is very active, it appears she knows very well Mike’s work: in fact, their topics are very near, they published together and they started their PhD studies more or less in the same period. It is worth noting that the chief does not intervene here, he does not interrupt the flow of the discussion. He intervenes later, we will report here part of his intervention to see how he is shaping his feedback (from turn 202 to turn 207): similarly to what we saw in the example before, he is particularly careful in weighting strengths and weaknesses of the paper. More specifically he is very explicit in underlining a strength of the paper, the fact to have clear research questions in the introduction, but then, he explains, the problem is that these questions are not explicitly answered. This intervention clearly positions Francis in the role of chief and professor, who teaches to all his PhD students how to write a good paper. Note that Francis here introduces this intervention saying that this is a “general remark”, so an observation that is always valid, and concludes explicitly giving the advice to answer to the research questions to everyone who is present there.

This not only affirms his subject position, but also it underlines the importance of the issue; on the other hand, this strategy seems also to put Mike's mistake in the background, because it causes a shift of attention from a specific case to a more general fact. Then, in the sentence at turn 202, the benefits of having research questions at the beginning of a paper are highlighted more strongly than the problem of not having them, that in the last turn (207) is also depicted as something to "remember": consequently, the chief is here suggesting that the fact of not explicitly answering to the research questions can be better interpreted as a disremembering, than as a mistake. It seems that the chief prefers not to give too strong judgments or comments on individual works, as if he wants to "preserve the face" of the students in front of their colleagues.

Example 7.19

49.	M	yes, maybe I (.) remove all usdm and multimodel and say usdm works better then all of them
50.	S	don't remove it just put it in another table, mm other comparisons between all baselines that show that usdm is better, (.) and then a table that has all usdm and all mmm and two variate two random a smoothing variation, so there is not is not necessary to have all rw mnz or rw sum,
51.	M	mm mm
52.	S	this is not necessary to have them.
53.	M	mm mm
54.	S	and then but it's to com (…)
55.	M	yes this is what I had in ECIR paper, and then they said why didn't you applied the random walk and the mnz and the multimodel, this was (…) ECIR, this was exactly what I did for ECIR, and then they said we wanted to see if you applied the rw and the multimodel
56.	G	mm mm
57.	M	(…) you used that, then I decided to put it here. If you look at ECIR paper it's like that
58.	G	maybe you can just cut the table in three parts, the first with the baseline
59.	M	mm mm
60.	G	and then two other parts with the one method and the other method you are applying on (…)
61.	M	yes, that's what Sheila said
62.	S	no, I was saying that also remove [the which maybe is better]
63.	G	[not remove you leave them] but you cut the table (…) three lines or (…) line and say this is the baseline this is best (…) of the baseline
64.	S	and then if you want to show because
65.	G	I don't know
66.	S	yes, you are right *(to G)*, and the statistically significant, you are just comparing with usdm one which, as Greg says, so is better to have one table comparing baselines, and then the other table, that have usdm, which is the best baseline, and all other variations

67. J yes, yes exactly
68. S then (…) will be no critics about that

202. F one thing, this is actually a general remark, you have I like this paper, because you know, there's an introduction, where you have explicitly written the research questions, which is very good, you know, this is very good because one can see ok, these are the points, but that, what you should do, is that in the conclusions you should go back to those questions and say ok, going back to those questions, you know, how can we answer them, otherwise it's, even if know, if you get an answer somewhere, if you don't explicitly [say]
203. M [mm mm]
204. F you know, why bother having questions if you don't get provide answers at some point. (.)
205. M yes
206. S mm mm
207. F so actually I suggest to you guys when you write a paper, this is a good example, it's nice to have research questions at the end, but always remember to answer them at some point.

(7th of May 2010)

From the point of view of mutual engagement, it is worth noting how everybody is committed to give advices, and how these suggestions are built together, even simultaneously, by the participants, by Sheila and Greg especially, who also overlap between 62 and 63. Initial disagreement between the options by Sheila and Greg reveals to be fruitful: the final suggestion, formulated by Sheila at 66, integrates also Greg's suggestion, as Sheila herself underlines, and takes into account Mike's exigency to report the results for all the variations, as he explained at 56 and at 59. At the same time, the fact Mike took the decision to have a discussion on a rejected paper is highly meaningful, and underlines the relationship of trust and mutuality among colleagues.

Both the two examples above show that all members are eager to give feedback and advices to colleagues and also possibly to find together solutions for them. If some critiques of specific pieces of work are expressed, they are often softened by some kind of rhetorical device or by being counterbalanced with appreciations to other parts of the work under discussion. These strategies are applied also by the chief, who, when giving individual feedback, often takes the opportunity to make general remarks for everyone. Consequently for the team the discussion about specific works by one member constitutes a very important moment, not only for group cohesiveness, but also for being socialized to the discipline and to the role of academics.

Before focusing on the last example, it is worth observing how the "learning together" session on Mike's paper terminates. Throughout the meeting, Mike's paper and the reviews he received are deeply discussed, and the members of the team give different advices for trying to publish a new version of the paper in another conference, or for making a journal paper. At the end of this long discussion, Mike intervenes with a joking question (turn 720), asking who wants to improve the paper, and become the co-author. All the participants laugh, and then some colleagues build up on this joke: first the chief, at turn 721, then Ross, suggesting to post the paper on ebay; as a consequence, Mike, recalling the discussion about mechanical turk they had when Alan presented his prospectus (we saw some pieces of this meeting at examples 7.1 and 7.18), asks if to use that service, and Greg intervenes for completing him since Mike does not remember its name, i.e. m turk; then Francis, Jan, and Alan, exploit this repertoire for continuing with the joke. At 733 Mike adds he will ask to a researcher, who has been reputed to be one of the reviewers, to be his co-author, and this opens another moment of joint laughter.

Example 7.20

720. M so, anybody wants to apply this changes and become the co-author I would appreciate that *(everybody laughing out loud)*
721. F and probably have a publication *(laughs)*
722. M yes, it's a free paper *(laughs)*
723. G (…)
724. M work a little bit on it (…) *(laughs)*
725. R post it on ebay *(laughs)*
726. M no post it on that was
727. G m turk?
728. M mechanical turk *(laughs)* applying these changes and will be the co-author
729. F you pay fifty cents *(everybody laughing out loud)*
730. J for each line
731. A yes for each line
732. J ok
733. M actually I will ask to Chris Golde to be co-author *(everybody laughing out loud)*
734. A that's good idea *(laughs)*

(7th of May 2010)

This sequence of jokes is a very interesting way of closing this part of the meeting. It seems that the protagonist himself of the debate wants to soften the discussion, he

assumes a playful attitude towards his work. It is not our aim to find explanations at a psychological level, but, at the more evident level of the interaction, this is probably a strategy that Mike uses to indicate that he is aware of having received lot of valuable comments for improving the paper, but these comments also imply lot of work, and it seems he wants to defuse this situation. Moreover, we observe that the chief and his colleagues take up the joke, and that the joke is also built on something widely discussed in a previous meeting (mechanical turk), that of course now constitutes the repertoire of the team. The fact the joke is interactively built, and that the team repertoire is used, makes evident the existence of commonality and mutual relationships in the team.

Offering Help

As a last example of how "learning together" parts develop, we will briefly focus on spontaneous offers for help. Committing for offering help is a common pattern when collaboratively finding solutions for specific works or giving feedback: colleagues offer themselves to do something, or to help other members, when speaking about an issue, topic, or method, on which they have a better expertise. The example we will comment here is interesting for two aspects. First, it presents an explicit spontaneous commitment in the form of an offer for help. Second, this offer for help is linked to a second more general and conditional commitment, that could be established and realized in the near future. The general topic of this meeting is how to organize work for the TREC conference, that we already mentioned before as being one of the most important deadlines for the disciplinary community since it provides a sort of benchmark for retrieval tasks. The discussion develops in a very free manner, where everybody can intervene for giving ideas. Mat and colleagues are engaged in a scenario based thinking, where they try to find solutions for solving a specific task. This is still evident at turn 925, where we can also observe Mat's repeated use of the first person plural pronoun, like to sign the collegiality of the discussion; in fact, he switches to the first singular person when addressing a problem he personally had (running query logs). It is on this point that Mike offers his help. It is interesting to observe Mat's reaction, he shows to be positively surprised (turn 927), maybe this is also a way to underline his appreciation of

this offer for help. Mat's intervention brings Mike to assert a second time his commitment, and then Mat explicitly shows to appreciate it. Turn 929 is important because it seems to introduce another commitment, that of preparing a contribution for another conference (SIGIR) if they can manage to have good results for this track. This idea is fully accepted by Mike, who continues then with the modelling of a possible solution.

Example 7.21

925. MT yes, and if they can complete each other, if, we rank one based on the blog and we ranked, the other based on the query logs of people, somehow, if they can reinforce each other, yes, but then I didn't manage to (…) the baselines and then I thought (…).
926. M yes, it's a story and, but, if you want, you can ask me, if we implement baselines and work to queries, you can ask me to run the query logs and add it for another run, to submission, as this, use external sources
927. MT really?
928. M yes *(nods)*
929. MT it would be cool. It's a nice if you write for SIGIR or something, if we did, do well on the track, and comparing the query logs, a nice way to differentiating from the other papers at SIGIR.
930. M yes (…)

(30th of July 2010)

This excerpt is relevant to study mutual engagement because it shows a quite typical pattern in meetings: how help on concrete tasks is spontaneously offered to colleagues. Usually this happens in an atmosphere of collegiality, where roles tend to be symmetric, even if it is clear that the person offering help is more expert on that topic. On the other hand, this situation can quickly change when shifting to another topic, on which other people can be more expert. We notice also here how expertise is disconnected from the hierarchical position, and actually offers for help are not determined by hierarchy.

Main Results

In this section we saw how the members of the team work together when dealing with difficult concepts or methods, and how they help each other by giving detailed feedback

and advices on specific pieces of research or problems; we also saw that, when specific problems emerge, it is not exception that a person offers her own help for conducting a task, outside the meeting. We observed that often in these parts the interventions of the chief are minimized, or come only after that the other members have already engaged in a discussion or given their own feedback. When discussing new concepts or methods, all the members of the team seem to be particularly eager to understand and find solutions, and these solutions are often built collaboratively; we stated that in the interaction it is possible to observe the work they do for creating a common ground. When discussing the work of a colleague and giving feedback, they also engage all together to find solutions to specific problems; moreover, they are used to give very precise and concrete advices, so to facilitate the colleague whose work is discussed. Joint laughter often signs the shift from one topic to another one, and is more concentrated at the beginning or towards the end of "learning together" sessions. Subject positions can be interchangeable, in general more expert persons can gain a higher position at certain moments, but this can quickly change depending on how the discussion develops, more specifically, on the type of questions or interventions raised.

7.5 Academic Small Talk: Getting Integrated in the Community

We are approaching to the end of our trip into those peculiarities of the meeting interaction that are particularly strategic in fostering mutual engagement. We will treat now academic small talk, and we will go deeper especially in two phenomena, the exchanges about the conferences and those about the wide disciplinary community. Academic small talk indicates whose parts of the meetings where the participants chat about events or people well-known in their community. Usually these chats, very informal, are present in each meeting, and they develop towards the end of the reunion, after that the main topics are already discussed. They are more informal than announcements: they have an emergent nature, they are not planned and they do not have direct implications on the team, like in the case of announcements. Apparently, it could seem they do not have any value for understanding team activities and mutual

engagement, but they are vital because they show how the team is used to share relevant information about the disciplinary community, especially about conferences. It is possible to say that this information constitutes a type of "soft" knowledge that a well-integrated researcher should have: it is not high priority, but it is essential for being able to adequately move in the community. Consequently, the willingness of team-mates to share this information has also a relevant impact from the point of view of mutual engagement. We clarify this argument through this scenario: if someone had some little news about a conference, or about a new project, and did not share this news, this would mean that probably this person does not really value the sharing of information with colleagues, or, worst, that she wants to keep the news by herself; of course it can happen that the person involuntarily forgets to report the news to the team-mates, but these are in any case problematic issues for building mutual engagement. On the other hand, engaging in such small talk and sharing little information about their own community denotes the existence of stable and reciprocal relationships of openness and trust among colleagues. Maybe in some cases the information exchanged through small talk can be found also by other means (in the internet for example), but what is relevant here is the type of content, more than the content itself: if we make the effort to identify with a junior PhD student this becomes more clear. For example, the fact that so much small talk about certain conferences is made, has an evident meaning in this CoP, and it helps focus the attention on specific events, about which then it is possible to individually look for deeper information. We will go through three quite typical examples: the first is a brief exchange on deadlines and places of some conferences; the second is always about conferences, but it is focused on some papers for a conference and on the peer review process, while the third example contains some chats about another group.

Chatting about Conferences

The following example starts with some chats about an invited speaker, who should arrive the following weekend; in particular, at turns 592 and 593, Francis and Mike, who is in charge of dealing with any practical issue when invited speakers are coming, are trying to infer why the speaker did not reply to a recent email; they think that probably

he is busy because of a deadline (turn 594). This opens a brief discussion on the next important deadlines for the conferences SPIRE and CIKM: Jan at 601 also underlines where SPIRE will take place, in Mexico, then Mike jokes about the location, and, following this joke, Greg makes a comparison with the location of CIKM. This is new for Sheila, who afterwards asks about another conference, WSDM 2011: it seems she would like to know before where this conference will take place, but even Francis does not have this information (turn 612).

Example 7.22

590. F oh, he is arriving on Sunday, yes
591. M (…)
592. F yes, so, as soon as well, I wrote him yesterday, and, I think he is probably away or (…)
593. M yes, last time he said I'm busy, SIGIR also then another deadline, the 9 was digital libraries or
594. F yes, that's in a couple of week, (…) the digital libraries
595. G yes, no the first of March is the deadline, but you have to submit the abstract the 26
596. M ah
597. J (…)
598. G and I found the deadline for SPIRE
599. J yes, the 22 of June
600. M SPIRE?
601. J SPIRE, it's around CIKM, but it's in Mexico, I guess
602. G Mexico?
603. M yes, dance salsa *(everybody laughing, some noise)*
604. G I go for Mexico, better then Toronto
605. F CIKM (.) is in Toronto
606. S it wasn't in Glasgow?
607. M CIKM 2011 Toronto
608. S ah, ok

(bit of noise) (0.14)

609. S and then, where's the WSDM?
610. F oh, the WSDM is usually in March but
611. S no, the deadline is in July
612. F ah, well, I don't even know if they decided where's gonna be next year (…)

(19th of February 2010)

This excerpt makes evident that speaking about some conferences constitutes a sort of repertoire for this CoP. It emerges also very clearly how the deadlines are relevant: in

fact, the overall activities of the team and of its members are marked by these deadlines. Thanks to this piece of small talk now all the participants better know about the conferences to which they could submit some piece of their works. Everybody has some piece of information to share, so to have, at the end, a good overview on the next important events happening in the international community. This also underlines the international orientation of the team and its mission to conduct high level research. It is interesting to note relationships tend to be symmetric here, turns are very spontaneous, brief and quick, and laughing is very present, probably as a strategy, also involuntary maybe, to lessen serious topics.

In the second example we always find a conference at the centre of the discussion, CIKM, but this time the focus is on the peer review process and on some submitted papers. The excerpt comes from a reading group, the discussion on the paper is finishing, and, as often happens in reading groups, while debating on the paper some considerations on the reviewing process emerged. Here the debate on the peer review shifts to small talk on what happened for the last CIKM conference. Sheila tells to her colleagues an anecdote (turn 534) that makes everybody laughing; the serious implications of this anecdote emerge only in the following turns. Another point discussed here is the fact that in conferences it is permitted, once a paper is accepted, to slightly edit it, but then the paper is not reviewed anymore, as explained by Francis at 538, and some researchers exploit this possibility in an incorrect way, putting at stake their reputation, as Maggie suggests at 541. Positions here are very symmetric, even if from Francis' turn it is evident he has more experience of the peer review process.

Example 7.23

534. S and actually in CIKM, because they suggested that people submit short paper, instead of a full paper, I read papers, it was terrible, like referring to formulas that doesn't exist

(everybody laughing out loud)

535. MT (…) the second review (…)
536. S (…) review, like I read three papers were like that, terrible
537. J yes

538. F yes, you get, I mean, if they say, you know, you have to reduce, they give you a blank check you know, that's it, you can write whatever you want, we will not gonna check it anyway, so, at that point you can really write what you want
539. S even one of the papers (…), the references where like, question marks *(laughs)*
540. J oh really?
541. MG it's a matter of reputation, come on (…)

(16th of April 2010)

We observe that also sequences of small talk and joking are highly meaningful for this team, and tells us a lot about its functioning. The discussion going on in this excerpt is relevant to the members of the team to know what is going on in the community and in specific conferences; it is useful also for getting better acquainted with the peer review process, and for thinking about scientific reputation. The joint laughter seems to underline the absurdity of the situation, i.e. researchers who refer to work that do not exist. It is also clear, by reading these lines, that the members of the team wants to position themselves as serious scholars and cares about scientific reputation.

