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**Research Institutes as Change Agents in Territorial  
Development. An Analytical Framework on  
Responsible Research Communication**

PhD Dissertation  
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*“Deja el equipaje en la ribera, no te sirve cuando cruzas la frontera...deja el equipaje en la ribera y quémalo”.*

Vetusta Morla, 23 de junio. Mismo Sitio, Distinto Lugar



A Asier y Pablo

A mis padres



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# 1 INTRODUCTION

This introduction presents a general overview of the dissertation. The first section introduces the topic by explaining its relevance in the academic debate. The section ends with a closing paragraph that explains the author's motivation for developing the research. The second section states the objective of the dissertation and presents the research questions. This is followed by a description of the structure of the dissertation, highlighting how the different parts relate to the research questions. The final section enumerates the contributions made by this dissertation.

## 1.1 Relevance of this dissertation

The long-held view that universities, in their knowledge producing capacity, should contribute to society through three missions, namely: teaching, research and transfer of knowledge to firms and industry, has gradually given way to a view that calls for their full engagement in the development of the regions and communities that host them (Goddard & Puukka, 2008; Goddard, 2009; Goddard, Kempton, & Vallance, 2013). Moreover, it is argued that reformulating the third mission as a mission of service, instead of as a mission of transfer, would allow universities to engage with other actors to co-generate socially-relevant knowledge (Tandon, Singh, Clover, & Hall, 2017).

However, when attempting to produce socially relevant knowledge universities face a number of challenges, among them their structure around rigid disciplinary silos (Benneworth, 2017; Datta, 2012) and the need to interact more closely with an array of actors outside academia (Valdaliso, J. M. & Wilson, 2015). Research institutes created within universities with an open and flexible structure are identified as being better equipped to play a proactive role as actors of change in their own territories (Aranguren, Guibert, Valdaliso, & Wilson, 2016; Astigarraga & Eizagirre, 2017; Chatterton & Goddard, 2000; Karlsen & Larrea, 2014; Porter, Ketels, & Valdaliso, 2016; Valdaliso & Wilson, 2015)<sup>1</sup>.

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<sup>1</sup> The term "research institutes as change agents in territorial development" was coined by Aranguren et al. (2016).

This dissertation focuses on one of the challenges that the aforementioned institutes face in their role as agents of change, a challenge that is understudied in the literature: communicating their research outputs. Indeed, communication and the capacity to engage in real-time multi-way dialogues are highlighted in the literature among the factors that enable researchers to act as agents of change (Aranguren et al., 2016; Aranguren, Franco, Horta, & Silveira, 2016; Oswald, Gaventa, & Leach, 2017). Moreover, research has shown that social scientists that have changed their communication patterns from linear to dialogical patterns through action research have been successful in acting as agents of change in territorial development (Karlsen & Larrea, 2014).

However, considerably less attention is paid in the literature to how the outputs of the action research processes developed dialogically with other territorial actors are disseminated. Indeed, when disseminating research outputs, communication patterns normally adopt a linear path to readers. Once the research process is over, outcomes are systematized and packed into papers, books or reports. They are communicated as products, where dialogue –and its potential to transform- is no longer present. This dissertation addresses the gap in the literature on the dialogical dissemination of research outputs, aiming to complement what the literature already says about dialogical research processes, normally focused on the stage that precedes academic writing and dissemination.

An alternative to the linear communication patterns used when disseminating research outputs from dialogical research processes is found in the concept of connectivity. Connectivity is defined by Karlsen & Larrea (2014) as a dialogical approach to the transferability of research results. The authors depart from Lincoln & Guba (1985) who argue that the responsibility of researchers in the transferability of their research results ends with the written text and that this can be enhanced by how well the text is formulated. Karlsen & Larrea (2014) argue that this may not necessarily be so and that researchers may choose to extend their responsibility beyond the publication of results and connect in a dialogue with other researchers and practitioners to enhance the workability of their frameworks and concepts in new contexts.

However, as Karlsen & Larrea (2014) acknowledge, in requiring the direct engagement of researchers, connectivity has a limited scope and can only complement transferability. In this dissertation we address the challenge of scope of connectivity. The aim is to open a pathway to explore dialogue's transformation potential in a mezzo space situated between the micro one, in which academic knowledge is communicated dialogically to a small number of territorial actors participating in action research processes, and the macro one, in which academic knowledge is communicated in linear ways to a larger number of researchers and practitioners through the distribution of printed or digital copies of books, papers or reports. If as Karlsen & Larrea (2014) have shown, changing communication patterns within research processes leads to change in territorial development, then changing communication patterns when communicating the outputs of those research processes may also lead to change.

Inspired in the definition of connectivity by Karlsen & Larrea (2014) in terms of researchers' responsibility in the transferability of their research results, we approach connectivity from the concept of responsible research. Responsible research is defined by Bardone & Lind (2016) as a form of taking care that points to a relational aspect implicit in researchers' work inextricably linked to how researchers understand their own praxis and agency.

In sum, the problem statement in this dissertation is that disseminating research outputs from action research processes resorting to linear communication patterns is not only inconsistent with the processes from which they emerge, an opportunity is also lost to extend the learning process beyond the publication of results. A recent report published by the European Commission on the future of scholarly communication (Guédon-Jean Claude et al., 2019) argues that the production of and access to knowledge does not concern only researchers but also other societal actors. It calls for experimenting with new modes of research dissemination that reduce barriers to the active participation of societal actors in the scholarly communication system, including researchers outside their specialist fields.

The author's motivation for addressing the problem statement described above is related to her work in a research institute that has the stated mission of acting as an agent of change in the territory that hosts it. She has been part of the Institute's communication and publications staff for over a decade and has been involved in designing and implementing research dissemination strategies. Through her dissertation she wishes to produce knowledge that is relevant for the academic discussion on how research can contribute to address societal challenges while addressing a practical challenge specifically related to disseminating research outputs.

## 1.2 Objective and research questions

Considering the problem statement presented in the previous section, the main objective of this dissertation is to build an analytical framework on research communication for research institutes as change agents in territorial development that facilitates connectivity.

The dissertation is structured around three interrelated research questions that were redefined and refined as the learning process evolved. As will be explained in the chapter on method (Chapter 2), this is a characteristic of qualitative research approaches (Blaikie, 2010; Schwartz-Shea & Yanow, 2013).

- The first research question: *What are the features of responsible research communication?* built a theoretical analytical framework on responsible research communication by drawing from two main bodies of literature: Responsible Research and Innovation (Bardone & Lind, 2016; Burget, Bardone, & Pedaste, 2017; Owen, Macnaghten, & Stilgoe, 2012; Rip, 2014; Rip, 2016; Stilgoe, Owen, & Macnaghten, 2013), Communication for Development and Social Change and within it, participatory communication (Barranquero, 2011; Barranquero, 2015; Cornish & Dunn, 2009; Freire, 1996; Gumucio Dagron & Tufte, 2006; Jacobson, 1993; Lewin & Patterson, 2012; Lie & Servaes, 2015; Waisbord, 2015).
- The second research question *How did researchers in Orkestra-Basque Institute of Competitiveness use the responsible research communication framework to communicate their research output?* involved testing the theoretical analytical framework on responsible research communication

in practice through an action research process that helped two action researchers to communicate a research output (a book). The lessons learnt from testing the theoretical analytical framework transformed it into an actionable analytical framework.

- The third research question: *What attitudes to responsible research communication can be found in Orkestra-Basque Institute of Competitiveness?* tested the robustness of the actionable analytical framework by developing case studies with a diversity of researchers. The aim was to explore the extent to which the actionable analytical framework on responsible research communication can help all researchers, irrespective of their methodological approaches to reflect on, and diagnose their current research communication practices.