Chatting about the Community

The last example contains small talk about another research team, which authored the paper that has been discussed during the meeting. An initial observation of the chief about the references gives to Sheila the input for explaining that the main author changed his PhD subject; Francis shows to be interested and Sheila tries to explain who is the author, referring to a conference attended by the team two years before. Francis then, at turn 233, asks about another author, Herbert, if he is a researcher. Mike and Sheila reply he is also a PhD student. It is remarkable how they are well informed about that group; actually, Sheila spent a short period there, and often conferences are a good venue for knowing other PhD students. The following turns are particularly interesting since they open some considerations about the team itself. Francis at 238 notices that he saw different times the name of this second PhD student, Mike also intervenes, and then Francis makes an inference on the organization of that group, "probably he is the one who follows the papers more than Etienne". It is interesting to note that Francis calls the chief of this group by name, this denoting prior personal knowledge. Sheila's

intervention, at 243, is particularly remarkable: she explains what could be the leadership style of that chief. Then, at 248, Francis, referring to Herbert, states that it could be good to have such a researcher in this team. Sheila's intervention at 243 is notable because it seems to stress how a specific leadership style can influence the work of PhD students and their opportunities to publish, while Francis' last sentence clearly positions him as the chief and as the person who cares about human resources in the team.

Example 7.24

225. F yes, *(looking on the paper)* the list of references is also very good, I mean, there is a lot of stuff that can be useful (0.10)
226. S yes, the author was working on blog track for two years and then he changed the subject of PhD on news
227. F ah ok
228. S so, I guess
229. F he's the guy, the Bruno?
230. S yes. So, do you remember he had a talk in ECIR? About (…)? he had video at the end, in the session (…) ?
231. F mm, I don't remember
232. S ECIR 2009
233. F ah ah, ok. And this guy, Herbert Clark? Is a researcher there, isn't it?
234. M PhD student
235. S PhD student yes
236. F ah, PhD student as well, good
237. M but he's supposed to finish
238. F yes, exactly, I have seen the name, so
239. M yes, I don't know what is his role in the group, but practically his name is in all the papers
240. F yes, he probably is a second (…) or something like that *(laughs)*, he's the one that follows the papers more than Etienne
241. S yes
242. F mm
243. S but I think maybe Etienne like he is like, like, telling you should work together, you should go together, or asking Herbert to do this, or, I don't know
244. F yes
245. S I think he is managing like this, that
246. F yes, probably Etienne has a more strategic view, you do this, you do that and so on
247. S yes yes
248. F and the other is much more closer to the ground, to the, to the, to what the PhD students are doing. He could be a good post-doc to have here, basically (0.3). Ok. Anything else about this paper? That you want to say?

(21st of January 2011)

This example not only shows that pieces of "academic small talk" permit to better know the wider disciplinary community, but also that sometimes they provide a good background for referring to the mission of the team itself or to some situations that could be desirable for the team. It is also remarkable how the chief is interested to better know about how other teams are organized, and his openness in saying, in front of the entire team, that a specific person could have a good profile for working in the team; it is also true that the two post-docs left just few months before, so, in fact, the team is missing someone in that position.

Main Results

We observed that academic small talk is constituted by informal moments where little news and considerations about conferences and people in the community are exchanged. These sequences are usually very relaxed, contributions are very spontaneous, turns are fast and brief, with frequent moments of joint laughter, and positions tend to be symmetric. Academic small talk has a formative value for the younger PhD students especially, since it helps focus the attention on the wider disciplinary community and on which are the important topics beyond the team. It also shows the multiple connections of the team with other teams, in other countries. Actually, thanks to this small talk, members of the team are helped in becoming better integrated in the international community. It has important implications from the point of view of mutual engagement, because it denotes the willingness, and also probably the pleasure, to exchange small news about what is happening outside one's own CoP, and it gives also the opportunity to reflect on one's own organization.

7.6 Emergent Practices

In the previous four sections we addressed the first part of the second research question: how mutual engagement is shown in team meetings. For answering this question, we analysed the team meetings that constitute the corpus by using the conceptual framework

presented at the beginning of the chapter. The framework encompasses two different components, one focused on the type of themes treated in the meetings (thematic axes), and one focused on the strategies of talk at work used in each thematic axis. Considering each thematic axis, we went through the main notable phenomena of the meetings, reflecting especially on those that, from the point of view of mutual engagement, are particularly vital. For clarity, a table is draw in the next page to present a quick overview of the main results. In the table, thematic axes and strategies of talk at work are jointly considered. What is notable is the variety of topics addressed in meetings, so as the variety of strategies of talk at work: from joint efforts to understand a new method to small talk, from very structured sessions to informal exchanges.

Table 7.3: summary of the main results following the conceptual framework

	Organizational issues (Meta-communicating and establishing commitment; announcements and conferences; decision-making; team policies/boundary work)	**Scientific debate** (Discussing papers, peer review process, trends in the discipline)	**Learning together** (Questioning and commenting on difficult/new concepts; presenting one's own work, asking for feedback; giving suggestions/help)	**Academic small talk** (about people in the field, about conferences)
Style of moderation	Quite structured, and in the hands of the chief.	Very open, but often in the hands of the most expert person, who is leading the debate at a specific moment or presenting a paper; sometimes, moderation by the chief.	Very open and soft, often there is not a chair, and moderation is shared by different people, depending on the topic at hand.	No real moderation.
Meta-discourse	Very present in this part, usually introduced and conducted by the chief.	Sometimes present when introducing a debate about a paper.	Present only rarely, for framing some explanations.	Not present.
Subject position	If the chief is present, he has a clear role of leader and chair, he introduces the topics, he is the first to make announcements, he initiates decision-making processes.	Positions can be changeable, depending on expertise: often the person who proposes the paper chairs the discussion and tends to acquire a special position. The chief acquires a clear role of leader when speaking about the reviewing process.	Positions can be quickly changeable, depending on expertise, but in general they tend to be symmetric. The chief often "disappears" to leaves the floor to students and researchers.	Symmetric roles, relaxed and egalitarian atmosphere.
Patterns of Q/A, topic shifts	Strongly influenced and guided by the chief's interventions, who brings the topics to be discussed, makes questions, and operates topic shifts.	Questions are usually made by the chair or by the person who is moderating the debate, but everyone can intervene at any moment, and shifting the topic. The essence of this part lays in the opportunity to freely intervene. Often there are passages from a topic to its sub-topics; shifts are not radical, there is an overall consistency in the discussion, questions are always answered.	Strong presence of the question-answer format. Questions are always answered, answers can be built by more people, and the discussion is very open. More expert people usually speak longer. Topic shifts usually happen in form of questions and asking for clarification; questions are usually strongly linked to the content discussed.	Topic shifts can be very present, questions and answers are very concise, turns are brief.
Commitments and violations of commitment	Often present when doing meta-communication, it is related to the overall functioning of the team and of its meetings; violations are usually accompanied by irony.	Not present in this part.	Presence of commitments in form of offering concrete help for solving specific tasks.	Not present in this part.
Togetherness	Very strong use of the first person plural pronoun, especially by the chief when meta-communicating on team activities.	Weak use of the first person plural pronoun, except when making scenario-based thinking or in indirect speech about papers.	Strong and wide use of the first person plural pronoun, especially for making scenario-based thinking.	Minimal use of personal pronouns to indicate the individual members or the team as a whole.
Joint laughter	Very present. Used as self-irony on the team or for softening reproaches when a commitment is violated.	Joint laughter is minimized in this part.	Sometimes used as self-irony and when shifting from one topic to another one.	Very present for softening serious topics; sometimes laughing about facts concerning other teams.

What emerges from jointly considering thematic axes and strategies of talk at work in the meetings, is that there exists a breadth of practices supporting the creation of mutual engagement in the team beyond the topic discussed. For example, the fact of posing consistent questions with the topic debated, and to always try to build an answer, individually or collaboratively, is an important form of mutual engagement: as we saw, there is always an effort to address doubts and problems, to understand new concepts, to give specific feedback and suggestions. We observed how important and articulated is the collaborative building of solutions and of explanations, where participants put together their knowledge in a common effort to understand something, or to help a colleague, and, in doing so, to work for creating a common ground. We observed also that, in reading groups, it is common to reconstruct together the reasoning of the authors of the paper under discussion, especially when the paper is a particularly tough one. Moreover, members of the team often express their own opinion, in a direct or indirect way depending on the issue at stake: we observed that, during reading groups, the personal opinion on papers or methods is often expressed very clearly, also when negative. When it is the case to express the individual opinion on some work of colleagues, normally the tone is softer and this is coupled with concrete advices. Expressing opinions is very important for developing a discussion on more topics, for giving to colleagues the opportunity to better know about formal and informal criteria to judge research projects or papers, and also for clarifying one's own criteria, priorities, and thinking, this being particularly relevant to build mutual engagement.

We call such practices that supports the creation of mutual engagement in the team beyond the topic discussed "discursive practices". They are "discursive" because they develop moment-by-moment in the verbal interaction; they are "practices" because they are enacted while working, they are linked to action, they are something that people do. They distinguish themselves from the strategies of talk at work discussed before for being specific ways of behaving and interacting with others in this team, and they are strongly grounded in the data. Actually, the discursive practices emerged thanks to the application of the strategies of talk at work, considering also the thematic axes. At the same time, they could be used to conduct a reflection also on the behaviour of other

teams in similar institutional environments. They constitute a typical feature characterizing the work of this CoP: they are not simply a strategy, that people can plan or choose, but they are something that exist because it is enacted, and it is expected to be enacted, during a meeting. They are intertwined, they depend the one from the other: sometimes they can overlap, since they capture complex and interactive phenomena.
We now briefly present the discursive practices of this team. They can be directly inferred from the previous examples, they well sum up all the commentaries we did about how, in this CoP, interactions are managed during the meetings, and, most important, they will help us understand how mutual engagement is reproduced. The discursive practices are:

- collaborative building of answers and solutions, very diffused practice in scientific debates and in learning together parts, especially when colleagues have doubts on some concepts or methods, when specific tasks are conducted, when solutions to problems are found together, since nobody has a prompt answer;
- collaborative reconstruction of reasoning, that is very typical when opening the discussion on a paper, and it works in a very similar way than the previous practice;
- changing leadership, it refers to the fact that different parts of a meeting can be led by different persons, depending on expertise;
- explaining new or difficult concepts, very common when discussing a paper, for helping colleagues who are less experts on that topic;
- giving one's own opinion, feedback of suggestions, that is particularly important because it is often referred to the work done by colleagues.

In the following table we sum up the discursive practices that emerged from the analysis of the meetings, and we provide references to the most meaningful examples that we commented in the previous sections.

Table 7.4: the discursive practices in team meetings

Discursive practices	*see example at…*
Collaboratively building answers and solutions	*excerpt 7.16, 7.21*
Collaborative reconstruction of reasoning	*excerpt 7.17, first part*
Changing leadership	*compare 7.1 with 7.8, 7.12 and 7.15*
Explaining new or difficult concepts	*excerpt 7.17, second part (turn 381), but also excerpt 8.6, next chapter*
Giving one's own opinion, feedback or suggestions	*excerpt 7.13, 7.18, 7.19*

These discursive practices are highly present in meetings and can be fully exploited thanks to the fact that meetings are a participative moment, where everyone is free to give a personal contribution, and is also expected to do so. We saw that the specific style of leadership, that we defined empowering, has a strong impact in motivating participation. We observed that the chief, who usually chairs the discussion, keeps regularly the team up-to-date about events happened or happening in the next future, he motivates the young scholars to be active both inside the team (for example, through proposing or presenting new topics) and outside the team (writing papers for conferences), he solicits questions and interventions. When discussing a paper, very often he has a strong role in moderating the discussion and in bringing the attention of the participants on some specific aspects, concepts, methods, but this does not impede that in some moments he is also able to "disappear" and to leave the floor to the younger scholars. The planning of the next meetings and the decision-making processes are also very democratic. Consequently the interaction that emerges during the meetings is characterized by free and spontaneous turn taking, interplay between symmetry and asymmetry in roles, interchangeable subject positions.

It is possible to say that, nearby these discursive practices, there are other practices, that we will call participatory: they are transversally present in the meetings, and they are primarily enacted by the chief as a strategy to actively involve all the participants in the life of the team. These practices have also a role in supporting mutual engagement. Mutual engagement can actually be achieved thanks to active participation in the meetings, and active participation is possible thanks to the practices enacted by the chief.

It would be difficult to imagine how mutual engagement among colleagues could be built if participation in the different aspects of the team activities was minimal. On the other hand, it would also be difficult for members of the team to give their own contribution to the team activities if the chairing style did not permit this, or if they were not allowed to propose their initiatives. In the table below the participatory practices are summarized. They are:

- empowering moderation style, characterized by an open structure, free turn taking, and by the ability of the chief to strategically leave the floor to the other members;
- keeping the team up-to-date, with the important announcements concerning the team itself, the department or the community;
- democratic decision-making on precise team activities;
- assuring space for individual contribution, this being concretely enacted by motivating people to present the individual work and by planning sessions for such an activity.

Table 7.5: the participatory practices in team meetings

Participatory practices	***see example at…***
Empowering moderation style	*excerpt 7.11*
Keeping the team up-to-date	*excerpt 7.1, 7.3*
Democratic decision-making	*excerpt 7.5, 7.6*
Assuring space for individual contribution	*excerpt 7.10 (observe turn 53) but also excerpt 6.3, previous chapter*

The Virtuous Cycle of Mutual Engagement

We will now reflect on participatory and discursive practices to understand how mutual engagement can be shaped and reproduced in meetings. Following Wenger's definition of mutual engagement cited at paragraph 3.2, we can say that joint actions are at the base of this concept. Mutual engagement in a group can be developed while regularly doing

something together with a specific aim. Consequently it is possible to imagine different activities that can foster it: among them, team meetings, that here we consider as the favourite place to foster mutual engagement and sense of belonging. The habit to meet all together for speaking about a topic is a meaningful aspect to encourage team collaboration, especially in an environment where everyone is already engaged with the individual research project. It is clear that meetings do not directly imply the existence of a community of practice, or of a team, and, at the same time, they do not imply collaborative conduct or sense of belonging. Anyway, in the case we are analysing, we showed that meetings are essential for making mutual engagement happen, and they are the favourite place for reproducing and shaping it. To discuss why this happens and how, we will very briefly recall the origins of the meetings, and then, we will focus on the discursive and participatory practices presented above. We will show that these practices contribute to create a virtuous cycle that motivates participation in the meetings and fosters mutual engagement.

Meetings constitute a practice pushed by the chief after that the group expanded, included new PhD students with different backgrounds and starting to work on different research projects. The team was existing before the meetings, so we can say that the meetings became an exigency with the growth of the team. We can say that while the community was constituting itself, meetings aroused as a practice that became quite quickly constitutive of the CoP. As explained by the chief, the first reason for organizing meetings was to have reading groups for facilitating PhD students' education. So, the first mission of these meetings was that of exploring new topics, learning the discipline, expanding knowledge and competence, building expertise together, constructing a background of common concepts. The main idea was that of supporting socialization to the discipline.

We can say that common ground is a keyword in this process: regular meetings on specific topics help share common knowledge and specific practices that are distinctive of the team, and actually we observed that during meetings participants work for establishing a common ground. We clarify that point by going back to some activities of the meetings. Making announcements, for example, has an important value from this

point of view: not only it augments and reinforces the common ground, but also the sense of involvement of everyone in the life of the team, and it better prepares all the members to the future challenges and activities. Announcements permit to everyone to know in advance, for example, if a guest will arrive in the team for some months, or if a new project is likely to start. Moreover, everyone can take the floor for making announcements, as it happened for promoting some PhD courses. The participatory nature of the meetings allows everyone to propose a topic of interest, or to organize a session on the personal work for receiving feedback. These opportunities make this moment particularly attractive and valuable from the point of view of socialization (we will explore this topic later in the next chapter). Then, the fact that meetings are used for taking common decisions about the team activities (as, for example, which researchers to invite for a lecture) or about more practical stuff (as, for example, the long discussions on how to organize disk storage), gives to these encounters a very important role, and they become a sort of official place for decision-making. This also permits that the team enterprise is discussed or reshaped during meetings, and that problematic issues are addressed; furthermore, this makes possible also the creation of new practices and of new rules. The active participation implied by these meetings means really doing something together in practice: this fosters the creation of a common ground in the team, composed not only by disciplinary knowledge, but also by a specific repertoire and a specific way of managing interpersonal relationships.