### 1.3 PhD process and structure of this dissertation

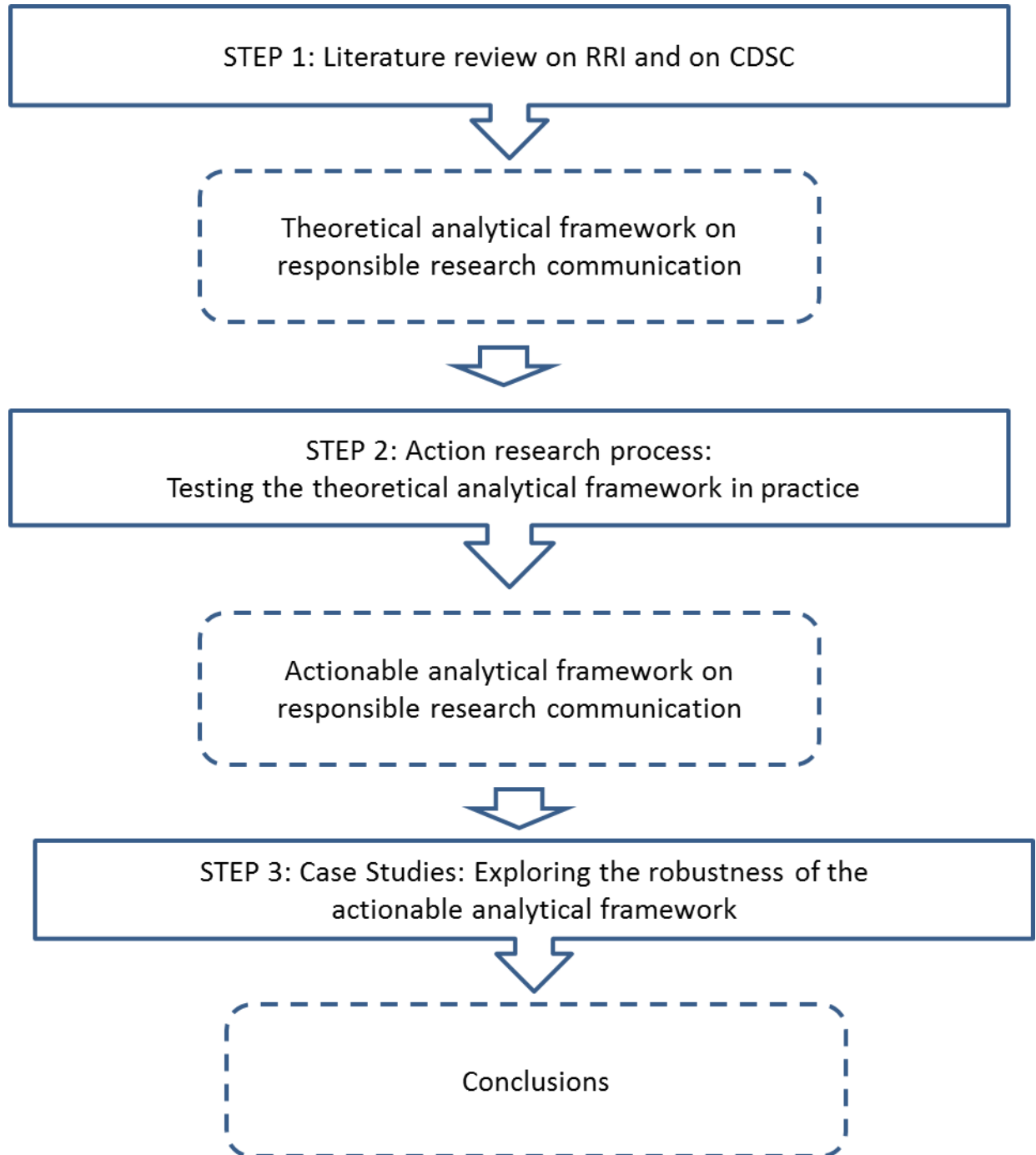
The PhD process developed in three major steps (Figure 1), The first step involved building a theoretical analytical framework through a literature review. The second step involved transforming the theoretical analytical framework into an actionable analytical framework through an action research process. The third step involved testing the robustness of the actionable analytical framework through case studies.

The dissertation is structured into four parts. Part I is made of two chapters. The first chapter presents the research methods, namely action research and case studies. The second chapter presents their methodology. Method refers to what is done and methodology to the philosophical underpinnings of what is done (Coghlan & Gaya, 2014).

Part II builds a *theoretical analytical framework* from a literature review on Responsible Research and Innovation (RRI) and Communication for Development and Social Change (CDSC). It is made of three chapters. The first chapter frames the role of research institutes as change agents in territorial development within the debate on the third mission for universities. In that context it identifies RRI, a framework that emerges within the literature on scientific and technological innovation that can help to understand how research

institutes as change agents in territorial development develop their research processes.

**Figure 1. The PhD Process**



Source: Author's own elaboration.

Having identified a suitable framework for understanding research processes by research institutes as change agents in territorial development, the second chapter examines communication studies. The aim is to identify a school that

shares similar principles to the ones that underpin RRI and that may complement it. The school that meets the criteria is Communication for Development and Social Change (CDSC), specifically participatory communication, a school that has been studying the link between communication and social change for over half a century and is specifically focused on fostering development.

Finally, the third chapter sums up the discussion in the two previous ones by presenting and describing the theoretical analytical framework on responsible research communication that draws from both bodies of literature and is made of four main features. This answers the first research question.

Part III of this dissertation describes the process that tests in practice the theoretical analytical framework on responsible research communication. This was done through an action research process that helped two researchers to communicate a book they had just finished writing, according to the features of the theoretical analytical framework. The lessons learnt from testing the theoretical features of the analytical framework transformed it into an *actionable analytical* framework. An actionable analytical framework is the result of an action research process where theoretical concepts are tested in practice and reformulated. This part of the dissertation, that answers the second research question is made up of an introduction and six chapters. The concluding section presents and describes the actionable analytical framework that resulted from the process.

Part IV of the dissertation presents the results of the embedded multiple case studies developed with a diversity of researchers and communicators from Orkestra-Basque Institute of Competitiveness, a research institute with the stated mission of acting as an agent of change in territorial development. The aim is to explore if the actionable analytical framework on responsible research communication can help a diversity of researchers and communicators working with different methodological approaches to reflect on and diagnose their current research communication practices. This last part of the dissertation answers the third research question.

Finally, the chapter on conclusions brings together the main findings of the dissertation. The chapter aims at being useful for research institutes, researchers and communication professionals interested in experimenting with dialogical approaches to communicating research outputs. It also points to future areas of research.

#### **1.4 Contributions of this dissertation**

This dissertation makes the following contributions:

- It makes a theoretical contribution by bridging the literature on RRI and the literature on CDSC to develop a novel analytical framework that can help social researchers playing the role of change agents in their territories to disseminate their research outputs in ways that enhance their workability in other contexts.
- It contributes to the literature on Communication for Development and Social Change by connecting it with a novel debate in the literature, namely RRI.
- It contributes to the theoretical and empirical understanding of the role that research dissemination plays in helping research institutes to act as change agents in territorial development.
- It makes a theoretical contribution to the field of Action Research for Territorial Development by addressing the challenge of scope of connectivity.
- It contributes to the literature on universities' third mission.
- Its research methodology shows how knowledge can be co-generated through action research.
- Apart from generating new knowledge relevant in academia, it addressed a practical challenge by helping two researchers to change the communication patterns from linear to dialogical when disseminating their book.

# Part I Method and Methodology

---

This part describes the method and the methodology followed in this dissertation. It follows Coghlan & Gaya (2014) who explain that methods describe what the researcher actually does and methodology is the philosophical approach. Both method and methodology have developed intertwined in this dissertation but for reasons of clarity this part is divided in two chapters. The first chapter presents the method: what the author did. The second chapter discusses the philosophical underpinnings of what was done.



## 2 METHOD

In this chapter we introduce the research methods used, namely action research and case studies. The action research literature has approached action research as both method and methodology. In this chapter we use it as a research method. The other research method used is case studies.

In Figure 1 (section 1.3 above) we illustrated the PhD process, divided in three steps. The first step involved a revision of the literature on Responsible Research and Innovation (RRI) and Communication for Development and Social Change (CDSC) in order to build a theoretical framework on responsible communication. Following Maxwell (2005) our revision of the literature is not a bibliographical summary of each of the two bodies of literature but our own construction from the readings and the dialogue held by the different authors who have written on the subject. The first step allowed us to answer our first research question: *What are the features of responsible research communication?*

In a second step, we tested the theoretical analytical framework in practice using action research as a method. The lessons learnt from testing the theoretical analytical framework in practice transformed it into an actionable analytical framework. This step allowed us to answer our second research question: *How did researchers in Orkestra-Basque Institute of Competitiveness use the responsible research communication framework to communicate their research output?*

In a third and final step we used case studies as a method for exploring the robustness of the actionable analytical framework. This final step answered our research question: *What attitudes to responsible research communication can be found in Orkestra-Basque Institute of Competitiveness?* Our research questions were redefined and refined as our learning process evolved, which is a characteristic of qualitative research approaches. (Blaikie, 2010; Schwartz-Shea & Yanow, 2013).

## 2.1 Action Research Method

In order to test the theoretical analytical framework on responsible research communication built from a revision of the literature on RRI and CDSC, we followed the insider action research approach developed by Coghlan & Brannick (2010). Insider action research is appropriate when complete members of the organization seek to inquire into the working of their own organizational community or system in order to change something in it (Coghlan, 2007). The research question normally originates out of a puzzle or contradiction in the workplace, something the practitioner wants to look into or do better (Herr & Anderson, 2005).

According to Coghlan (2007), this type of insider action research frequently involves part time doctorates that combine study and research with regular organizational jobs. Their aim is to generate actionable knowledge, that is, knowledge that is useful for practitioners and relevant in academia. The research topic identified is usually attached to an expectation that the research will make a useful contribution to the organization. This type of action research fosters the emergence of researchers-practitioners.

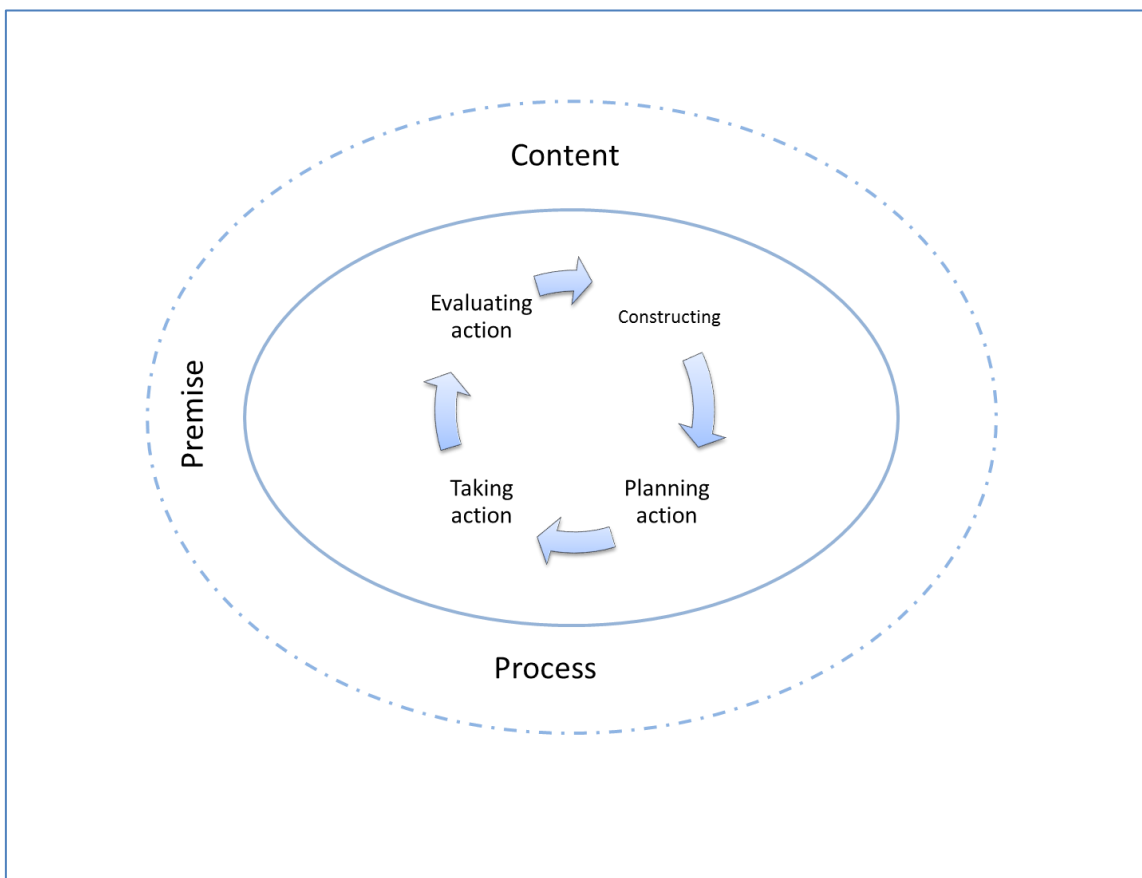
The author of this dissertation (hereinafter also the PhD student) had been working as part of the communication and publications staff in Orkestra-Basque Institute of Competitiveness for more than a decade. Her work had involved editing and disseminating different research products. She wanted to reflect on, and improve, how such research products were being communicated in practice and to contribute to the academic debate on research dissemination. There was also an organizational expectation that her research would contribute to the Orkestra's 2017-2020 Strategic Plan that identified communication as a key building block in its aim of consolidating itself as an actor of change in territorial development.

A crucial issue in an insider action research dissertation is differentiating between the action research project, which Colghan & Brannick (2010) refer to as the core action research project, and the dissertation itself, which while running parallel to the project is not the same thing. They are two interrelated action research cycles: one of them focused on the achievement of the project's

aim of solving a problem inside the organization and the other, the dissertation, focused on the development of knowledge that is useful in academia. This latter action research cycle can only happen if the insider action researcher is continually reflecting on the content (what), process (how) and premise (underlying assumptions) of each of the main steps that are taking place in each of the action research cycles. When this happens, meta-learning (learning about learning) takes place; meta-learning being the action research dissertation.

The above is illustrated in Figure 2, inspired in Coghlan & Brannick's (2010) meta cycle of action research that shows how for each action research cycle the action researcher must critically reflect on the content, the process and the premise. This process, illustrated like a second layer is the action research dissertation. The authors also note that while the core action research process takes place collaboratively, meta-learning is the individual work of the insider action researcher.

**Figure 2. Meta Cycle of Action Research**



Source: Adapted from Coghlan & Brannick (2010), p. 142.

Since reflecting on the content, process and premise of the action research process constitute the insider action research dissertation, it is very important to understand how the process occurs and for this to happen the process needs to be fully documented. Herr & Anderson (2005) call for careful attention to the ongoing documentation process including keeping a diary that serves to document ongoing thinking, decisions and actions. In their view journaling is a way of stepping back from the ongoing process. They suggest that friendly outsiders –peers or colleagues- that help the insider action researcher to make meaning of the process are also helpful in this regard.

Coghlan & Brannick (2010) echo this view and argue that journal keeping is a significant mechanism for developing reflective skills while capturing how researchers experience key events close to when they happen and before the passage of time changes their perception of them. In other words it is a useful tool for reflecting “in” action. In this dissertation a journal was kept from the start of the process.

Finally, this dissertation combines the use of the third and the first person. The first person is used specially in the action research process (Chapters 7 to 11) following Marshall who suggests that congruence between form and content should be found (Marshall, 2008).

### **2.1.1 Pre-step: Context and Purpose**

Colghan & Brannick (2010) explain that before the actual action-reflection cycles take place, a pre-step is necessary. The pre-step involves exploring context and purpose of the project. At this stage researchers should ask themselves why the project is necessary or desirable and identify the forces driving change. Once the desirability of the project is identified then it is important to define a desired future state that sets its boundaries and helps provide focus for the later stages. Finally it is important to identify the group or groups of people who are going to participate in the process.