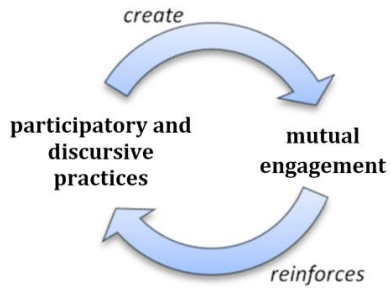
As far as it concerns the participatory and discursive practices, there is a peculiar relation between them: we can say they tend to be mutually constitutive, and they reinforce each other. Actually, the participatory practices, initially forged by the chief, can unfold their potential thanks to the discursive practices present in the team. Going back to each of the five discursive practices, the fact, for example, of building answers collaboratively, well shows the high level of participation in the team meetings, and this is highly important in terms of mutual engagement. The practice of reconstructing reasoning together also well represents how the possibility of participation is fully exploited by the participants to the meetings. Moreover, this practice also shows the willingness to unite the forces and to share the expertise, so to achieve objectives that probably would be very difficultly

achieved individually. The interchangeable leadership is a consequence of the empowering leadership style, but this last could not exist if participants would not be willing to take the lead of the discussion. Its influence on mutual engagement is less direct compared to the other discursive practices: it is derived by the fact that the possibility to lead the discussion supports, first of all, personal engagement; then, since this process is intrinsically interactive (a person cannot be the leader of part of the discussion if she is not recognized as such) and interchangeable among team members, it influences also the mutual engagement among them. The discursive practices of stopping the discussion for explaining new or difficult concepts, and of giving one's own opinion and feedback, are also possible thanks to the participatory practices enacted by the chief, and, at the same time, reinforce them; moreover, they witness the availability of colleagues toward each other, positively impacting on mutual engagement.

It would be hard to develop mutual engagement in the absence of these discursive practices: the fact that, during the meetings, the participants have a general availability in helping each other, is strategic for reinforcing and reproducing the commitment that all the members show to have among them. Participatory practices would be useless in the absence of an environment where mutual engagement is continuously reproduced. On the other hand, mutual engagement does not exist in a vacuum, nor it does depend solely on the willingness of some members of the team: leadership is vital here, and the type of practices enacted by the chief are strategic for helping the discursive practices to grow. It is also true that the participatory practices should be taken up by the members; consequently, it is very difficult to understand which practices come first in such a process; we are convinced this process is not linear, but recursive.

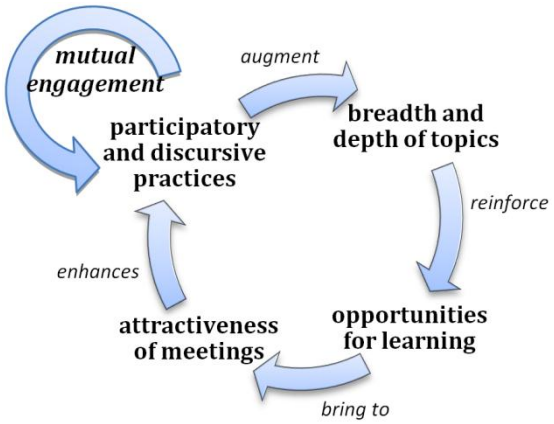
The continuous and regular application of such participatory and discursive practices creates a virtuous cycle for the reproduction of mutual engagement: the enactment of these practices gradually shapes and reinforces mutual engagement, that then tends to augment the use of the same practices in other or future team activities, and this continues to renew mutual engagement within the team. This permits also to new potential forms of mutual engagement to be introduced and shaped in this cycle.

Fig. 7.1: emergent practices and mutual engagement



We can say that there is a strong link between participation, interaction, mutual engagement. Actually, we can draw another, more complex, virtuous cycle, taking into account the long term effects of participatory and discursive practices. The participative nature of these meetings and the specific discursive practices tend to amplify the breadth and the depth of the topics under discussion. We saw that meetings present very different themes, from very practical and team-oriented ones, to disciplinary questions and research projects, to broader topics related to the academic career, that are more or less deepened depending on the interest and interventions of the participants. These dynamics enhance the opportunities for learning and consequently make of these meetings an attractive venue. Since active learning is a key interest and a key competence for PhD students and researchers, these meetings own a big potential, and this motivates people to take part to them and to give their own contribution, exploiting and also augmenting the participative nature of the meetings themselves. This is a virtuous cycle for the creation and reproduction of mutual engagement. The next figure summarizes this cycle:

Fig. 7.2: the virtuous cycle of mutual engagement



It is possible to say that participatory and discursive practices and the potential from the point of view of learning outcomes are two important variables in fostering mutual engagement, not only during the meetings, but also in the team in general, and this should increase the sense of belonging: actually, the regular, and effective, sharing of information, opinions, ideas, doubts, and feedback, should have a very positive impact on team identity. Meetings can be considered effective in this context if they are useful for people taking part to them: a proof of this effectiveness is shown by the willingness to participate in these encounters and by the personal satisfaction of participants. It is not our aim to go further in the exploration of team identity and sense of belonging, but it is worth to underline that the findings show that the practices acted by the members of this team are particularly meaningful, and can have a strong relevance, for creating identity and strengthening sense of belonging. This is very relevant in a highly intercultural team composed by people coming from very different academic and with a plurality of personal experiences.

It is important to remember that the representation given beforehand about the functioning of the meetings does not want to look too simplistic or idyllic. Actually, this is the general mechanism that moves team activities, but, yet during the ethnographic phase, it was possible to observe some events, or moments, that challenged the team's collaboration and the organization of the meetings in particular. The participatory format

of the meetings requires motivation, concentration, personal engagement in preparing topics and papers and this is not always possible. As already explained in the previous chapter, the team works under pressure of different yearly deadlines for conferences. In most of the cases, since research interests are different within the team, the work for the conferences is conducted by one, or maximum two individuals together. This means that some members of the team in specific moments of the year cannot really prepare themselves for the meetings, maybe they take part but without giving a contribution, or, in some cases, meetings are also cancelled. A challenging moment is represented by an important yearly conference, in which most of the group participates. The team together decides a strategy, and then each person has her own tasks to work on. These tasks can be more or less related to one's own PhD project, and this has important consequences as far as it concerns the advancement of the individual work, the level of engagement every person is eager to put in this activity, and participation during meetings. We also said that often, when the chief is absent, meetings are cancelled. This does not mean that meetings depend only on the chief's initiative. For example, when the chief was absent for long time, in autumn 2010, after one month without meetings, the PhD students decided to meet, and it is meaningful that, for the meetings, they kept the same format as before (reading group, and in two cases, reading group plus discussion of the work of a colleague), and debates were particularly vivid and effective.

In general, as pointed out previously, we can say there is a real tension between the time one must dedicate to her own research project, to service activities and assistantship within the faculty, and to team activities. When, for different reasons, one of these parts (normally the time dedicated to the personal research project) becomes more important, it is very likely that the time devoted to the preparation of the meeting decreases, and when such a situation is common to more members of the team, meetings are cancelled. It seems that the chief is well aware of this problem. During the meetings the chief often motivates members to meet, even when he is not there, and even when they have not prepared a paper; at the same time, he recognizes that, especially when certain deadlines are approaching, it is possible to make exceptions and to cancel a meeting. It is likely that a clear awareness of this challenge, coupled with the flexible attitude of the chief

and the sense of responsibility of the other members, helps address the issue. Insisting on the meetings when this would be only a workload more, in an already overloaded week, would not make sense. Cancelling a meeting, or planning a short meeting solely focused on internal issues, sometimes helps keep a balance and permits to everybody to have the adequate time for preparing this team activity.

7.7 Summary of the Chapter

In this chapter, we could understand how team meetings are vital for this CoP, and, more specifically, how they can be considered the place where mutual engagement is built, shaped and reinforced. We showed that meetings, being a very complex activity, can be analysed using a framework that puts together thematic axes and strategies of talk at work. We considered organizational issues, scientific debate, learning together, and academic small talk as thematic axes, while we chose, as strategies of talk at work, style of moderation, meta-discourse, subject position, patterns of questioning and answering and topic shifts, commitments and violations of commitments, togetherness, joint laughter. We went through each thematic axis, for each of them we presented relevant excerpts from the data and reflected on the strategies used.

We briefly remind here the most meaningful insights we gathered from the data. We saw that organizational issues, strongly moderated by the chief, are the best place for doing meta-communication, for redefining the enterprise of the team and for initiating democratic decision-making processes on team activities. Scientific debates are at the core of most of the meetings, they are usually the best place for being socialized to the discipline and to the role of academic; the most expert person on a specific topic has normally a leading position, especially when trying to reconstruct reasoning together and solving doubts, but everyone can freely intervene for giving her own opinion or deepening a topic. In learning together sessions the PhD students especially are the protagonists: these parts are characterized by a joint effort to understand new concepts or methods and to find explanations; asking for feedback on the individual work is also very common; questions are very present and always followed by answers, that can also

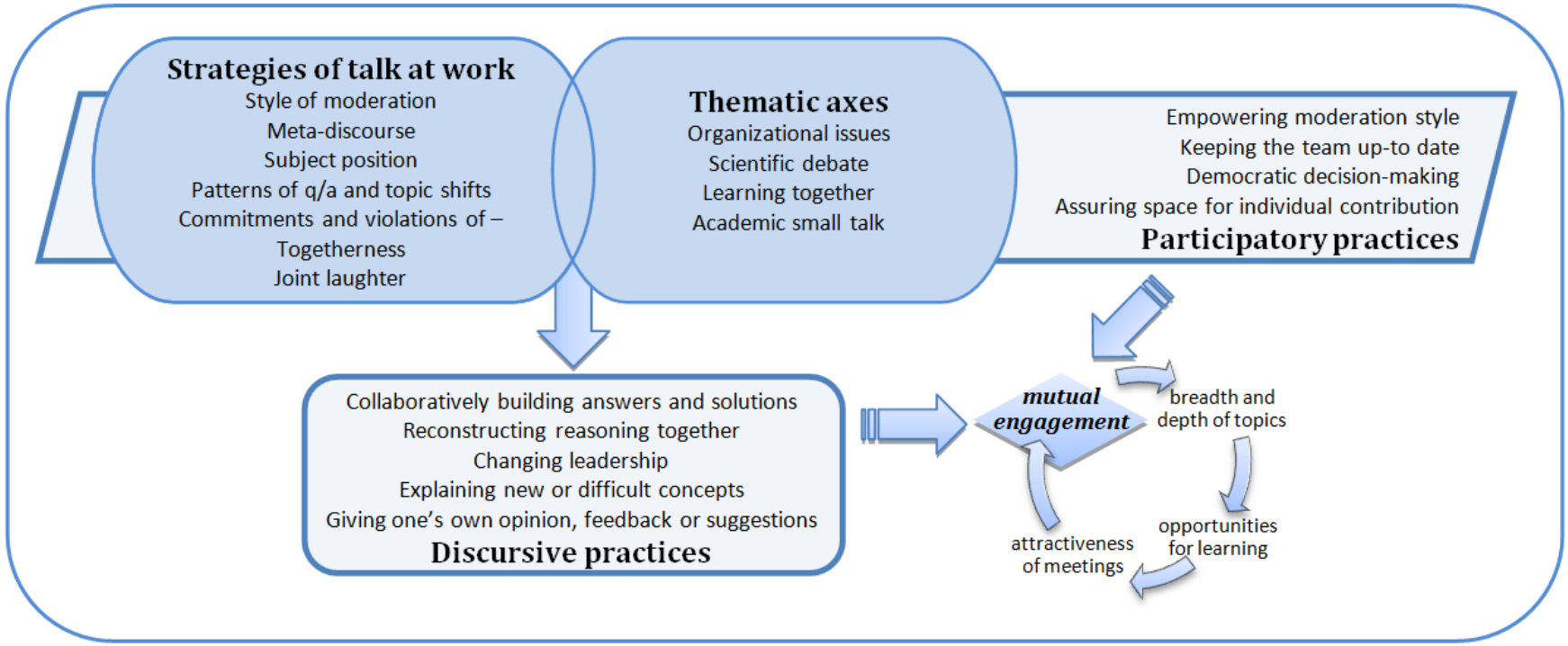
be built collaboratively. Academic small talk is constituted by very informal and relaxed exchanges on people or events well-known in the community, with moments of laughter and jokes, and it has a high value for being better acquainted to the wider disciplinary community.

After this analysis, it is clear that these meetings present certain practices, that are typical of the team itself and go beyond the specific topic discussed. These practices can be seen in discourse and in interaction among colleagues, but also in the more general style enacted by the leader, who is particularly sensitive to motivate participation. Consequently, we distinguished some discursive practices, that show the mutual engagement among colleagues, and that are: collaboratively building answers and solutions; reconstructing reasoning together; changing leadership; explaining new or difficult concepts; giving one's own opinion, feedback or concrete suggestions. Then, we reflected on the empowering leadership style of the chief, and we observed that he regularly enacts specific practices, that we call participatory, since they motivate everyone to give her own contribution and support democratic decision-making.

Finally, we explained how mutual engagement can be shaped and reproduced in meetings, and we drew a virtuous cycle between discursive and participatory practices, and mutual engagement. We also thought about the long term effects of this cycle. We argued that mutual engagement in team meetings tend to expand the breadth and depth of the topics treated; this constitutes, and reinforces, the opportunities for learning, this last factor augmenting the attractiveness of the meetings and ultimately having a positive impact on mutual engagement itself.

The following schema intuitively summarizes the path we did in this chapter. We still need to better understand how meetings impact on PhD students' socialization, this will be the topic of the next chapter.

Fig. 7.3: from the conceptual framework to mutual engagement



8. Team Meetings in a Socialization Perspective

We saw in chapter 6 the main features of IR group: how it is organized, who are its members and which is their role, which are the individual activities and which are the team activities, and why this team can be considered a CoP. We stressed the presence in the team of a very clear hierarchical structure and of a clear strategy both for individual and team activities; at the same time, we said that active participation and personal initiative play an important role. We spent some time reflecting on the multiplicity of identities and on the diversity that characterize this team, as far as it concerns expertise, academic background, gender, culture, membership of different communities. We also focused on how the team conducts boundary work. We can say that we showed how a heterogeneous research team can work as a CoP. In chapter 7 we focused on team meetings, trying to understand how they work and how members of the team behave during the meetings. We reflected on the multiplicity of topics that can be treated during meetings, and, for analysing them, we elaborated a conceptual framework, which comprises specific thematic axes and strategies of talk at work. We observed that, despite the clear hierarchical structure of the team and despite the fact the chief chairs the meetings, these encounters are participative, decision-making is democratic, everyone can take the turn and propose topics. We also observed some "unwritten rules" of behaviour during the meetings, for example, if a person proposes a paper then this person is supposed to lead the debate in the successive meeting, or, in general, members are expected to give relevant contribution and feedback to colleagues. We know now that mutual engagement is a key issue in this CoP, and meetings are an essential place for building and reproducing it: we saw that the presence of participatory and discursive practices augments the potential of these meetings in terms of learning, and this makes the meetings well-suited to foster mutual engagement and active participation.

In this chapter, we will see how this situation can support PhD students' socialization. We will start first with a reflection on how socialization to the CoP happens in meetings, taking inspiration from the concept of legitimate peripheral participation. This will then

facilitate an analysis of how meetings support PhD students' socialization in general, so to answer to the last research question.

8.1 Becoming a Member of the Team

We explained that weekly meetings are the team activity per excellence, the moment in which all the members meet for doing something together. Meetings have a vital role in the trajectory from the periphery to the centre of the CoP, to make participation less and less peripheral. They anticipate the arrival of a new member, with the announcements of the chief; they "officially" sign the entrance of the new member; they offer to newcomers a privileged perspective for observing how the team works; they gradually permit a stronger involvement in all the team activities. Participation in the meetings is an important sign of membership: team meetings are a quite exclusive moment, and having the opportunity to take part to them is a clear act of legitimization to the community. Some excerpts from the meetings show very good the patterns we are describing. For example, the role of meetings for officially introducing new people into the team was particularly clear when the visiting PhD students arrived: at the beginning of their first meeting, the chief invited them to present themselves, and, at the end of the meeting, he motivated them to organize a meeting on their research topic. Being introduced at the meetings, and then having the opportunity to present something, are important steps; we could also say these represent sort of transition phases in the movement from the periphery to the centre of the community. In the next example we see that Francis asks to Luke and Diane to present themselves, even if, in fact, most of the members of the group already know them, since they arrived few days before. It is remarkable how the chief explicitly states his expectations, at turn 4, underlining the importance of talking to each other to better know about their interests, implicitly referring to the disciplinary and methodological approaches.