#### **2.1.1.1 Context**

The context of the case is Orkestra-Basque Institute of Competitiveness, a research institute based at the University of Deusto, a private university in Spain’s Basque region. The force driving change is its 2017-2020 Strategic Plan

that identifies the need to conceptualize the role that communication plays in helping it achieve its vision of consolidating itself as a change agent in the socio-economic development of the Basque region. As mentioned above, the author of this dissertation, who worked as part of the communication and publications staff had enrolled in a PhD program earlier and was looking for researchers who would agree to engage in an action research process and experiment with novel ways of communicating their systematized research outputs.

While the aim of this dissertation is to develop an analytical framework that helps all types of researchers, irrespective of their methodological approaches, to reflect on how to communicate their research outputs during the dissemination phase, Cornish and Dunn (2009) suggest that action researchers are better equipped to explore non-linear approaches to research communication. The options were therefore narrowed to action researchers. The time frame of the PhD program was another element that narrowed the possible options, calling for action researchers who had systematized a research output but had not yet disseminated it.

The PhD supervisor and her co-author were action researchers who had just finished a book that had not been disseminated. It was agreed that they would participate in the action research process. This decision created the intersection between the book and the PhD where the action research process developed. The book is a reflection by the two researchers on the role that facilitators play in territorial development processes and on how to develop this role. Because of its potential to generate new capabilities among territorial agents, they were interested in exploring novel ways of communicating with potential readers.

Parallel to this process of identifying researchers who would agree to participate in the action research process, the author of this dissertation, together with her co-supervisor obtained funding for the action research process from the Provincial Council of Gipuzkoa under its *Etorkizuna Eraikiz*<sup>2</sup> program. The call was clear in stating that projects be of a practical nature and aimed at improving the conditions for a new model of governance based on collaboration among all

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<sup>2</sup> *Etorkizuna Eraikiz* are Basque words for Building the Future.

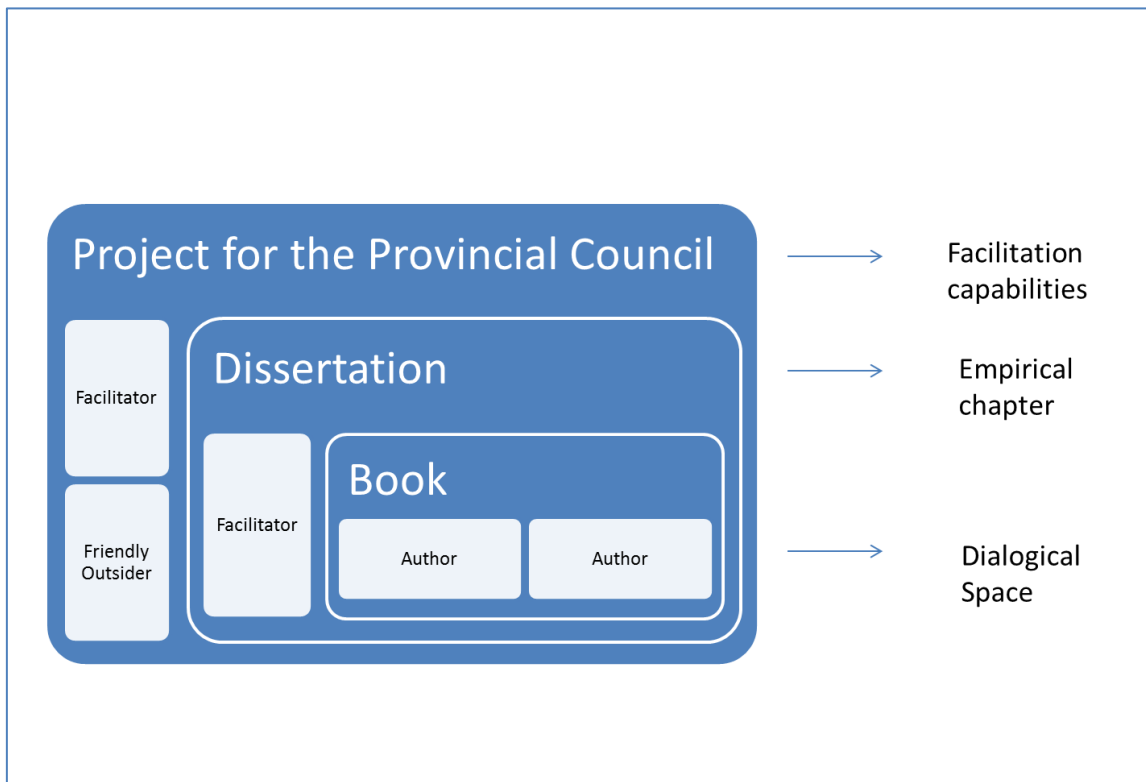
actors in the province. This project would contribute to that end for two main reasons. First because the contents of the book (“what” was going to be communicated) had the potential of generating facilitation capabilities among territorial actors, and would improve their capacity for participating in a new model of governance based on collaboration. Second because the project would generate a novel way of communicating the contents of the book (“how” the book was communicated) which would enhance its potential for generating facilitation capabilities among territorial actors.

Chapter 3 presents action research’s methodological underpinnings and addresses the dilemmas that emerged from the roles played by the different participants in the action research process and how they were solved. Regarding the requirement of identifying the group of people who are going to participate in the process it was agreed that it would be made up of the author of this dissertation, the supervisor of this dissertation and her co-author, the co-supervisor of this dissertation who would play the role of friendly outsider, and an IT specialist. In later stages of the process, audio-visual communication and project manager professionals as well as a local artist also participated.

#### **2.1.1.2 Purpose**

The expected outcomes of the process and how they relate to the participants are shown in Figure 3. For the two researchers exploring novel ways of communicating their book the expected future state to be achieved was to connect them in a dialogue with other researchers and practitioners that enhanced the workability of the concepts of their book. For the author of this dissertation the action research process would result in the empirical chapter of her dissertation. For the Provincial Council it was expected that communicating the contents of the book with a novel dialogical strategy would lead to the development of facilitation capabilities among different actors in the territory in the medium and long terms.

Figure 3. Outcomes of the Project



Source: Authors' own elaboration.

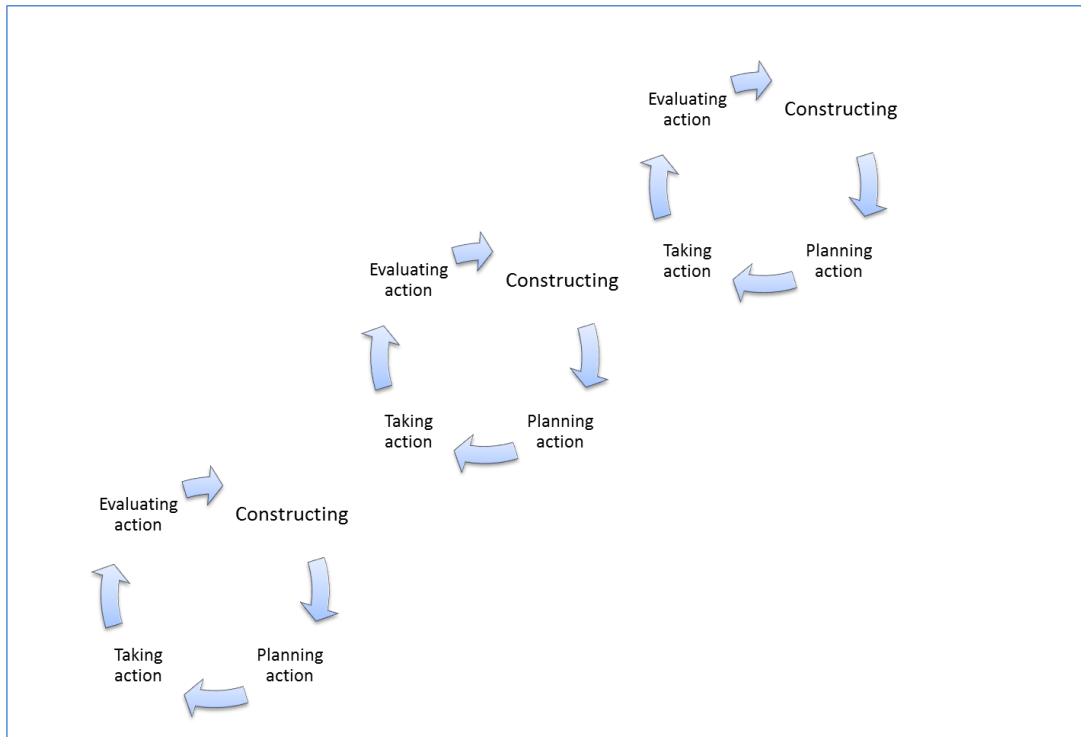
### 2.1.2 Constructing, Planning Action, Taking Action, Evaluating Action

According to Coghlan & Brannick (2010) once the purpose and the desired future state of the AR process are defined, the action research cycles can begin. Figure 4 illustrates the spiral of action research cycles. Each cycle is made of four basic steps: constructing, planning action, taking action and evaluating action. The authors warn however against interpreting the action research cycles as a linear process because action research develops in real time and is characterized by a high degree of unpredictability; unforeseen events might occur and the process itself might open paths that were not considered initially.