Example 8.1

2. F (...). ok, so, well, the meeting today, first of all, now you can see, you know, the two new guests we have here, you know, Diane and Luke, Diane will be staying a couple of months, Luke a bit longer, about three months, so, maybe you wanna say some words about your background what you work on, I let you start.
3. L mm, ok, you already know me, my name I'm Luke, of Universidad La Coruña Spain, in the north west of Spain, and I work with my advisor is (…), maybe you know him, and I have been working on different topics in ir, although my thesis topic is clustering and cluster based retrieval, I have been working on blog search and document processing, all (…) things, you know, the (…) text retrieval and so on, actually I'm working on, this is my thesis topic, cluster, different approaches to cluster based retrieval and how to implement new (…) methods, (…) something for the last ECIR, and I'm working on variations of that method, to improve the consistency of results through the query (…) and, I don't know what else to talk, maybe you can ask me
4. F yes, yes, it's just, you know, just a brief introduction and then of course I expect all of you, you know, talk to each other, and see if you have any interest in common. You Diane, you wanna say something about, what's your background?
5. D my research topic is natural language processing, so to be more particular is the extraction of semantic relationships from natural language text, so, to explain, I can say that some, mm, computer scientists usually try to solve linguistic problems with very, very low level methods, so for authorship attribution they just calculate some frequencies of different parts of speech or something, and we try to merge some ideas from linguistic area with the computer science approaches (…)

(4th of June 2010)

Next example is taken from the end of the same meeting, Francis is motivating the guests to present some work, and Erin in particular, since she arrived the month before and she will leave at the end of the month. It is interesting that Francis, for motivating the guests to present, gives them different options: they can present their own work, or something they recently published, or also work "that you would like to have done" (turn 541), so he is proposing them to moderate a sort of reading group. Erin then proposes to present the work done with Ross, and it is interesting that Greg suggests, in an indirect manner, to do a presentation with some slides; actually, this is an unwritten rule of the group, so it seems that Greg is restating it probably because he is aware that Erin has been there only for few weeks to know such uses. Francis at 546 explicitly suggests to Erin to present the work that they are preparing for SPIRE conference, but, after Erin's vague response (probably because that work is not advanced enough, or they are not enough satisfied of it), he then leaves her complete freedom on the topic to choose.

Then, he also motivates the other guests to get prepared for presenting something in the future.

Example 8.2

539. F (…). also, since you guys are here, well, I mean, you still be here for a few weeks, I don't know if you want to suggest a paper, even some of your own paper
540. R excuse me I have to go *(very silently)*
541. F we see the work you have done you know, recently, and so on, it could be an example also to show to the rest of the group of your work, or if it's not your, some work that you like, that you would have liked to have done
542. E maybe we can talk about the work we are doing with Ross right now
543. F yes, that's a good idea, yes yes
544. E I don't know
545. G if you want you can also do a couple of slides, to present
546. F yes, of course, yes yes yes, it can be interactive, yes, in fact, yes, you can talk about, you know, this paper, this work you are doing for SPIRE, you are preparing for the conference SPIRE
547. E ah *(laughs)*
548. F well, basically talk about the work. And the same for you, if you have a recent paper that you published, or a piece of work that you have done you want to show
549. L *(nods and smiles)*

(4th of June 2010)

The gradual socialization to the CoP can be better observed throughout the entire year of empirical research by looking at Paris' trajectory: she is the younger PhD student of the team, since she started her doctorate in January 2010, exactly one month before the beginning of the ethnographic observation. We can better understand how full participation is accomplished by Paris through an analysis of her contributions in the different meetings organized during the year of observation. Actually, during her first meetings she is carefully observing, listening, and taking notes. During the discussions, she is often positioned as a beginner: for example, it happened that the chief addressed her uniquely for asking if she had more questions. She also positions herself as a beginner: she is quite silent and she intervenes only few times, usually for making questions about new concepts for her; sometimes she says explicitly that she has not lot of knowledge on some topics or that she is "just starting to learn" (turn 432, 9th of February). But in few months, she becomes better acquainted to the group and to the

discipline, thanks also to the support from the chief in getting her involved in the team activities and to the support of the other colleagues. We deepen this point by briefly going through an example that we already discussed in chapter 6 (example 6.3, page 106), when speaking about the interplay between symmetry and asymmetry in roles, and that we briefly report here for clarity. In this excerpt, Paris is motivated by the chief to choose a paper for the next reading group. This marks the beginning of a new phase in her membership of the group and in her role during meetings: we could say that now she is becoming, from an observer, a full participant, who can suggest a paper and then moderate a discussion. We see that Francis shows to be available in helping her in the choice (turn 625), but at the same time he also clearly underlines her role as "the most expert on that topic in the group" (turn 627).

Example 8.3

623. F do you want to pick a paper, on patent retrieval?
624. P yes, I can, but I don't know if, I can talk to you (…)
625. F yes, we can pick it up together
626. P for the topic (…)
627. If you are sure you are the one who knows more about patent retrieval here than anybody else here
628. P ah, so
629. F even if you are (laughs)
630. P (laughing)
631. F even if you couldn't yourself you know, a top expert, you know (laughs)

(23rd of April 2010)

Actually in the same meeting we can observe another notable step in Paris' way to full participation in the community: at a moment of the discussion, through a clever question, she points a fault in the explanation of Jan, who was moderating the reading group (see example 6.2 at chapter 6, page 104). A remarkable and definitive step of Paris' socialization to the team can be observed in a meeting in December, where Greg's work was deeply discussed: at the end of the meeting, she strongly insists with her colleagues for having her too such a session, and she does not desist even when her proposition seems to be lost in the different suggestions for planning the next meeting. This is

important for three reasons. First, it shows Paris' trust in her colleagues and in their suggestions. Second, it shows her feeling to be ready to present her own work. Finally, it shows also her knowledge of the functioning of this CoP and her willingness for full, complete participation. Actually, her ability to push for having such a session denotes also she is feeling safe, secure, and ready for doing this important step. We see in next example, that, at the end of Greg's session, she is clearly stating the willingness to have such a meeting: Jan, at 658, jokes about the fact she is too junior; this joke seems to point out, even if ironically, that her trajectory to the CoP is not advanced enough, and Paris reacts saying that Mike and Sheila are used to ask each other feedback every day. In this way she is pointing out that Mike and Sheila conduct an important activity by themselves (this being also probably perceived as a sort of violation of the joint commitment), and she is implicitly claiming her right to have such an opportunity during the meeting. Paris reaffirms her desire at 664, and at this point Greg seems to take up the suggestion, since he states the unwritten rule that the meeting is also for that, but then the discussion fades away, and focuses on other papers.

Example 8.4

657.	P	I would be interested to have such a session
658.	J	no no way, you are too junior *(laughs)*
659.	G	(…) *(laughing)*
660.	P	no, Sheila and Mike are doing it every day, so
661.	S	just wanted to ask feedback
662.	J	what?
663.	G	you want to do this session more frequently?
664.	P	no, to have some kind of feedback over my own project
665.	G	yes, we have the group meeting once a week
666.	P	yes

(3rd of December 2010)

In the next example we see that Paris has not any problem in coming back to her point: in fact, her colleagues, Sheila and Jan especially, are discussing a possible paper to be read for the next meeting. When Paris reaffirms her wish, at 712, Sheila suggests her to choose a paper linked to her work, Paris argues there is not a good paper on the topic,

Greg seems to propose a compromise, and then Paris herself comes with an idea (turn 720). It is interesting that Sheila proposes her to choose another paper, but Paris judges it not to be good enough. This moment is relevant because Paris is contradicting one of the most expert PhD students, who also had an important role in socializing her in the months before, and she is doing that by contesting the scientific quality of a paper. Finally, Paris will succeed in having her proposition accepted.

Example 8.5

712. P I think this is an opportunity to discuss my own work
713. S pick another paper then
714. J yes
715. P but there isn't a good paper *(laughs)*
716. J ok, let's discuss another paper *(laughs)*
717. P no no
718. S (…)
719. G you can do it, we can do reading group on that paper and then discuss
720. P I can send you a paper from participants in the CLEF, the one that has best results, and it's the patent
721. S or you can send us that ECIR, that paper that Jean Lave had
722. P that's not good but

(3rd of December 2010)

We can say that these excerpts show how Paris becomes progressively socialized to the CoP. More specifically, the selected examples mark the most meaningful steps of her path from the periphery to the centre of this CoP. Meetings have a high value for supporting this trajectory because during meetings new members are presented and then progressively empowered: they understand how the team functions, they can take part to discussions about internal issues of the team, they learn how to moderate a discussion and how to give a contribution during a debate, they can propose topics and present their own works. In sum, during meetings newcomers can start to build their own place in the team, getting better acquainted to it and gradually giving their individual contribution.
Referring to the emergent practices discussed in the previous chapter (section 7.6), we can consider a person as a full member of this CoP when she knows about the participatory practices and enacts the discursive practices of the team, so to fully

participate in the meetings. Active participation in team meetings means first of all that full membership to the CoP is accomplished; then, it means to enhance one's own learning. Learning does not only imply to know how to behave in this community. Learning also implies building new disciplinary knowledge, comprehending one's own role in the broader academic community, and understanding what does it mean to make a doctorate, manage a project, publish, participate in a conference, be engaged for an academic career. In sum, learning means to be socialized as a PhD student. We will better go through this topic in the next section.

8.2 Becoming a PhD Student

At different moments we stressed that some topics treated in the meetings can support PhD students' socialization, we will see more systematically in this chapter how this can happen. We explained in the theoretical background that PhD students' socialization can be considered as encompassing four dimensions: socialization to the discipline, or intellectual mastery; socialization to the department; socialization to the role of PhD student; socialization to the academic profession (Golde 1998). We consider this model as a good starting point for reflecting on PhD students' socialization, and we will see, for each of these four points, how meetings can help. Actually, the concept of legitimate peripheral participation is very good for understanding of how a newcomer can be socialized to a CoP, but, in complex settings, where different levels of membership can mix, something more precise is required to analyse socialization processes. These are also strongly influenced by the inner characteristics of a profession and of the institutional and cultural context in which this profession is enacted.

As far as it concerns PhD students' socialization to their own discipline, we can say this represents one of the constitutive objectives of the meetings, and probably one of the most important, as reported by the chief. Actually, reading groups are quite a widespread practice in different disciplines and they are used for improving domain knowledge (Golde 2007): also in this CoP the fact of using meetings for discussing papers permits to build deeper disciplinary knowledge. Moreover, it is worth remembering that the

debate on papers very often permits to dissipate doubts and questions on specific methods and concepts, and this gives a vital added value to these moments of confrontation. What we called, in the previous chapter, "scientific debate" and "learning together", represent examples of socialization to the discipline. Collaborative building of explanations, reconstruction of reasoning, suggestions and feedback are strategic practices, so as the moments in which a specific person explains a topic.

The next excerpt present just this practice: it shows how, during a debate on a paper, the discussion is momentarily suspended for focusing on a concept that, in the previous part of the discussion, appeared to be unknown by most of the members of the team. We already commented on excerpts taken from this meeting in the previous chapter (see examples 6.1 and 6.2 at pages 103 and 104). Here, Mat intervenes for explaining a specific method, Lagrange multipliers: at the beginning this was not at the core of the discussion, since it is only a specific method used in one of the formulas, but then Mat understands that most of the people do not know it and they are interested, so he takes the opportunity to explain. We report here only few turns, but the part of the meeting dedicated to this topic is longer and characterized by different questions from his colleagues, who show to be eager to better know about this method. We notice that Mat asks the turn to Jan, who is chairing this part of the reading group, and who was previously commenting on the paper. Then Jan, who is already at the blackboard for writing down the most important formulas of the paper, asks to Mat if he can write down the main points of his reasoning (turn 111), probably for facilitating understanding. Subsequently, Mat also goes to the blackboard, and the all interaction is then shaped by questions from his colleagues.

Example 8.6

106.	MT	can I explain about Lagrange multipliers?
107.	J	yes
108.	MT	the idea is you have, you have an objective function, right? *(indicates blackboard)* it maximizes m or n, and you have a constraint that all of si, should be si, in eci, right? They have to sum to m, ok? You have to put that information into your constraint, into your loss function, I'm gonna do that, well, if you do, if you write m minus the sum of that si is gonna be equal 0, right?

109. P [ok]
110. G [ok]
111. MT ok? so if you put, so we add to the loss function *(goes to blackboard)*
112. J can I write?
113. MT yes, you can write. Lambda times something that estimates necessarily equal to 0, ok? if it's not equal to 0 we get in trouble, and then we take the derivative of that instead of taking the derivative of the original loss function, it would be better (…) extra information in, ok?
114. S I didn't understand why we should have that one

(23rd of April 2010)

Meetings are really helpful from this point of view since they provide a unique place where new disciplinary knowledge can be built thanks to the contribution of the different types of expertise each participant has. Actually, as one PhD student stated in an interview, "we have more expertise and more fields, even if we are just PhD students", explicitly stressing the importance of belonging to such a group and of having regular exchanges with colleagues, but also highly valuing the interaction among peers. The presentation of one's own work is also significant from this perspective: presenting the individual work is useful not only for gathering suggestions from the more expert colleagues, but also for permitting colleagues to learn new topics, or topics about which they are not really confident. Therefore it is a highly useful moment both for the person who presents and for those who are attending the presentation.

Socialization to the role of PhD student is probably more difficult to isolate in a specific moment. We can say that the general environment provided by this team, with regular face-to-face encounters among colleagues and peers, and the physical environment of the Faculty, where PhD students share the same open space, facilitate a novel PhD student. The sense of isolation is minimized by physical proximity while the possibility of getting integrated into the department and to know better other PhD students is maximized. The physical proximity augments the possibility, for newcomers, to take part to relevant exchanges of information, to find available colleagues for obtaining the information they need or for helping to conduct some activities and tasks, while the fact of being part of such a CoP enhances opportunities to learn from peers. Meetings are helpful to the extent they are the privileged place for sharing information and making announcements, but, more importantly, they constitute a strategic place for learning from role models.

Actually, post-docs and more expert PhD students can act as role models for the younger ones. Newcomers, through observing their colleagues while they debate or they present their own work, can learn how to behave, approach a scientific text, present a PhD project, give relevant feedback. In general, all the different activities conducted during meetings have some value for socializing PhD students. Meetings are even more useful since they are the place where mutual engagement is built: participatory and discursive practices provide a good background for newcomers to start to exercise their role of PhD students and to gather important information. New PhD students learn that they can rely on colleagues, who are willing to help, that they can pose any question or express any doubt. Being in an atmosphere where mutual engagement is created and reproduced is highly helpful for learning what does it mean to start a doctorate. We can say that, in this case, peers are very important socialization agents.

Socialization to the department is also a difficult construct to isolate and it is quite pervasive: we can say that it can happen at any moment. Meetings of course can support it, but it is likely to happen in different places, and the simple fact of working in physical proximity with other PhD students and with the academic and administrative staff holds a strong potential. Being socialized to the department means to get in touch with different people who work in it, and also to know the structure, the hierarchy, the official and informal rules. For sure some of this information can be gathered individually, other is provided by the supervisor and the administrative staff at the moment of the formal enrolment, other can be obtained during official events. Getting personally in touch with the different people, institutes and services, is strategic, so as the availability of colleagues to open to the newcomers the network they have in the department. Meetings can be helpful especially when organizational issues and academic small talk are the focus of the discussion, and people or events of the department are mentioned. Announcements can be also particularly useful, especially when, for example, courses or initiatives of the Faculty are promoted. It is also true that meetings do not cover systematically socialization to the department with the same frequency and depth as in the case of socialization to the discipline or to the role, but the participatory nature of the meetings permits to touch this issue quite frequently; then, because meetings, as we saw

in the previous section, are vital for being socialized to the CoP, this augments the opportunity to be socialized to the department.

As far as it concerns the socialization to the academic profession, we can say this point focuses on a very wide and long process. Meetings in this case are very useful. Participation in the meetings can help PhD students to better understand the academic profession, at least from four different perspectives. First, meetings provide direct contact with role models that cover the different positions of the academic hierarchy. Second, topics that are particularly relevant to the academic career are discussed, as it is the case when speaking about publications or about the peer review process. Third, some of the various topics treated during the meetings help PhD students to understand how some strategic academic activities, such as presentations, research, readings, should be conducted. Finally, what is more, there is also the possibility to concretely enact such activities. We already reflected on the relevance of role models before, when speaking about the socialization to the role of PhD student. Even if meetings usually are not the place where the post-docs or the professor thematize their own experiences in their academic career paths, they provide an inspiring model in the way they behave and they approach problems and questions. We can say this is an implicit way of socializing PhD students to their role of academic researchers. Topics as publications and peer review processes are highly important in an academic career perspective, and they are constantly treated in meetings, where they often emerge spontaneously. The chief is always very available in discussing these issues, and everyone appears to be interested. For example, once it happened that the chief, for better describing the peer review process, logged into the system that manages the reviewing process of a journal of which he is the editor in chief, and extensively showed how it works. For sure the openness of the chief in treating broader topics than which that are directly linked to the main theme of the meeting is very helpful. The general open structure of the meetings, with the presence of reading groups and of moments for discussing one's own work is also useful. Reading groups are often the place where scientific debates arise, this being the perfect moment for learning how to critically read scientific research, as an experienced academic would do. The chairing style of the leader, who often points out the important topics on which

to focus attention, is also valuable in teaching how to reflect on a paper. The presentation of one's own work provides also a sort of socialization to the profession since this is a core activity that an academic should be able to do. Moreover, often during a presentation it can happen that more general remarks on how to write a scientific text arise, as, for example, comments on internal validity, clarity of exposure, references. We can conclude that meetings offer a breadth of opportunities for being socialized to the academic profession, as: being confronted to role models; better know about relevant topics related to the academic career; explicitly speak about key academic competences, such as writing, reviewing and presenting; and also practicing those competences.

Actually, we can interpret each of the four dimensions of PhD students' socialization, as described by Golde (1998), in terms of a trajectory from the periphery to the centre of four different types of communities: to do such an operation, we have to stretch a bit the concept of CoP, but it is a useful exercise for better reflecting on the different targets that each type of socialization has, and for understanding that a complete socialization is a highly complex process involving very different actors and requiring different activities. When we consider intellectual mastery, the trajectory goes from the periphery to the centre of the disciplinary community; in the case of socialization to the department, the department itself can be considered the community whose centre needs to be reached for being a full participant; in the case of socialization to the role, the trajectory is that from the periphery to the centre of the doctoral students' community; in the case of socialization to the profession, the trajectory is that towards the wide community of academics. The last two types of communities appear a bit generic and difficult to delineate without referring to a specific university or to a precise scientific domain, but it is in any case possible to say that the fact of being a PhD student or being an academic brings to peculiar visions of academic life, specific approaches to research, ways of relating to colleagues, that are very different from other professions and recognizable as such. The next table summarizes these arguments, drawing a parallel between Golde's model of PhD students' socialization and Lave and Wenger's concept of legitimate peripheral participation.

Table 8.1: relationships between the concepts by Golde (1998) and by Lave and Wenger (1989)

PhD students' socialization (Golde 1998)	**Legitimate peripheral participation** (Lave and Wenger 1989)
Socialization in four different domains:	**Trajectory from the periphery to the centre of:**
Discipline	the disciplinary community
Role	the PhD students' community
Department	the Faculty of Informatics
Profession	the academic community

Golde's model is for sure insightful for analysing PhD students' socialization. If we carefully reflect on the last paragraphs, we can draw two important observations. First, we notice that sometimes a unique practice, for example, presenting one's own piece of work, can fulfil more socialization needs (socialization to the discipline, to the role, to the academic profession), while other practices (speaking about the peer reviewing process for example) are clearly more strongly linked to one need (socialization to the academic profession). This point can be highly helpful for highlighting those practices that are particularly relevant to PhD students' socialization. Second, we notice that socialization encompasses various practices, some of them more active, while some others more passive. Regarding the active practices, in those moments the PhD student herself is enacting something that increases her socialization. In the passive practices, the PhD student is attending to some strategic event for her socialization. Presenting the individual work, expressing the personal opinion in a debate, giving information in a certain manner, or making consistent questions, all these practices can be actively enacted by a PhD student, who, in this way, learns to act as an academic and to adequately adapt her own behaviour. On the other hand, observing how colleagues present, debate, or moderate, does not entail to put one's own self at stake, but in any case it constitutes an important opportunity for learning how things should be done and also for modelling one's own behaviour. A good balance between active and passive practices is necessary for socialization to take place. The observation of colleagues'

behaviours is strategic for learning how to act, but the learning process would not be complete without the chance to individually enact a practice. Finally, it is important to remember that in this CoP the act of practicing unfolds during team meetings, so in a safe environment, where participants are available to support each other and to do scaffolding. This is really important for maximizing PhD students' socialization: in the next section we will better explain what scaffolding is, how it takes place in the meetings, and why it is particularly strategic.

Before concluding this section, it is worth underlining that during meetings peers are very important agents of socialization: they often provide colleagues with relevant information, concepts and ideas, and they do scaffolding. Of course the chief has a relevant role because of his expertise, that makes the difference when discussing more general and career related issues, such as publications and peer review processes. Furthermore, the chief's empowering moderation style permits everyone in the team not only to give a personal contribution, but also to negotiate the topics to be treated. Actually, it is likely that this style of moderation, and, more generally, this style of leadership, constitutes a background on which then everyone can position herself as a proactive member, this being a strategic condition for supporting the socialization of colleagues. Peers can be relevant socialization agents because of the participative and open atmosphere of these meetings, otherwise their action would be very limited and consequently not effective for socializing colleagues. Mutual engagement, that is a key feature of these meetings, cannot be disconnected from the underlining willingness to play a part in the socialization process of the peers.

The Relevance of Scaffolding

It is useful to consider the concept of scaffolding when speaking about PhD students' socialization, especially in this team, since it is enacted during the meetings. Instructional scaffolding refers to the practices of a more expert individual aimed at supporting the learning process of a less expert individual; it was first used by Jerome Bruner to explain how children learn oral language through the support of adults. We can find yet in Vygotsky the description of this phenomenon, that permits to progressively

internalize knowledge, competence and skills, in a slow and continuous manner. The main idea is that the more expert individual helps the newbie in a sort of step-by-step apprenticeship, so that the newbie can gradually empower herself and finally conduct the task alone. When members of a CoP help newcomers in their way into more and more participation in the community, they operate a sort of scaffolding. Doing scaffolding implies offering expertise and building a mutual relation. During meetings, scaffolding is often present in the chief's way of structuring the discussion and posing questions, so as in the PhD students' attempts to moderate a discussion, especially when the work of a colleague is the focus of the meeting. The presentation of the main ideas of a paper, with the support of the blackboard, where the most formulas are written down, inferred and commented step-by-step, represents a process of scaffolding. To better understand how this process can be detected in real interaction, we report below two meaningful excerpts.

The next example shows how the chief does scaffolding in his moderation of the presentation of Alan's PhD project. After that Alan finishes his presentation, a small discussion develops, and now the chief, with some focused questions, is pushing Alan to give some important information that was missing from the presentation. At turns 108 and 110, Francis asks about the future steps of a central part of the project, the development of the so-called "dimensions of context" to be considered for designing an application able to adequately satisfy people's needs when they are using a mobile device. Alan's answer is very precise and focused on the short term steps. Then Francis, at 117, asks about the long term goals. We observe that the questions are very brief and clearly defined, they address some issues that Alan did not explain before, but on which very probably he already thought about, so Francis is like pushing Alan to "externalize" these ideas. This is an implicit way to mark the importance of these issues, and to let Alan understand that he needs to explicitly address them in future presentations. The chief does not explicitly criticize Alan for this lack, but he chooses, maybe unconsciously, to do scaffolding: he wants that these issues are explained by Alan himself, so he accompanies him in this explanation with two precise questions.

Example 8.7

108. F so, maybe you can explain what are the next steps. What's you are able to understand
109. A *(laughs)* so, the next steps
110. F about the dimensions of context
111. A not that very far, I'm taking a (…) a questionnaire, but then, I want to pull out the place, the place and the preference, because it has already get very high (…)

117. F right, ok, and what is longer, what is longer your (…) goal
118. A yes, ok, and after that I'm not still not thinking about how (…) because based on what Putnam do, did, it's he did somehow like TREC a kind of evaluation (…)

(12th of February 2010)

Example 8.8 shows how scaffolding happens among peers. In this part of the meeting, Greg's PhD project, about authorship attribution in chat rooms, is being discussed. More specifically, colleagues asked to Greg to briefly present his main research questions. In this excerpt, they are talking about the second research question. The excerpt starts with Greg doing an example from everyday life (some students having their facebook account stolen), an indirect way to explain the topic he is addressing in his research questions. This example brings Jan to infer the second research aim, and to state it, at line 380. This sentence is an example of scaffolding since Jan in this way pushes Greg to focus on a precise feature of its project (one of the research aims): Jan formulates this objective in an excellent way, but then terminates the sentence with "I would say", so to leave the floor open to Greg for correcting or commenting it; then, Jan's intervention also contributes to better structure the discussion. Actually, also in the turns before those presented in this excerpt, it seems that Greg has some difficulties in stating in a brief but effective way his research questions. Greg at 381 writes the aim, as Jan formulated it, on the blackboard, under the point that indicates the first research question, already discussed. In this context the statement by Jan at 382, "ok good", seems to mark his appreciation of Greg's act of writing down the research questions (actually, Jan asked before to Greg to use the blackboard for better structuring the discussion, this also being an example of scaffolding). At 383 it is very interesting to observe that Greg says that this discussion is really useful for him. Jan's reply at 384 seems to reaffirm a team

mission, that of helping each other through the discussion of topics that are useful for them. Jan's willingness to better structure the discourse, and to do scaffolding, is shown also at turn 387, when he interrupts Paris', because, as he states two turns later, they have first to finish with this part of the discussion, before focusing on possible solutions. Here Jan is strongly moderating the meeting: not only he interrupts Paris, but he also asks Greg, at 391, if it is all with the general objectives of his research. At turn 395 Jan expresses a judgment, "correct", after Greg explained that his research design can be applied also when considering other media than twitter (on which he is working now). This judgment can be seen as constitutive of the process of scaffolding, since it explicitly marks the correctness of what Greg just said, and motivates Greg to continue.

Example 8.8

371. G anyway, some students had someone accessed data, someone else accessed facebook
372. J mm mm
373. G instead of them
374. J mm mm
375. G and started posting
376. J right
377. G ok. What happened, that these postings were really strange
378. J yes
379. G in term of topic, but also among the topic
380. J so, basically another thing that you want to detect, is the user behaviour change, I would say
381. G yes *(writes on the blackboard under the point I)*
382. J ok, good
383. G that's also useful for me *(laughs)*
384. J yes, that's why we are discussing this *(laughs)*
385. G I'm not sure about
386. P but you cannot be sure if it's an author change or a topic change, because if you just
387. J wait wait
388. G that's the problem, I mean, it's not easy to do this, because
389. J wait, let's come to the solution later
390. G ok
391. J let's finish what you want to do in general, is it all? Because you said something about the future
392. G no, the future is observing the conversation, ok? And
393. J so basically, yes
394. G and this can be applied to other kinds of medium, I mean, on the moment I'm using twitter
395. J correct

(3rd of December 2010)

In this excerpt Jan is accompanying Greg, step-by-step, to describe his project in a way that can be adequate also in other venues, and it seems he is also helping Greg to better structure his own thoughts so to better present them; this is the essence of scaffolding. In fact, the impression after having observed this meeting was that the debate provided Greg with good inputs for better organizing and presenting his research project, this confirmed also by Greg's act of taking a picture of the blackboard at the end of the discussion.

The act of practicing something, as a presentation, in a learning environment, where not only mutual engagement is shown and reproduced, but also scaffolding takes place, makes even more effective the interplay between the active and passive practices that permit socialization. We showed how scaffolding takes place and how it helps PhD students to externalize their ideas and knowledge. It can be considered an underlying process that can happen at any moment, and it is particularly valuable because it is essentially a step-by-step process, focused on precise needs, where a less expert is gradually guided through incremental appropriation and understanding of specific competence or knowledge.

To sum up the main arguments presented until now for answering our third research question, it is possible to state that meetings provide the adequate place for supporting PhD students' socialization, through active and passive practices: both of them stimulate especially the development of intellectual mastery, the socialization to the role, the socialization to the profession. Going back to the four thematic axes discussed in the previous chapter, we can say that scientific debates and learning together are particularly useful for enhancing intellectual mastery and socialization to the academic profession, while organizational issues and academic small talk are more useful for the socialization to the role of PhD student and to the department. In any case socialization is a long process that encompasses different aspects of one's own academic life, and it is sometimes difficult to isolate the moments in which a specific type of socialization can take place. It is unlikely that one type of socialization will happen in the absence of the others. Consequently we can state that meetings constitute an "umbrella activity" that

encompasses more functions as far as it concerns socialization: it provides different possibilities for supporting the overall process of socialization to the doctorate, and it is strategic for socializing any newcomer to the group, so it supports the trajectory from the periphery to the centre of the CoP. The next schema sums up the practices that, as we have argued, can foster PhD students' socialization in the meetings; scaffolding can potentially happen at any moment.

Table 8.2: the different practices that can support PhD students' socialization in meetings

Potential socialization practices	active	passive
Debating Presenting Explaining Moderating Sharing information scaffolding	Enacting one of these practices – being at the centre of the attention while enacting them	Carefully observing and listening colleagues while they enact these practices – colleagues as role models

A Model of PhD Students' Socialization

We saw that weekly team meetings are vital for being socialized to the team itself, and then for being socialized as a PhD student. In fact, we could say we answered to the last research question. At this point, it is valuable to better think about the relationships between the arguments and the results presented in this chapter and that presented in the previous one. More specifically, it is worth to ask ourselves which is the link among mutual engagement, the participatory and discursive practices we analysed in the chapter before, and PhD students' socialization.

Going back to what happens during the meetings, we recall that participants can freely discuss more topics, and also introduce new ones. This possibility is highly important for PhD students, to support their socialization and their learning; then, in general an effective team discussion would not be possible in the absence of the participatory and discursive practices. Actually, the participatory practices of the team permit to everyone to give personal contributions and ideas. Among the participatory practices that we

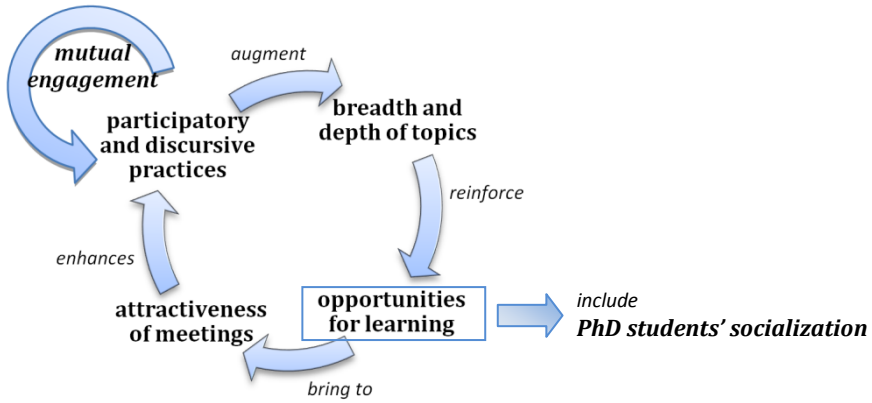
studied in the previous chapters, there are: the empowering moderation style; the fact of keeping the team up-to-date, with the important announcements concerning the team itself, the department or the community; the democratic decision-making on precise team activities; and the possibility for everyone to have space for one's own contribution. We also recall here the specific discursive practices favoured by the members of the team during the meetings: collaboratively building answers and solutions; reconstructing reasoning together; changing leadership; explaining new or difficult concepts; giving one's own opinion, suggestions, or feedback. It is worth noting that without such practices it would be impossible, for example, to actively develop the skills we presented at table 8.2.

Moreover, we demonstrated that participatory and discursive practices tend to foster mutual engagement within the team. The presence of mutual engagement within the team favours PhD students' socialization and relationships among peers. Actually we showed in the previous section that peers are important socialization agents: they act as role models, they help colleagues with their expertise, they answer to doubts and give relevant information. We observed that a large part of socialization to the department and to the role is done by peers, and that peers give also an important contribution in socializing to the discipline. We can state that mutual engagement among the members of the team is vital for favouring PhD students' socialization, and the relationship between the two is recursive.