*Constructing* is a dialogue in which participants engage in constructing a common meaning on what the issues are as a working theme. In our project, each one of the four features of the theoretical analytical framework was a working theme. Constructing a common meaning around those features was the basis for the steps that followed. Any change in the initial common meaning

or working theme was recorded and articulated clearly, showing how events led to an alternative meaning or working theme.

**Figure 4. Spirals of Action Research Cycles**



Source: Adapted from Coghlan & Brannick (2010).

*Planning action* involves collaboratively agreeing on the steps that need to be taken in order to act on the construction of the working theme. This second step took place in the same workshop in which a common meaning around the working themes was constructed.

*Taking action* involves implementing the planned actions. In our project it took place between workshops and it was the responsibility of the author of this dissertation in her role as insider action researcher.

*Evaluating action* is about examining the outcomes of the planned actions: if they matched the constructing and what feeds into the next cycle of constructing, planning and action. In our project this last step normally took place at the start of each workshop although interaction among the members of the project also took place between workshops. This process of constructing,

planning action, taking action and evaluating action repeated itself four times, until the desired state of the project was achieved.

### 2.1.2.1 The Action Research Cycles

The full action research process developed from March to July, 2017. A closing session took place in September of that year. Table 1 summarizes each one of the four action research cycles. For each one of them we present their main highlights and how they were documented. Although it is a long table it is intended to provide readers with a full glance at the whole process.

It should be noted that the action research process itself was developed in Spanish. However, a decision was made to write the dissertation in English because one of its aims is to contribute to the debate on responsible research and innovation taking place in Europe, a rapidly evolving debate developing mainly in that language. Moreover, when the research process for this dissertation began some of the key dimensions of the debate did not yet have an accepted translation in Spanish (for example “responsive”).

**Table 1. The action research cycles**

| <b>Cycle 1. From March 7, 2017 to April 12, 2017</b> |  |
|--|--|
| <b>Constructing</b>                                  |  |
| Date   | March 7, 2017  |
| Place  | Meeting room, Orkestra   |
| Participants   | Facilitator, co-authors of the book, IT expert and friendly outsider   |
| Objective  | To reflect on the first element of the analytical framework: “process-oriented” communication and what it means in terms of communicating the book.  |
| Reading material sent before the workshop            | Priego Hernández, J. (2014). <i>Talleres participativos con usuarios no-académicos de la investigación promueven el impacto social positivo y funcionan como mecanismo de validación de la investigación.</i> <a href="#">Favelas@LSE Blog</a> . |
| Decisions  | To communicate the book in a process that takes the form of a journey in two stages:<br><br>-A reflective interactive journey through the different chapters of the book.<br>-A meeting space in which to continue writing the book.             |

...Continued from Table 1

|  |   |
|--|---|
| <b>Planning Action</b>   |   |
| The facilitator and the IT expert would work until the next workshop on a proposal that could fit in the two stages defined. |   |
| Documentation  | <ul style="list-style-type: none"> <li>- Call and agenda for the workshop</li> <li>- Reading material sent before the workshop</li> <li>- Presentation used during the workshop</li> <li>- Audio and verbatim minutes</li> <li>- Minutes of the workshop and actions planned</li> <li>- Debriefing notes</li> </ul> |
| <b>Taking Action</b>   |   |
| March 15 and 23  | Meetings between the facilitator and the IT expert. The first one ruled out the use Google Classroom. The second one explored the possibilities offered by Dgroups (Dialogue for Development), a non-profit organization that provides an online platform for dialogical communication.                             |
| March 23, 24 29, 30, 31 and April 4  | Skype meetings and emails between the facilitator and DGroups representatives to set up a trial space community for the project.  |
| April 5  | Short meeting between the facilitator and the Institute's project manager to ask her to help think how we could finance DGroups and to invite her to the second workshop so that she could give the team her views on how it could work.  |
| 31-March-1 April   | Meetings between the facilitator and the IT expert to build a demo on the DGroups platform that illustrated how the two stages of the process would look like.  |
| Documentation  | <ul style="list-style-type: none"> <li>- Emails</li> <li>- Research journal</li> </ul>  |
| <b>Evaluating action</b>   |   |
| Date   | April 12, 2017  |
| Place  | Main meeting room, Orkestra   |
| Participants   | Facilitator, co-authors of the book (one of them by Skype), IT expert, Project Manager and friendly outsider  |
| Objective  | To examine the extent to which the actions taken matched the constructing and present frameworks on virtual learning environments and communities of practice that would help evaluate the actions taken.   |
| Decisions  | Participants agreed to use the DGroups platform presented to build journey in two stages.   |
| Documentation  | <ul style="list-style-type: none"> <li>- Call for the second workshop</li> <li>- Presentation used in the second workshop</li> <li>- Audio and verbatim minutes</li> <li>- Minutes of the workshop</li> <li>- Debriefing notes</li> </ul>   |

...Continued from Table 1

| <b>Cycle 2. From April 12, 2017 to May 9, 2017</b>  |  |
|---|--|
| <b>Constructing</b>   |  |
| Date  | April, 12, 2017  |
| Place   | Meeting room, Orkestra   |
| Participants  | Facilitator, co-authors of the book (one of them by Skype), IT expert, Project Manager and friendly outsider   |
| Objective   | To reflect on the second element of the analytical framework: "knowledge-based" communication and what it means in terms of communicating the book.  |
| Decisions   | To design two distinct spaces in the DGroups platform: <ul style="list-style-type: none"> <li>- A space for the knowledge contributed by the authors. This space would include the chapters of the book but also, shorter texts and videos to facilitate communication with travelers.</li> <li>- A space for the knowledge contributed by travelers.</li> </ul> |
| <b>Planning Action</b>  |  |
| The facilitator and the IT expert would provide user names and full access to the DGroups platform to all participants so that everyone could test it. Both of them would work on designing the two specific spaces for voice of participants and the voice of the authors. |  |
| Documentation   | <ul style="list-style-type: none"> <li>- Call for the second workshop</li> <li>- Presentation used in the second workshop</li> <li>- Audio and verbatim minutes</li> <li>- Minutes of the workshop</li> <li>- Debriefing notes</li> </ul>  |
| <b>Taking action</b>  |  |
| April, 26, 2017   | The facilitator sent all the documentation required for the application to become members of Dgroups and continue using the platform for two full years after the trial period ended.  |
| April, 26, 2017   | In conversation between the facilitator and one of the co-authors and foreseeing possible next steps, it was agreed to include a person in the team who could provide technical support in the development of audio-visual material that could help to communicate the contents of the book better.  |
| Documentation   | <ul style="list-style-type: none"> <li>- Emails</li> <li>- Research journal</li> <li>- Documentation sent to Dgroups and Collaboration Agreement</li> </ul>  |