We have now clarified the link among participatory and discursive practices, mutual engagement and PhD students' socialization in team meetings. Furthermore, it is worth noting that two specific aspects of the organization of team meetings have a very important impact on socialization of doctoral students. These are: the variety of topics treated during a meeting (we saw that when speaking about the four thematic axes, i.e. internal issues, scientific debate, learning together, academic small talk); and the empowering chairing style, that permits topics shifts depending on the needs of the participants. We clarify this argument with some scenarios. Imagine that the debate around a paper is exclusively focused on the paper itself, and that moderation does not permit to broaden the discussion to some specific methods used in that paper, or to other

similar methods used in other papers, or to the peer review process, or to links about the paper discussed and the work of a member of the team. In that case, the "learning together" thematic axis will be reduced, and the effect will be a serious loss in the opportunity to build synergies among the expertise of colleagues and to maximize learning. Imagine also that meetings are not used for discussing one's own work: this will seriously compromise exchange of ideas and learning. Imagine then that internal issues are not discussed: there will not exist the possibility to have a place for sharing relevant information with everyone in the team, or for sharing tasks with people interested (of course the contents treated in this thematic axis are also vital for clarifying functioning and objectives of the team, but in that section our focus is on the variables that can have a direct impact on PhD students' socialization). Finally, imagine how a meeting will appear without what we called "academic small talk": the opportunity to exchange information about the department or the community in a relaxed and joyful atmosphere will not exist, compromising in this way not only the socialization to the department or to the community, but also the atmosphere of the meeting. It is clear that the type of moderation adopted is vital for permitting such a breadth of topics. We already focused on this style of moderation and on its effects, both in chapter 6, when speaking about hierarchy and team building, and in chapter 7, when presenting the virtuous cycle of mutual engagement, that we report below for completing it and making an additional reflection:

Fig. 8.1: the virtuous cycle of mutual engagement revised



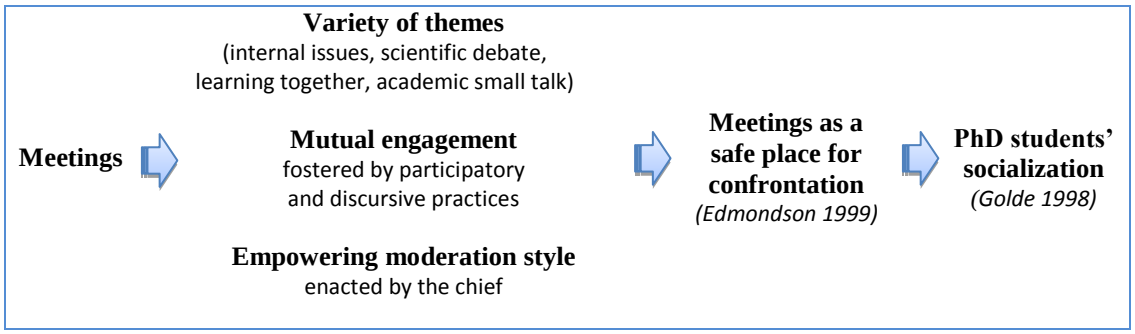
When speaking about the virtuous cycle of mutual engagement, we explained that mutual engagement, built thanks to the emergent (participatory and discursive) practices present in the team meetings, tends to augment the breadth and the depth of the topics treated. This process multiplies and reinforces the opportunities for learning, and, being learning a key issue for researchers, meetings, as a place of learning, become very attractive. Finally, the attractiveness of meetings enhances mutual engagement because it brings the members of the team to strengthen their commitment in such a good practice. We can say that, under the label "opportunities for learning", it is possible to include also PhD students' socialization. In fact, being socialized to such a context means learning, and this type of socialization is also enhanced by mutual engagement and by the breadth and depth of topics; then, it also brings to a bigger attractiveness of team meetings. Actually, PhD students' socialization is a part of the learning opportunities we spoke in the previous chapter.

The mutual engagement within the team, the variety of the themes treated in the meetings, and the empowering moderation style, are crucial for favouring PhD students' socialization; but we will show that the link between these variables and the socialization of doctoral students is not direct. PhD students' socialization can be fostered in meetings because the three variables mentioned above contribute to create a special environment, where members feel safe to express their own opinions and speak about their own works,

and where there is a common feeling of trust. Amy Edmondson has shown that the "shared belief held by members of a team that the team is safe for interpersonal risk taking" (Edmondson 1999: 350), situation that is defined by her concept of "psychological safety", positively impacts on learning in work groups. We argue that team meetings constitute a safe place for confrontation. Actually, Edmondson explains that, among the behaviours that can put at stake an individual, there are asking for feedback or help, and admitting mistakes. In this CoP it is common during the meetings to ask for feedback or help, and sometimes it also happens that mistakes are admitted. This is a clear indication of how much safe this place is perceived.

The following schema summarizes the arguments presented above, and shows the links between the different concepts on which we worked on in this section. Meetings are characterized by breadth of the themes treated, mutual engagement among team members, and empowering moderation style, that permits high levels of participation. All these three variables shape an environment where participants feel free to take the risk for expressing themselves and asking for feedback. Consequently, team meetings can be considered a safe place for confrontation. This tends to maximize learning opportunities, and for this reason it has a positive impact on PhD students' socialization.

Fig. 8.2: how team meetings can influence PhD students' socialization



8.3 Summary of the Chapter

In this chapter, we answered the third research question: we showed how weekly team meetings positively support PhD students' socialization. We reflected on how these meetings, in general, are vital for supporting newcomers' socialization within this CoP. They are the favourite place for enhancing the movement from the periphery to the centre of the team, so to gradually permit full participation. This movement can be explained in terms of legitimate peripheral participation, but then we argued that this concept cannot adequately address the complexities of the PhD students' socialization experience, that presents multiple facets and develops at different levels. Consequently we considered Golde's (1990) four dimensions: socialization to the discipline, to the role, to the department, to the profession. For each of them we saw how it happens during the meetings, and we argued that each dimension can also be understood in terms of legitimate peripheral participation, so as a trajectory towards the centre of different communities, that can be considered to be, respectively, the disciplinary community, the PhD students' community, the department, the larger academic community. We then thought about the different practices that can help socialization, such as: debating, presenting, explaining, moderating, sharing information; we argued that a single socialization practice can belong to more of the four dimensions by Golde. Moreover, socialization practices can be active, i.e. personally enacted, or passive, i.e. observed and interiorized: both active and passive practices have a highly relevant role. Finally we clarified the link between variety of topics treated in the meetings, mutual engagement within the team, style of moderation, and PhD students' socialization, and, referring to Edmondson (1999), we argued that socialization in this case is possible because meetings are a safe place for confrontation where each member feels free to express herself and ask for feedback.

9. Conclusions

In this chapter, we will conclude our arguments by briefly summing up the main results of the empirical research to have a panoramic understanding of the achievements of the entire work. Then we will reflect on the theoretical implications of this study and the implications for practice; this second step involves not only the research practice (the work of scholars planning to use a similar research design), but also the work of those practitioners managing or designing teams. Finally, we will conclude with a reflection on this study, its limits, and possible future lines of research.

9.1 Summary of the Main Results

Before presenting a summary of the results, we will briefly return to our research questions. The aim of the project was to comprehend how team practices are conducted in a chosen group and, more specifically, how a heterogeneous team can work as a community of practice. Furthermore, this project sought to understand what the practices that evoke mutual engagement are, how mutual engagement is shown and negotiated in team meetings, and how these meetings support PhD students' socialization. When formulating and answering these research questions, we referred to Lave and Wenger's situated learning theory, with a specific focus on the concepts of "community of practice" and "legitimate peripheral participation".

In chapter six we answered the first research question. This chapter offers the most broad and encompassing view on the team's practices, the context of the team, and how the team functions in general. It can be considered as a brief ethnographic account of the chosen field. All data gathered during the empirical phase were particularly important in understanding how this team is characterized and which moments are strategic in developing mutual engagement. We showed that the team, despite its heterogeneity in terms of academic and cultural backgrounds and that most of the members are engaged in important individual activities, can be considered a community of practice. This

community is characterized by high regularity in face-to-face encounters, formal hierarchy, strong internal ties, and very clear borders. The formal hierarchy reproduces the typical pattern of an academic career but we also underlined that, during team activities, leadership is participative, and often determined by expertise. The borders of the community are clear, but at the same time they are permeable, especially for young researchers and PhD students. The team is very well connected at an international level. We pointed out that the existence of this team as a community of practice, with such features, depends heavily on the type of leadership. In fact, the chief of the team gave this form to this CoP and by exploiting specific team building practices, keeps the team alive and favours the development of mutual engagement among the team members. Among the team building practices, we also found that weekly meetings are vital in fostering internal communication and the exchange of ideas and for reflecting on disciplinary issues. Meetings constitute the most relevant practice in fostering mutual engagement.

In chapter 7 we focused on team meetings to understand how mutual engagement is negotiated during this activity. We based our arguments on many examples of interaction from the data. Meetings are a complex phenomenon. We analysed them taking into account the broader topics addressed (the four thematic axes that are represented by internal issues, scientific debate, learning together, and academic small talk) and the seven strategies of talk at work (style of moderation, meta-discourse, subject position, patterns of questioning and answering and topic shifts, commitments and violations of commitments, togetherness, joint laughter). This analysis highlighted some peculiarities of the interaction during team meetings; such specificities are represented by the discursive practices enacted by the participants during the interaction and by the participatory practices pushed by the chief. We argued that such discursive and participatory practices foster mutual engagement during the meetings. Collaboratively building answers and solutions, giving feedback, or the empowering moderation style enacted by the chief, have a tendency to raise participation and individual motivation. In turn, this strengthens the ties of mutual engagement among the members. Mutual engagement is negotiated through the use of such discursive and

participatory practices. We argued that it is possible to draw a virtuous cycle that explains the reproduction of mutual engagement during team meetings: the participatory and discursive practices that shape mutual engagement permit the augmentation in the breadth and depth of the topics at stake. This has a positive influence on the learning opportunities offered by meetings and makes meetings attractive. For this reason, participants are even more motivated to exploit the participatory and discursive practices, this augmenting mutual engagement, as explained in section 7.6. The negotiation of mutual engagement can take place due to the "participative" context of the meetings. The chief encourages participative behaviour but also the members of the CoP are eager to exploit the opportunities of such a context.

Finally, in chapter 8 we analysed the meetings in the light of PhD students' socialization, as defined by Golde (1998), and we could highlight their importance in tackling such a challenge. Team meetings facilitate the trajectory of newcomers to the group and of doctoral students in their research path. The different topics addressed not only facilitate the socialization to the group and to the department, but also to the discipline and to the role of PhD student. Furthermore, PhD students, during the meetings, have the opportunity to actively enact tasks and behaviours that characterize researchers. An example behaviour is moderating a discussion or debating on disciplinary issues; in these situations PhD students are often helped, or "scaffolded", by colleagues. We underlined that mutual engagement, together with the variety of topics covered in the meetings and the empowering moderation style enacted by the chief, tend to create a safe place where members are not afraid to put their face at stake, and this maximize learning. For these reasons, we can conclude that such meetings are very important in the socialization of doctoral students.

The answers to these three questions make two important considerations to emerge. First, they show that context is very important in determining the specificities of the community of practice. The features and rhythm of the team are both deeply influenced by the specificities of the department and by those of the academic discipline. For example, the features and formal rules of the Faculty determine that the members of the team share the same space, PhD students have fixed deadlines for achieving specific

objectives in their doctoral research, post-doc researchers are submitted to short-term contracts, and that there is a budget for inviting external researchers and for hosting other PhD students. The specific academic discipline influences the type of methods and scientific issues addressed, the choice of papers to read, and which conferences to submit a piece of work to. These activities strongly impact the time management and group activities. Second, leadership is highly relevant in this context. Each individual in the group is already occupied with her own tasks and the ties to this CoP could have been far looser if the chief would not have enacted team-building practices, such as the meetings. Furthermore, if during the meetings he would not have enacted an empowering chairing style the individuals may have been less active in the group. This chairing style helps address more topics and more needs, it motivates participation and, as we have seen, it is very important in determining the participatory practices that foster mutual engagement within the team. On the other hand, this does not mean that everything in the group is dependent on the chief's initiative. Approving and maintaining the chief's participative leadership in a team requires even higher levels of action and engagement among the participants; this has been shown by the team's willingness to organize meetings in absence of the chief. To use a (widely exploited) metaphor, we could conceive this group as an orchestra and the chief as the director of the orchestra. The existence of the orchestra is inextricably tied with the action of the director, but the work of the director would be useless in the absence of highly skilled, motivated, and collaborative musicians.

9.2 Implications for Theory

In this section we will present the implications of this study from a theoretical point of view, focusing on situated learning theory. We will reflect on three main points: the contribution of discourse analysis to this theory; the interactive construction of a community of practice, i.e. the negotiation of the three basic concepts of a CoP (mutual engagement, joint enterprise, and shared repertoire) during team activities; the role of leadership and hierarchy.

We claim that the study of a CoP should encompass a fine analysis of communicative interactions. A CoP is essentially a matter of interactions: among people, practices, artefacts. A close look at communicative interactions is worth and discourse analysis, coupled with ethnography, is a very valuable method to understand a CoP and its constitutive dimensions. This study shows that discourse analysis permits to better comprehend how the dimensions of a CoP form and interact.

We analysed especially how mutual engagement is built and negotiated discursively. As we saw at section 3.2, situated learning theory stresses the importance of mutual engagement in building a community of practice: it offers a panoramic understanding on its general components (interpersonal relationships and shared work tasks), but offers few insights on how to detect and analyse them. We explained that for us mutual engagement resides in the co-orientation of the members of the CoP among them, and its analysis can be conducted at two different levels. One level is the structure of the CoP, at which mutual engagement can be analysed in terms of roles, leadership, participation in team activities. We did this analysis in chapter 6 when describing the features of the team. The second level is the discursive one. This level requires to analyse the unfolding interaction while paying special attention to patterns of questioning and answering, meta-communication, subject positioning, and the other strategies of talk at work that we explained at section 7.1. We argue that these strategies of talk at work can be applied also to other studies, to find out the discursive and participatory practices of a CoP. Mutual engagement is an essentially social phenomenon, depending on how discursive and participatory practices are characterized in a CoP. When such practices are oriented towards colleagues and team, and have a positive connotation, or tend to maximize participation, they help mutual engagement develop.

The study of discursive and participatory practices also gives deep insight into the joint enterprise followed by the CoP and its repertoire. Any analysis of a CoP should cross-examine itself on the specific practices that permit participation in team activities and on the recurrent discursive practices that permit a negotiation and reproduction of the mutual engagement. It should also then reflect on how these practices evolve over time and to consider the characteristics of the institutional context where the CoP is located.

We saw that leadership also influences mutual engagement. In this team, leadership favours it because it provides a good environment for participation and negotiation. It could of course also be possible to find a CoP where the leadership style does not maximize participation. Participation is already a widely addressed topic in situated learning theory, but our research provides an important contribution in showing that participation can be studied on a micro-level, when analysing the interaction in meetings. When analysing our data, we took into account and emphasized all aspects linked to hierarchy, leadership, and power since these phenomena are constitutive of any group; however we know that situated learning theory does not divulge into these areas.. When working with them, our inspiration came from studies in management and leadership and we referred to concepts derived from empirical studies rather than other theories. This choice permits to keep a sound theoretical framework and at the same time to gather insights from other disciplines, with the aim to make situated learning theory more complete. We propose that, when analysing a CoP, one should keep in mind the type of hierarchy and leadership and ask if the leadership is established by external power, expertise, or other factors as explained by Dwyer (2008). It is important to remember that hierarchy and leadership are two interconnected phenomena, but they do not coincide. It is worth to understand if the hierarchy is formal or not and if it tends to reproduce an order that is typical of the team or one that depends on a broader, external context (as in our case, where the formal hierarchy reproduces the steps of a traditional academic career). Leadership is showed in discourse and can be detected through the analysis of discursive interaction. Studies on discursive leadership develop from this argument and we recommend to take them into account when analysing a CoP. Actually, the discursive leadership approach can be coupled well with situated learning theory and practice-based studies in general, since it presupposes that roles can be interactively constructed and negotiated in moment-to-moment interactions. Fairhurst (2008) summarizes the most relevant features of discursive leadership well and compares it to the well-known approach of leadership psychology.

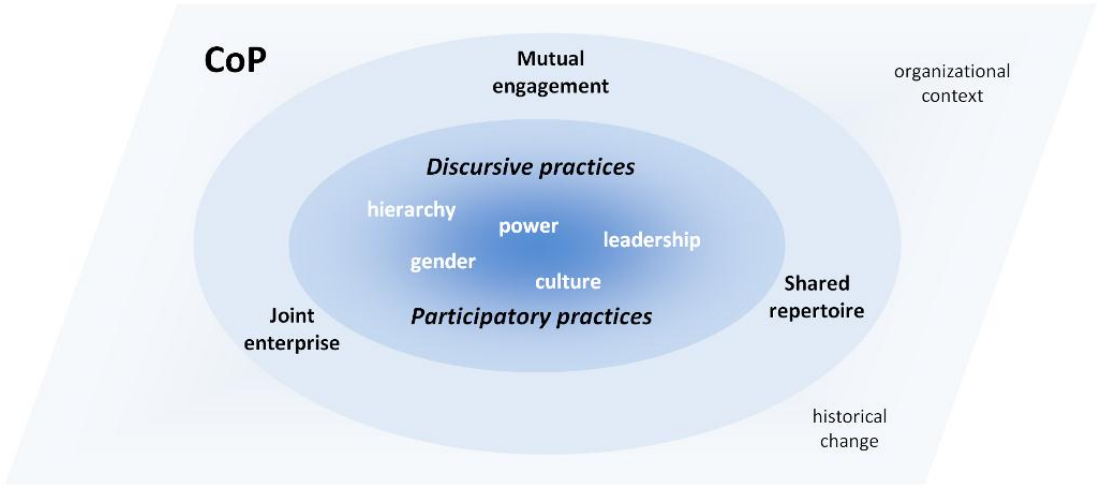
In this research we analyzed an intercultural group. Investigating dynamics related to intercultural communication was not the main objective of this research, but it is worth

noting that situated learning theory does not go into further detail on these issues. This is a limit that would need to be addressed in the future, since, in our world, intercultural teams are more and more widely diffused; also gender issues should be taken into account. We suggest, as a first step in this direction, to interrogate oneself about if and how cultural and gender differences are thematized and if the organization of work is very structured or flexible and facilitates the management of the life domain.

Summarizing the implications for theory, we are convinced that discourse analysis strategically helps in understanding a CoP and that the strategies of talk at work we elaborated can be a source of inspiration for conducting this analysis. Then, discourse analysis permits also to shed light on dynamics of hierarchy and power. Our results permit us to affirm that a CoP is constituted by the intertwining of specific discursive and participatory practices supporting the reproduction of mutual engagement, joint enterprise and shared repertoire. Such practices become also constitutive of the professional practice of the community itself and evolve in time.

The figure below summarizes our considerations and shows the main dimensions for analysing a CoP. Discursive and participatory practices are the keys for understanding the core dimensions of a community, so we propose to shift the focus on them when doing the analysis. This is not to say that mutual engagement, joint enterprise, and shared repertoire are not relevant, but they represent wide concepts that are not immediately observable. Discursive and participatory practices, on the other hand, are observable in the interactions among people, can be studied through discourse analysis, have a key role in supporting the three core dimensions and also permit to gather valuable insights on dynamics of power and hierarchy. The issues related to power, hierarchy, culture, constitute the ground on which participatory and discursive practices develop and there is also a mutual influence among them.

Fig. 9.1: dimensions for analysing a CoP



Before concluding this section, it is worth noting how a dialogue among different disciplines can be highly helpful when doing PBS. We saw that studies on leadership, management, and PhD students' socialization were very useful in our case. Depending on the research's aim, other fields are worth considering, for example intercultural communication or gender studies. Then, other approaches belonging to PBS could also be considered. As an example, activity theory, which focuses on contradictions, can be helpful in detecting problems or sources of conflict, while its focus on the dynamics between internalization and externalization can be strategic in analysing the socialization practices. In fact, cross-fertilization between different fields and theories focused on the study of organizations can bring new and insightful results.

9.3 Implications for Research Practice and for Team Design

Referring to the implications for practice, we will first focus on the implications for scholars doing this type of qualitative research, and then for those practitioners engaged in doing team design activities. Some thoughts from the feedback session organized with the team where the results were presented will be discussed.

A deep reflection on the implications for research practice makes us think about how the empirical research was organized. This study is based on a one-year long ethnography, meaning that the researcher saw the group once a week and participated in team meetings. The starting of the empirical phase was marked by a discussion with the chief, then the Dean of the Faculty suggested that the researcher contact this group. Using the "top-down" approach strategy to enter this field revealed as a very good fit in this case. On the other hand, the researcher would have never contacted the Dean if a person working there had not depicted the general features of the Faculty first. Therefore, it is recommended to first gather some general information about a potential field from an informal contact and then follow the hierarchy, especially in highly institutionalized settings. During the first meeting with the chief, the main objectives of the study were explained, along with the methodology for gathering the data (individual interviews, observations, and video recordings), and the interest in such a research was investigated. After that, the chief spoke with the members of the team, which then confirmed their interest in participating in the study. Subsequently, the researcher was introduced during a short meeting where the general aims of the study were explained. An important moment of the empirical phase was the discussion, with the whole team, of the project: more precisely the researcher presented not only the main objectives of the study, but also, upon request of the participants, the main features of practice-based studies. This moment was very relevant in understanding mutual expectations, clarifying the role of the researcher better, and also in building a closer relationship with all the members of the team. The initial phase was planned very well and the entrance did not pose any problem because the group was interested in the study and the common background as academics facilitated the first contacts more easily. The entire empirical phase was marked by high availability of all the participants and any practical issue was solved easily due to the researcher's subscription to the team mailing list. Furthermore the possibility to obtain free access to the Faculty building helped in managing the empirical phase. In this study, three issues revealed to be particularly crucial during the empirical research: first, the role of the researcher; second, the time lag devoted to the ethnography; and third, the timing of the feedback to the group.

The role of the researcher was completely overt and the research aims were made clear. This was done since the field was an academic team; there was no reason to cover the role or hide any information. It is worth mentioning that the researcher is a PhD student and could easily relate to the challenges and issues of the PhD students on the team. Identification with the other students was, to a certain extent, unavoidable, but attention was given as evenly as possible to other perspectives and to conduct the analysis in a consistent manner. A second crucial issue in this study was constituted by the time lag in gathering data. The timing was to be one year long, to ideally cover an academic year. It could be argued that one semester would have been enough for gathering data, but we are convinced that six months is too a short period of time when starting a PhD, doing research, and writing and submitting papers or projects. Consequently, one year was an ideal time lag for having a diachronic view that permitted the three research questions to be answered. Many interesting events, from the perspective of mutual engagement and PhD students' socialization, happened along the all year. On the other hand, a selection of data was necessary to focus on the most meaningful events. It is also worth noting that the length of the time lag was influenced by the lack of literature on any comparable study of mutual engagement in a similar CoP. Therefore, developing a new analytical framework was necessary. The third issue and most crucial issue was the timing of the feedback to the group. This happened one year after the end of the empirical phase. It was due to the time needed for conducting the analysis, including some contingent events that delayed the discussion. Most of the results were ready six months after the end of the empirical phase, but the discussion was delayed in order to have the majority of the participants present. It was difficult to find a balance between a good elaboration of the results, a reasonably short period between end of the field study and discussion of the results, and the situation and exigencies of the team. Despite that, the feedback session revealed to be very productive, the participants were highly involved in the discussion, and they were eager to ask questions. We recommend that feedback sessions be organized at the latest one year later. six months is also a good choice. If the feedback sessions are not organized within these time frames, the risk could be that the team involved loses interest in the research.

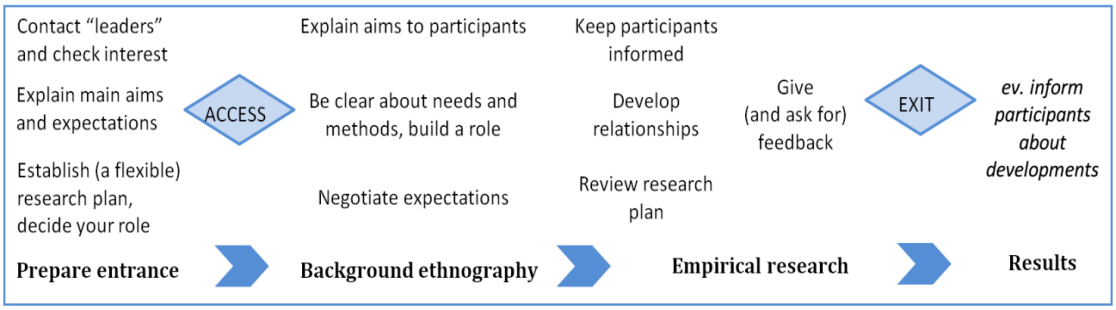
The feedback session was a very useful time and it is interesting to note that many members of the team, also its chief, asked about it yet at the beginning of the empirical phase. An informal meeting, in which the researcher informed the participants about the advancement of the project and, upon their request, distributed a short paper that was just accepted for a conference preceded the session. The session started with a half-an-hour presentation where the objectives and research questions of the project were recalled, and then the results were presented. More specifically, the concepts of community of practice, mutual engagement, and PhD students' socialization were briefly explained to make the participants familiar with the terminology used in the research and to reflect in a different way on the own work. Some statistics about the data gathered and the team meetings were shown, aiming to raise awareness of the different activities in which the team was engaged in and of the amount of time dedicated to them. The results of the project were then presented, focusing on the conceptual framework explained in section 7.6. Finally, an overview of the project's main contributions of the project was given and the issue of anonymization was discussed. In fact, the contents presented in the session coincide with those presented in the thesis. This choice was driven by the fact that the participants were also researchers and, due to the presentation organized at the beginning of the empirical phase and the long ethnographic phase, the participants were already acquainted with the general methodology used in this project. Participants of the feedback session were eager to know how to manage potential problems within the group and how to improve the existing practices. The researcher suggested organizing after-review meetings, especially after important events at the TREC conference. This would give them the possibility to discuss what went well and what when wrong during the organization of relevant work and to prevent possible problems. Then the researcher suggested that meetings focused on the work of individual members should be organized more often. This would guarantee an adequate sharing of information within the group and maximize the opportunities for learning. These suggestions were in favour of the participants, especially the after-review meetings. This was because they can then address a lack in the actual organization. Discussion of one's own work during a meeting was recognized by the team members as the best strategy to assure that everyone is

aware about what others are doing. In fact, a few weeks after the presentation of the results a meeting was organized where a new format was proposed, that of presenting one's own work in ten minutes.

When designing a research with a similar methodology, it is worth noting that it is necessary first of all to understand if there is an interest in the study. There are no specific or clear-cut methods for that, but it is evident that if any of the researcher's questions are promptly addressed and access is given to the documentation, physical workspace, or mailing list, there is a good chance of starting a successful empirical research. It is then crucial to be particularly careful with the first contacts with the field. On the one hand, it is vital to be allowed into the research from the highest level of the hierarchy, but, on the other hand, one must be aware that the most relevant work will be conducted with the participants. Building a relationship with the participants is essential and trying to understand their exigencies and work conditions is essential because this influences their attitude towards the researcher. Consequently, transparency about objectives and expectations is required; also clarify what is needed for gathering the data (for example, if recordings are needed). Constructing a relationship of trust with any member of the team is very important. It is vital to clarify mutual expectations at the beginning to avoid any misunderstandings. For example, it should be clear that the researcher is not there to solve any type of individual or interpersonal problem. The research planning should be precise but, at the same time, it is important to be able to adapt to the participants' needs. For example, it would be meaningless to organize a discussion of the results with only half of the participants involved.

During the empirical phase of this research, explaining expectations and building good interpersonal relationships was particularly easy, most likely due to the common background as academics, a similar age to most of the participants, and intrinsic interest of the team for this study. If there is a case of any problem, issues should be addressed promptly to avoid compromising the results. The next figure summarizes the most important steps to be taken into account when doing field research in organizational settings.

Fig 9.2: an ideal management of field research in organizational settings

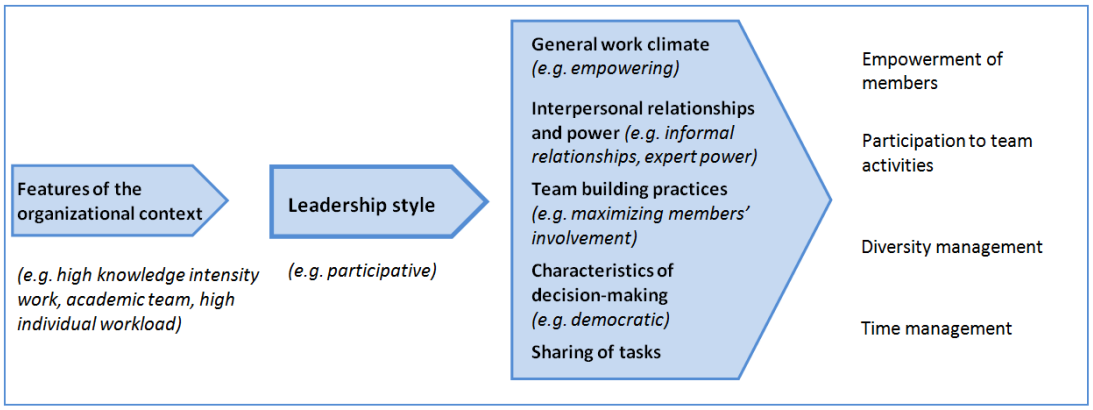


Regarding the implications for team design, this study was not intended to give guidelines on that, but it is useful to provide some suggestions to those managing similar teams. Of course these suggestions cannot be generalized, but can constitute interesting insights for other studies. There are valuable points to keep in mind when managing a similar team. The results that are the most interesting from this perspective concern the management of an intercultural team in a high knowledge intensity setting where individual activities are particularly engaging and each member is highly motivated but also overloaded. In such a setting, a participative style of leadership that supports personal initiative and empowers the subordinates, depending on the expertise, is the most adequate for fostering mutual engagement within the team and creating a CoP. It is vital to delegate part of the team activities' organization and to instil a democratic decision-making process to have all members personally involved. This way everyone shares part of the responsibility in shaping the team activities; this augments the interest towards such activities in a virtuous cycle as that described in section 7.6 (figure 7.2). Democratic decision-making helps in managing time and multiple activities of all the members. Team building initiatives, such as regular meetings, team artefacts, and the mailing list, are necessary in a context where individual activities constitute a high workload. Team building initiatives paired with participative leadership help integrate newcomers into the group. It facilitates the path from the periphery to the centre of the community and constitutes a strong starting point in managing diversity. Further analysis on the effects of this type of leadership in terms of the level of satisfaction and the career

development of the members could be interesting. We do not want to argue here that meetings or specific team artefacts are always the key for success; it depends on the specific institutional context and the type of activities conducted. However in this case, these strategies work. They work because of the possibility to build a "virtuous cycle of mutual engagement", as previously explained. It is very likely that different teams can build different cycles of mutual engagement. Any chief could be in charge of detecting which factors give input to specific discursive and participatory practices and which permit to complete the cycle.

The following scheme clarifies the connections among the phenomena discussed in this paragraph. It must not be taken as a verifiable model but as a summary of the most important insights on team design that the results of this study can offer. It aims to propose a first source of reflection for practitioners, but also for researchers interested in further developing these issues in more focused studies. The figure shows that the specific features of the organizational context influence the leadership style that, ideally, should be appropriate to the context. Leadership then influences the general team climate, team building practices, decision-making process, and sharing of tasks. Finally, these factors have an impact on the empowerment of the members, participation to team practices, and management of time and diversity. Between brackets are the examples taken from this study.

Fig. 9.3: relationships among organizational context, leadership style and effects on the team



9.4 Main Contributions, Limits and Possible Future Developments

In this final section, we will comment on the limits of the present study and on the future lines of possible research. To facilitate an effective reflection on these topics, we will briefly reiterate the contributions of this project. This study offers relevant contributions from three different points of view: theory, methodology, and research problem. At the theoretical level, it uses situated learning theory for studying a research team and offers an appropriate critique of the theory itself. At the methodological level, it keeps the macro-perspective of team activities and the micro-perspective of discursive interactions together and offers an original framework for studying mutual engagement as it unfolds in discourse. Finally, from the problems and questions addressed, i.e. collaboration in an academic research team, it shows how mutual engagement develops, how PhD students' socialization unfolds in daily team practices, and clarifies the link between leadership, team building practices, and mutual engagement in a CoP. It builds synergies between practice-based studies and laboratory studies. It uses practice-based studies as a source of inspiration for designing the research but at the same time, specific features of the academic context are considered. The following table summarizes the main contributions of the project.