...Continued from Table 1

| <b>Evaluating action</b>                           |   |
|--|---|
| Date   | May 9, 2017   |
| Place  | Meeting room, Orkestra  |
| Participants                                       | Facilitator, co-authors (one of them by Skype), IT expert, audio-visual expert and friendly outsider.   |
| Objective  | To examine the extent to which the actions taken matched the constructing.  |
| Decisions  | The actions taken where found to match the constructing   |
| Documentation                                      | <ul style="list-style-type: none"> <li>- Call and agenda for the third workshop</li> <li>- Presentation used in the third workshop</li> <li>- Audio and verbatim minutes</li> <li>- Minutes of the workshop</li> <li>- Debriefing notes</li> </ul>  |
| <b>Cycle 3. From, May 9, 2017 to June 13, 2017</b> |   |
| <b>Constructing</b>                                |   |
| Date   | May 9, 2017   |
| Place  | Meeting room, Orkestra  |
| Participants                                       | Facilitator, co-authors of the book (one of them by Skype), IT expert, audiovisual expert and friendly outsider.  |
| Objective  | To reflect on the third element of the analytical framework: "inclusive" communication and what it means in terms of communicating the book.  |
| Decisions  | <ul style="list-style-type: none"> <li>- The online tool would be a tribute to the diversity of views on facilitation. Travelers contributions would not be edited, censored classified or summarized in any way.</li> <li>- In the space specifically designed for their voice, travelers would be faced by one or two questions formulated to help them connect with their own theoretical and experiential knowledge.</li> </ul> |
| Documentation                                      | <ul style="list-style-type: none"> <li>- Call and agenda for the third workshop</li> <li>- Presentation used in the third workshop</li> <li>- Audio and verbatim minutes</li> <li>- Minutes of the workshop</li> <li>- Debriefing notes</li> </ul>  |

...Continued from Table 1

|  |   |
|--|---|
| <b>Planning Action</b>                         |   |
| From May 20, 2017                              | <ul style="list-style-type: none"> <li>- Meetings between the facilitator and the audio-visual expert to think through the necessary audio-visual material for the virtual space.</li> <li>- The co-authors start writing the different texts for each one of the stops</li> <li>- The facilitator and the co-authors work on the questions for each stop of the interactive journey based on a text by Vallin (2014)</li> <li>- The facilitator contacts a local artist in order to design a map that illustrates the different stops of the journey</li> <li>- Participants start designing the pilot group that will test the virtual space before delivering to the Provincial Council of Gipuzkoa</li> </ul> |
| Documentation                                  | <ul style="list-style-type: none"> <li>- Emails</li> <li>- Research journal</li> </ul>  |
| <b>Evaluating Action</b>                       |   |
| Date   | June, 13, 2017  |
| Place  | Meeting room at Orkestra  |
| Participants                                   | Facilitator, co-authors, IT expert, audio-visual expert and friendly outsider.  |
| Objective                                      | To examine the extent to which the actions taken matched the constructing, particularly the questions formulated for each of the different stops of the interactive journey.  |
| Decisions                                      | It was agreed that the actions taken matched the constructing but that it would be necessary to continue working on the questions formulated for each stop of the journey to refine them.   |
| Documentation                                  | <ul style="list-style-type: none"> <li>- Call and agenda for the fourth workshop</li> <li>- Presentation used in the fourth workshop</li> <li>- Audio and verbatim minutes</li> <li>- Minutes of the fourth workshop</li> <li>- Debriefing notes</li> </ul>   |
| <b>Cycle 4. June 13, 2017 to July 11, 2017</b> |   |
| <b>Constructing</b>                            |   |
| Date   | June 13, 2017   |
| Place  | Meeting room, Orkestra  |
| Participants                                   | Facilitator, co-authors, IT expert, audio-visual expert and friendly outsider.  |
| Objective                                      | To reflect on the fourth element of the analytical framework: "responsive" and what it means in terms of communicating the book.  |
| Decisions                                      | To prepare a meeting space for all the travelers who finish the interactive journey to engage in an emergent dialogue that would be kept alive collectively.  |

...Continued from Table 1

|                          |  |
|--------------------------|--|
| Documentation            | <ul style="list-style-type: none"> <li>- Call and agenda for the fourth workshop</li> <li>- Presentation used in the fourth workshop</li> <li>- Audio and verbatim minutes</li> <li>- Minutes of the fourth workshop</li> <li>- Debriefing notes</li> <li>- The virtual space</li> </ul>                             |
| <b>Taking action</b>     |  |
| From June 14 onwards     | <ul style="list-style-type: none"> <li>- Participants would work on finishing the virtual space by July 11, which is when the pilot group would start testing it.</li> <li>- Videos for the virtual space would be filmed later in the year</li> <li>- The short journey would be ready by January, 2018.</li> </ul> |
| Documentation            | <ul style="list-style-type: none"> <li>- Emails</li> <li>- Research journal</li> </ul>   |
| <b>Evaluating action</b> |  |
| Date                     | September 21, 2017   |
| Place                    | Meeting room at Orkestra   |
| Participants             | Facilitator, co-authors, IT expert, audio-visual expert, project manager and friendly outsider.  |
| Objective                | To examine the extent to which the actions taken matched the constructing particularly by reflecting on the feedback received by the pilot group. To share the views of the participants regarding the whole process.  |
| Decisions                | It was agreed that the actions taken matched the constructing and that evaluation would from thereon continue.   |
| Documentation            | <ul style="list-style-type: none"> <li>- Presentation used in the closing session</li> <li>- Surveys filled in by the participants in the pilot group</li> <li>- Research journal</li> </ul>   |

Source: Authors' own elaboration.

As can be seen in the table above, a number of actions continued months after the last workshop and a closing session was celebrated in September in time to reflect on the feedback obtained from the pilot group. In terms of this dissertation the action research process ended with the decision made in the fourth workshop to build a meeting space to continue writing the book because our aim was to test the four elements of the analytical framework that we had built from theory.

## 2.2 Case studies

According to Yin (2003) case studies are suitable for answering “how” research questions and can be defined as an empirical inquiry that looks into a

contemporary phenomenon in depth and within its real context. This is so because contextual conditions are highly relevant to its study. Thomas (2011) explains that case studies focus on one particular issue (person, group, project, country, institution, policy...) that can be studied in depth using different methods for data collection and analysis. When doing case studies, one does not seek to generalize because case studies are about the particular; they are good for getting a rich picture of a chosen subject and gaining analytical insights from it (Thomas, 2011).

In this dissertation we develop multiple case studies. Multiple case studies are suitable when we seek to understand how something operates in different situations thereby obtaining a larger picture of a complex phenomenon (Stake, 2006). Through the multiple cases we explore how the actionable analytical framework that resulted from the action research process can help a diversity of researchers to reflect on, and diagnose their research communication practices. Our purpose is therefore exploratory. Exploratory cases are suitable when the knowledge the researcher has of the issue is one-dimensional since he or she sees the situation from their own role (Thomas, 2011). They help to understand social phenomena from the perspective of the actors (Blaikie, 2010, p. 89) and they provide leads that may open doors for further research (Thomas, 2011).

The choice of case studies is guided by whether they represent the phenomenon being studied or explored and they should offer the opportunity to learn from diversity (Stake, 2006). They should be suitable for answering the research question, so identifying the unit of analysis is therefore critical (Yin, 2003). In this dissertation the unit of analysis is researchers and professionals involved in research communication since they are the best representation of the phenomenon that we are studying. Moreover, because the units of analysis are part of a wider picture, they are nested multiple cases (Thomas, 2011). The wider picture is Orkestra-Basque Institute of Competitiveness, a research institute recognized for its proactive role as a change agent in territorial development (Aranguren et al., 2016; Karlsen & Larrea, 2014; Larrea, J., 2017; Porter et al., 2016; Romano, 2017).

Other criteria cited in the literature for choosing case studies are the researchers' connection to it (Thomas, 2011); data availability, access to key participants and the time it may take to develop the case (Thomas, 2011; Yin, 2009). Since the author of this dissertation holds a connection to the case studies through her role in Orkestra, when writing the context of the cases, only available data found in secondary sources was used in order to present a sequence of events that emerged from documentary sources (Costamagna, 2015).

Regarding the number of cases, Stake (2006) argues that 4 cases do not help to draw a wider picture and more than 10 can become difficult to understand. Considering this, in order to select our cases we first identified a typology of publications in the Institute (Table 2) and then a researcher for each one of them: a total of 6. Our selection of researchers followed Valles (2014) who suggests selecting those likely to approach the issue from different standpoints. Taking into account that communication staff and both the Director General and the Deputy Director General are involved in research communication we included them in the list: a total of 4. This made a total of 10 cases.

**Table 2. Typology of publications**

|   | Type of publication                 | Definition   |
|---|-------------------------------------|--|
| 1 | Scientific article                  | Conceptualization of research findings for academic journals   |
| 2 | Book (edited)                       | An edited collection of chapters contributed by different authors. The editor is an Orkestra researcher. |
| 3 | Book chapter                        | A chapter contributed by an Orkestra researcher to a volume that is being edited by another author.      |
| 4 | Report                              | Reports written for public and/or private policymakers.  |
| 5 | Institutional Report                | Report published every two years on the state of competitiveness in the Basque Country                   |
| 6 | Report commissioned by stakeholders | Reports commissioned by specific stakeholders.   |

Source: Authors' own elaboration.

As a method for data collection we triangulated semi-structured interviews with direct observation recorded in the research journal and with secondary data (Stake, 2006). We also used a Likert-scale-based questionnaire (Likert, 1932) that interviewees filled in before closing the interviews to try to measure attitudes to the different features of the actionable analytical framework. Their answers also helped to interpret the semi-structured interviews. Following Yin (2003) summary reports were made for the aggregate results and for the individual cases.

### **2.2.1 Interview Design**

The interview design followed Kvale (1996) who states that interviews can be seen as a social construction in which the interview and the data analysis are part of the same process of knowledge production and not as a method for extracting data from interviewees. In other words: as “a conversation where the data arise in an interpersonal relationship, coauthored and coproduced by the interviewer” (Kvale, 1994, p. 156).

For Kvale (1996) the topic of the qualitative interview is the lived world of the interviewees and their relation to it. The interview seeks to interpret the meaning of central themes in the life world of the subject; registering and interpreting the meaning of what is said, and how it is said. It also attempts to obtain open nuanced descriptions of different aspects of interviewee’s life worlds. In this context, it is neither strictly structured with standardized questions nor entirely non-directive. Finally statements by interviewees can be ambiguous reflecting contradictions in the world they inhabit.

Semi-structured interviews develop along a list of issues prepared beforehand in an interview schedule (Thomas, 2011). In the interviews developed for this dissertation, the list of issues corresponded to the features of the actionable analytical framework (Table 3 for researchers and Table 4 for communicators). The interview schedule increases the comprehensiveness of the data when interviewees are free to answer as fully as they choose. However, complementing those responses with a structured one can help researchers to analyze the interview (Cohen, Manion, & Morrison, 2002). Structured scaled responses can help to achieve this end because they throw immediate

analyzable data that can complement the interview analysis (Cohen et al., 2002). They also allow comparisons within the different issues or categories included in the semi-structured interviews. In our interviews, interviewees were asked to place their current research communication practices in a Likert type scale that included six gradations for each one of the elements of the actionable analytical framework (Table 5 for researchers and Table 6 for communicators). A drawing of the actionable analytical framework was also used to support the interviews.

Following Stake (2006), we formulated questions that helped to approach the main research questions. Such questions are described as "...questions pointed towards understanding of a particular situation...that draw attention to specific happenings or problems in that situation" (Stake, 2006, p. 32). This also helped to gather descriptions of the life-world of the interviewees (Kvale, 2008).

The interviews were conducted with a flexible approach, changing the order or the wording of the questions to adapt them to the answers received. All the interviews were taped upon consent granted by the interviewees. The author of this dissertation went back to the audios and the notes taken during and after the interview to write the case reports. Table 7 presents the interview calendar.

Considering that Orkestra is a small organization and because knowing the identity of the interviewees was not relevant for the results of the case studies the names of the interviewees have been kept anonymous and in their place we used label "R" for researchers and label "C" for interviewees who hold administrative positions in the Institute (communicators).

As a way of analyzing the interviews we followed a meaning condensation approach. Meaning condensation involves reducing large interview texts into shorter formulations. It can be done along 5 main steps: (i) read the whole interview to get a sense of the whole; (ii) determine the natural "meaning units" as expressed by the interviewees; (iii) state the theme that dominates the natural meaning unit as simply as possible; (iv) interrogate the meaning units in terms of the specific purpose of the study and (v) eliminate redundancies and bring the essential themes of the interview into a descriptive statement (Kvale, 1996 p. 194).

**Table 3. Interview schedule: Researchers**

| Presentation of the Interviewer, the dissertation, the objective of the interview and the actionable analytical framework on Responsible Research Communication. Possible questions by interviewees. Permission to record the interview. |   |   |
|--|---|---|
| Feature  | Research question   | Guide questions   |
| <b>Change-oriented</b>   | <p>-To what extent do you see a connection between sharing research findings through dialogue and change?</p> <p>-To what extent do you articulate an explicit change objective when sharing research findings?</p> | <p>-What role do you think that communication plays in helping research findings bring about change in territorial development?</p> <p>-At what point of your research processes do you normally decide to share your research findings with other territorial actors? How do you identify who these are?</p> <p>-Do you have particular expectations when sharing your findings with other territorial actors?</p> |
| <b>Smart</b>   | -To what extent do you think that dialogue is a viable approach to communicating research?  | <p>-How do you normally share your research findings with other territorial actors?</p> <p>-In your view what works and what does not work?</p>   |
| <b>Facilitative</b>  | -To what extent do you work to reduce the barriers to engagement when sharing your research findings with other territorial actors?   | <p>-Could you name some of the difficulties you face when sharing your research findings with other territorial actors?</p> <p>-How have you tried to overcome them?</p>  |
| <b>Inclusive</b>   | <p>-To what extent do you experience that you have (or not) the monopoly on knowledge?</p> <p>-To what extent does conflict emerge when you share your research findings with other territorial actors?</p>         | <p>-Have you experienced situations in which your research findings have no resonance among other territorial actors? Did you overcome them?</p> <p>-How do you think your knowledge should influence decisions made by public and private policymakers in territorial development?</p> <p>-Has your knowledge been questioned by other territorial actors?</p>   |
| <b>Emergent</b>  | To what extent are you able to adapt and reconfigure your communication strategy as it unfolds?   | <p>-Do you normally plan your knowledge-sharing strategies?</p> <p>-How do they develop? When are they over?</p>  |
| <b>Collective</b>  | To what extent are you aware of what is being made through dialogue?  | <p>-Do you discuss and agree with other territorial actors how each will bring back and communicate any newly co-generated knowledge from within their own domain?</p> <p>-Do you think that defining clear roles like problem-solving knowledge-sharing processes is important? How are they important?</p> <p>-Are you aware of what is being made in the process?</p>  |

Source: Authors' own elaboration.

**Table 4. Interview schedule: Communicators**

| Presentation of the Interviewer, the dissertation, the objective of the interview and the actionable analytical framework on Responsible Research Communication. Possible questions by interviewees. Permission to record the interview. |  |   |
|--|--|---|
| Feature  | Research Question  | Guide Questions   |
| <b>Change-oriented</b>   | To what extent is the Institute's research communication change-oriented?  | <ul style="list-style-type: none"> <li>- Is there an explicit change objective when communicating research findings (Raise awareness? Promote an issue? Influence policy? Fill knowledge gaps? Build capabilities?)</li> <li>- Is there a reflection regarding who needs to be involved?</li> <li>- Is work done to see if they understand the problem the same way? (are they willing to put resources into it?)</li> </ul>  |
| <b>Smart</b>   | To what extent is the Institute's research communication smart?  | <ul style="list-style-type: none"> <li>- When communicating research findings does the Institute think through what tools and products can help to reach a wider audience through dialogue? (interactive publications, Open Data, blog posts, twitter campaign...)</li> <li>- Are the research communication tools and products in the Institute ends or means?</li> <li>- What works better, what does not?</li> <li>- What barriers does the Institute face in this regard?</li> </ul>  |
| <b>Facilitative</b>  | To what extent is the Institute's research communication facilitative?   | <ul style="list-style-type: none"> <li>- When communicating research findings does the Institute consider the possible barriers that sharing knowledge can face? (knowledge gaps, skills, time-zone, culture). Does it take into account language?</li> <li>- What are the main difficulties it finds when communicating research findings?</li> <li>- How does it overcome them?</li> </ul>  |
| <b>Inclusive</b>   | -To what extent is the Institute's research communication inclusive?   | <ul style="list-style-type: none"> <li>- When communicating research findings does the Institute reflect on <i>how</i> to include the theoretical and experiential knowledge of other stakeholders? (what questions am I asking? What stories am I telling?)</li> <li>- Has the Institute experienced situations in which its research findings had no resonance among other territorial actors? How was this overcome?</li> <li>- Has research been questioned by other territorial actors when trying to inform policy making or other?</li> <li>- How does the Institute handle conflict?</li> </ul> |
| <b>Emergent</b>  | -To what extent is the Institute's research communication emergent?  | <ul style="list-style-type: none"> <li>- Are the Institute's research communication strategies flexible? To what extent do they adapt to the decisions taking place in the dialogue?</li> <li>- How do they develop? When are they over?</li> </ul>   |
| <b>Collective</b>  | -To what extent is the Institute's research communication aware of what is being made through dialogue collectively? | <ul style="list-style-type: none"> <li>- What environments are being made? What value is this space generating? Is new knowledge being systematized and shared?</li> </ul>  |