Table 9.1: the main contributions of the present study

Theory	Methodology	Research problem
Critique of situated learning theory	Analysis both on the macro (team activity) and micro (discourse) level	Relevance of mutual engagement within academic teams, and study of the dynamics related to it
Interdisciplinarity: application of PBS on an new context	Analytical framework for analysing mutual engagement in natural interactions	Relations between team activities and socialization of doctoral students
	Advices for managing and conducting field research	Relationships among leadership, team building, type of organizational setting, mutual engagement

In the previous two sections, we focused on the findings of the study and how they can improve theory and methods. Therefore, we will not go further into the points listed on the table above. However the originality of this project will be here explicitly stated. This study investigates collaborative dynamics (internal team communication and socialization) in a setting where they are not usually investigated (an academic research team) despite their importance. Consequently, it is inspired by a theory that is new in the study of such a context and this research strategically contributes to the theory's critique. Moreover, the approach that couples ethnography with discourse analysis permits this research to keep the macro and the micro levels of analysis together. Now it is possible to observe how the basic constitutive dimension of a CoP, i.e. mutual engagement, is built and reproduced in everyday discourse and team activities. Furthermore one can see how it is linked to leadership and the specific context of the team. Finally, this project reflects on the socialization of PhD students. It is a highly relevant topic but rarely studied in the field. It shows how mutual engagement is vital also for enhancing their socialization.

In the introduction we said that one of our aims was also to reflect on the position of the study of communication in PBS. We are aware that the study of communication is very challenging, since this is a very wide issue. Our position is that communication can be analysed only through a focus on real discourses and interactions. Such focus is essential because it permits to deeply understand how different practices intertwine in a concrete

setting: professional practices exist exclusively in a network of discursive interactions. We argue that studying practices can be done only by considering what is communicated among the actors enacting those practices. For this reason, PBS should have a strong awareness of the strategic role of discursive interactions, so to understand how these shape professional practices. As we did in our research, the study of broader team activities, and of how these are organized, cannot be detached from a focus on the daily discourses of the actors of such activities. A separation between these two aspects would cause serious lacks in the understanding of human professional practices and teamwork.

The limits of the study can be detected in its "uniqueness". We focused on one case instead of many. This was necessary to conduct a practice-based study on a research team and to adequately study mutual engagement. This phenomenon requires time and focus. Moreover, situated learning theory does not provide insights on how to analyse it as it unfolds in discourse. At the same time, because of the uniqueness of this case, it is difficult to understand if the specific organizational context or discipline have had an impact in facilitating the development of the participative and discursive practices that promote mutual engagement. They both do have an impact, but is impossible to understand how this relationship works now.

Referring to the possible future developments, now that there is an example of such a study, would be worthwhile to analyse mutual engagement, doctoral students' socialization, and team leadership in more teams. If the teams belonged to different universities and disciplines, different results could occur. Furthermore, one could study which features of the context, or discipline have an influence on the dynamics we analysed. This comparison could be highly valuable from a team design perspective because it would facilitate the understanding of which interventions would be better suited in different conditions. Alternatively, it could be interesting to keep this comparative perspective but focus on only one specific phenomenon: for example, doctoral students' socialization would be interesting to study in depth and try to build a sound new theoretical framework. A challenging, but very interesting path would be to focus also on an additional aspect and build new interdisciplinary ties. Mutual engagement in research teams could be studied while focusing on intercultural

communication. One could borrow concepts from this discipline to see how communication and socialization work in different intercultural environments.

We are convinced that this research constitutes a good starting point for new studies around the topics of mutual engagement, PhD students' socialization, team leadership and team participation. Furthermore, this study offers the opportunity to do comparisons or augmentations on team design strategies.

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12. Appendix

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3. Slides presented during the feedback session

12.1 Guides for the Interviews

Guides for the individual semi-structured interviews – first bunch, March 2010

To PhD students and post-doc researchers

Aim: to understand the position and the activities of each member of the group; try to focus on the present activities and on the short-term projects; better know about the career trajectory and the expectations.

1. When did you arrive in this group? From where? What do you recall about your arrival?

   What you were doing when you just arrived? Which expectations did you have?

2. I would like to understand what you are doing at the moment, which are your main activities, and your tasks.

3. For PhD students: what about your PhD topic? In which phase are you now? What are you doing now, on which activity are you focused on?

   Are you doing also assistantship? Or are you engaged in some other activity for the Faculty?

4. For post-doc researchers: there is a specific research project on which are you working on now? Or are you preparing a project (or waiting for the acceptance of a project) ?

   Are you teaching a course? Which type of course? How it is organized this course? Is it new for you?

   (eventually: do you think in the next months there will be some novelties concerning your work, your position (new project, etc…)

5. Are you at the moment working on a paper, or on a conference? (which type of paper/conference? When is the deadline? How are you organizing this work? Are you working with someone else?)

6. Can you tell me about your typical day?

What did you do this morning / today? What will you do after? What do you plan to do next week?

7. About the near future: which will be the most important steps you think / plan to achieve in the next months? (if advanced PhD students: do you have plans for your post-doc phase? Or do you plan to work in a company? Do you plan to move somewhere…?)

Interview to the chief

Aim: to have an overview on the history of the team, how it evolved, and how it is organized now, which are its main activities, and the main activities conducted at that moment.

1. Can you tell me about your team, its history? (when did you arrive here? With which plans…?)
2. How many people are now working in the team? (if possible: try to understand contractual position)
3. Do you meet regularly? Which are the moments when you meet all together?
4. Where are working the members of the team? At the Faculty? Or do they have also other activities?
5. Which are the relationships with other teams, in the Faculty or outside? Common projects?
6. Can you tell me about the research projects of the team?

   (ask about the sources of funding?)

   There is a research project on which more attention / time / resources are concentrated?

   (ask about future /possible future projects)
7. Can you tell me about your typical day? And about your typical week?

What did you do this morning / today? What will you do after? What do you plan to do next week?

Guide for individual semi-structured interviews – second bunch, December 2010

Aim:

- to gather experiences and accounts about this last period of work – without the presence of the official supervisor and any other direct support from post-docs in the group
- to gather new info about the work activities in the new semester, and to understand if something important changed, in their own research and role, compared to the previous semester

1. What about the activities you are running at this moment: what are you doing now in your team, as a student-assistant, and what are you doing for your research?
2. About your research: what are you doing now? Your plans changed in the last six months? Do you think some strategic events for your doctorate / research will happen in the next month / or have just happened?
3. Are you near to some important deadline for you? Which are your objectives, in the short-term?
4. In these last months unexpected events happened to the team: how could you manage them? Did you have to change something important in your plans? (There was something you could not do? There was something new you have to do? There was something you did differently?)
5. How was the role of the other members of the team in the last period? Do you think their role was relevant, strategic, for you and / or for all the team?

   (In case: have you experienced a support from (some of) them? Which type of support?)
6. Do you think that in this period you worked more or less with the other colleagues?

   You spent more or less time with them? (if something changed: do you think there is a reason for this change? Which one?)
7. Can you recall a specific moment where the contribution of other members of the team was particularly relevant in this last period?

   Maybe there was a situation in which your contribution was perceived to be particularly important (if not, in another moment?)

8. Do you think the fact you are working in a team influences your own research? In which way?

   (Do you think teamwork is relevant for you? In which moments /situations is it important? Do you think it was important to manage the happenings of the last months? (in which way?)

9. What is more important for you when working in a team?

   (In case: When doing teamwork, it is important for you to have / display a certain behaviour / attitude ?)

There is something else you would like to add? About you? About your work in this team? Or about the events happened in the last months?

12.2 Guide for the Group Discussion – January 2011

Facilitator guide for group discussion

Wednesday, the 26th of January 2011 – 14.00-15.30

Introduction

Welcome and thank you for participating today to this discussion. Have you never participated in a focus group or in a group discussion…other than their reading groups ?

Basic mechanism: I will moderate the conversation around a topic I choose, I will make some questions, there is not a right or wrong answer. You will have the opportunity to express your thoughts, to develop the topics under discussion. The most important is that each one of you feels free to express his own point of view, or also to follow up on the answers of colleagues.

As usual, I will video record the session.

Objective

The topic of this discussion is work-life balance (never heard about it?).

The aim is to understand how you manage to balance between your work / research and your personal/social life. At a first sight this topic seems not to be directly linked to the central topic of my PhD (collaboration in a team)…but when I will present you my results I will show you that there's a connection ☺

Academic research in general is quite a challenging choice, and sometimes it is not easy to find a good balance between university activities and personal, or social, life. Moreover, a strategic issue for doing academic career is mobility, and sometimes this can be difficult to reconcile with, for example, family obligations.

Some rules…

- Give freely of your thoughts, feelings and experience
- Speak of yourself only and let others do the same
- Appreciate the other person's point of view
- No right or wrong answers
- Respect the confidentiality of the participants. What is said here stays here

Any question before to start?

Questions

1. Doing research is a very intensive work. Do you feel are you well managing the organisation of all the different activities, or are you using, for your research, more time than you would like to use?
   Probe: If they (some of them) are well managing everything: how you could achieve a good balance?

   If they (some of them) are not well managing: do you think there are some reasons why you couldn't find a balance?

2. How do you think it could be possible to achieve a good balance?
   Probe: Do you think some concrete strategies exist for that?

   Have you never thought to apply some concrete tricks to achieve a better balance?

3. Mobility is recognized to be highly relevant in academic research. How does the criterion of mobility influence your own life?
   Probe: do you think your personal, or social life, is affected / will be affected by this exigency?

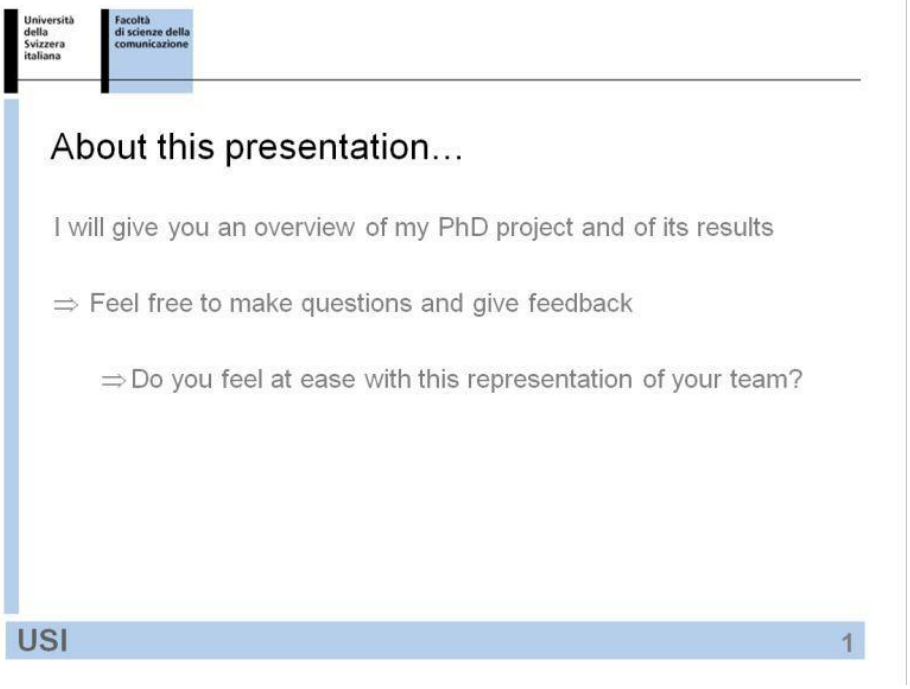
4. Do you think your exigency of mobility is affecting the life of whose near to you (partner, children, relatives…) ?
   If yes: how?

5. How do you think the fact to be far away from your home country is influencing your life now, or the choices you will take in the near future?

6. Do you think that, in the academic world, mobility, or work-life balance in general, affect equally each person (independently from age, gender, marital status etc…) ?
   Probe: if negative answer: why? which "categories" of people do you think can be more affected? Can you give some examples?

If positive answer: can you explain why? Have you never met a person who had some problems because of mobility? or because of a bad balance between work and personal life? (if yes: can you briefly describe this person (work, gender, age...) and the problem s/he had?)

12.3 Slides Presented During the Feedback Session (February 2012)



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Agenda

- Back to research topic and research design
- Collected data and framework of analysis
- Some numbers about the meetings
- Why your meetings are relevant to my study
- The conceptual framework I developed
- Why your meetings are important for you

- Conclusions and open discussion

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Research topic and research questions

How team collaboration unfolds in a **real context** and how **communicative practices** among the members of the team develop, so to **support scientific practices**

RQ 1. How does a heterogeneous research team work as a community of practice? Are there specific practices that promote mutual engagement?

RQ 2. How is mutual engagement shown and reproduced in team meetings?

RQ 3. How is PhD students' socialization supported in meetings?

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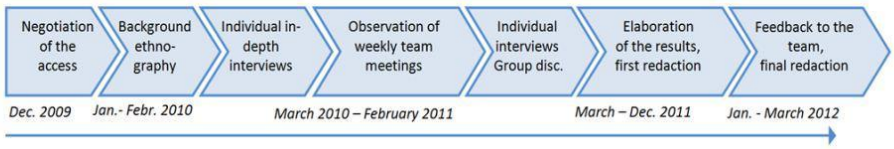
Methodology

Field research = iterative-inductive research



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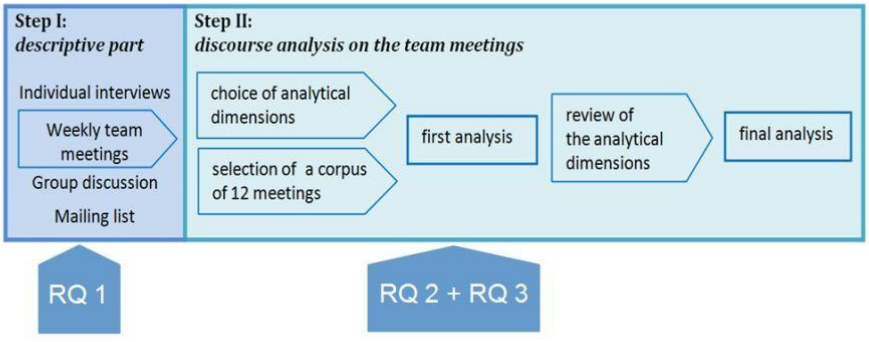
Data and framework of analysis

⇒ 23 meetings, 2 bunches of individual interviews, a group discussion, mailing list and web site



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About your meetings

27 meetings organized in one year, average lenght 1h 20 minutes, different topics

	Number of meetings	% on all the meetings	Average length	Meetings selected
Reading group	10 (12)	42 %	1h 9min	7
About members' work	5 (6)	22 %	1h 11min	3
Organizational	5	21 %	1h 6min	1
Work	3 (4)	15 %	1h 37min	1

(between brackets, real number of meetings organised)

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Why the study of your meetings is relevant in my project

- Meetings as a specific, regular team activity embedded in other team and individual activities
- Most important team activity, site where issues, problems and topics of interest to all the team are discussed
- From the perspective of this study, they are the place where:
  - ✓ team identity and mission are more evident;
  - ✓ and mutual engagement is built.

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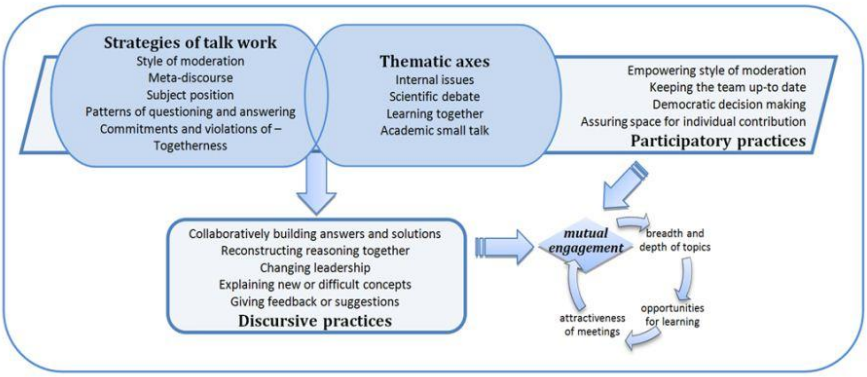
The conceptual framework I developed



USI 8

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Why your meetings are important … (I)

Your meetings are essentially partecipative, and the chairing style can be considered empowering

USI 9

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Why your meetings are important … (II)

Strategic in a PhD students' socialization perspective

⇒ *What does it mean PhD students' socialization?*

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Conclusions

My study has descriptive (RQ1) and explanatory (RQ2 – 3) aims

New and orginal way to explain mutual engagement in meetings and some conditions of PhD students socialization

Interesting the link between leadership – participation – socialization

Possibility of applying the conceptual framework I developed on more cases, on different teams in more academic disciplines

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Suggestions

It could be useful for you to organize (more often)…

- «post-mortem» meetings (especially after important conferences, as TREC) to discuss about the work done, what went good and what went wrong;
- feedback sessions focused on PhD projects (twice per year?), this also would permit to keep everybody informed about the work that each member of the group is doing.

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Discussion…

Comments?
Questions?

Important point we need to discuss: anonimity issues

Thanks a lot for your time, availability, and support !