Source: Authors' own elaboration.

**Table 5. Likert Scale for Researchers**

1. My research communication is **change-oriented**

| Always | Very often | Occasionally | Rarely | Very rarely | Never |
|--------|------------|--------------|--------|-------------|-------|
|        |            |              |        |             |       |

2. My research communication is **smart**

| Always | Very often | Occasionally | Rarely | Very rarely | Never |
|--------|------------|--------------|--------|-------------|-------|
|        |            |              |        |             |       |

3. My research communication is **facilitative**

| Always | Very often | Occasionally | Rarely | Very rarely | Never |
|--------|------------|--------------|--------|-------------|-------|
|        |            |              |        |             |       |

4. My research communication is **inclusive**

| Always | Very often | Occasionally | Rarely | Very rarely | Never |
|--------|------------|--------------|--------|-------------|-------|
|        |            |              |        |             |       |

5. My research communication is **emergent**

| Always | Very often | Occasionally | Rarely | Very rarely | Never |
|--------|------------|--------------|--------|-------------|-------|
|        |            |              |        |             |       |

6. When communicating research I am aware of what is being made through dialogue **collectively**

| Always | Very often | Occasionally | Rarely | Very rarely | Never |
|--------|------------|--------------|--------|-------------|-------|
|        |            |              |        |             |       |

**Table 6. Likert Scale for Communicators**

1. The Institute’s research communication is **change-oriented**

| Always | Very often | Occasionally | Rarely | Very rarely | Never |
|--------|------------|--------------|--------|-------------|-------|
|        |            |              |        |             |       |

2. The Institute’s research communication is **smart**

| Always | Very often | Occasionally | Rarely | Very rarely | Never |
|--------|------------|--------------|--------|-------------|-------|
|        |            |              |        |             |       |

3. The Institute’s research communication is **facilitative**

| Always | Very often | Occasionally | Rarely | Very rarely | Never |
|--------|------------|--------------|--------|-------------|-------|
|        |            |              |        |             |       |

4. The Institute’s research communication is **inclusive**

| Always | Very often | Occasionally | Rarely | Very rarely | Never |
|--------|------------|--------------|--------|-------------|-------|
|        |            |              |        |             |       |

5. The Institute research communication is **emergent**

| Always | Very often | Occasionally | Rarely | Very rarely | Never |
|--------|------------|--------------|--------|-------------|-------|
|        |            |              |        |             |       |

6. The Institute’s research communication is aware of what is being made through dialogue **collectively**

| Always | Very often | Occasionally | Rarely | Very rarely | Never |
|--------|------------|--------------|--------|-------------|-------|
|        |            |              |        |             |       |

**Table 7. Interview Calendar**

|    | <b>Publication</b>  | <b>Type</b> | <b>Date</b>    |
|----|---|-------------|----------------|
| 1  | Scientific article: Conceptualization of research findings for academic journals  | R           | 19 March 2018  |
| 2  | All publications  | C           | 20 March 2018  |
| 3  | All publications  | C           | 21 March 2018  |
| 4  | Book chapter: A chapter contributed by an Orkestra researcher to a volume that is being edited by another author.       | R           | 22 March 2018  |
| 5  | All publications  | C           | 26 March, 2018 |
| 6  | Report: Reports written for public and/or private policymakers  | R           | 26 March, 2018 |
| 7  | Institutional Report: Report published every two years on the state of competitiveness in the Basque Country            | R           | 27 March, 2018 |
| 8  | All publications  | C           | 9 April, 2018  |
| 9  | Report commissioned by stakeholders   | R           | 19 April, 2018 |
| 10 | Book (edited): An edited collection of chapters contributed by different authors. The editor is an Orkestra researcher. | R           | 13 April, 2018 |

Source: Authors' own elaboration.

In this chapter we presented the research methods used in this dissertation. The first section described the action research method and the second section the case studies method. In the following chapter we address the philosophical underpinnings of our research methods.



### 3 METHODOLOGY

When we introduced this first part of the dissertation we referred to Coghlan & Gaya (2014) who argue that methods describe what the researcher actually did and methodology is the philosophical approach. We mentioned that both dimensions are intertwined in this dissertation but that for reasons of clarity we would present each of them in different chapters. In the previous chapter we therefore presented the methods used in this dissertation: what we actually did. In this chapter we now discuss the philosophical underpinnings of what was done.

The discussion in this chapter is largely focused on action research because this approach is less common in doctoral dissertations and may therefore need further reflection. Nevertheless, a reflection on qualitative research, which we chose for our case studies is also included in the last part of the chapter.

#### 3.1 Action research

There are three main issues in the method described in the previous chapter that deserve attention from a methodological perspective: (i) the goal of generating change besides generating knowledge; (ii) the positionality of researchers in the research process; and (iii) validity.

These three issues need further reflection because they are linked to epistemological debates regarding the production of knowledge: what research is for; how researchers should position themselves during the research process; and what constitutes valid knowledge. We discuss each one of them in the following sections.

##### 3.1.1 The goal of generating change besides generating knowledge

Action research is defined as: “social research carried out by a team that encompasses a professional action researcher and the members of an organization, community or network...who are seeking to improve the participants’ situation” (Greenwood & Levin, 2007, p. 3). It can be described as a “shared values stance founded on a commitment to generating knowledge through democratic practice in the pursuit of positive social change” (Coghlan &

Brydon-Miller, 2014, p. xxv) and is consistent with mode 2 knowledge production (Gustavsen, 2003; Karlsen & Larrea, 2014).

Mode 2 knowledge production is knowledge produced in the context of application, transdisciplinary, heterogeneous and not hierarchical but formed by flexible research teams that change as the task requires; quality control is carried out by participants in the knowledge creation process (Gibbons et al., 1994). It is socially robust knowledge precisely because its validity takes place in the context of its application (Greenwood, 2007).

In contrast to positivistic natural sciences-based research approaches for which knowledge is only valid if it is produced objectively and is value-free, action research argues that all research is embedded within a system of values and that knowledge in the social sciences is socially constructed (Brydon-Miller, Greenwood, & Maguire, 2003). It is therefore an approach aligned with interpretivist, constructivist epistemological paradigms (Coghlan & Brannick, 2010). Ontologically, action research differs from objectivist inquiry that aims to examine social reality unobstructed by researchers, because the aim of action research is not to examine reality but to change it (Nicholas & Hathcoat, 2014). Action research is indeed defined as a strategy for change, in which quantitative or qualitative research methods may be used, although most action researchers use qualitative research methods (Greenwood & Levin, 2007).

Another important aspect of action research is the inextricable link between theory and practice, or praxis: “the idea that theory is only useful insofar as it is put at the service of positive social change” (Brydon-Miller et al., 2003, p. 15) or that “action is the only sensible way to generate and test new knowledge” (Greenwood & Levin, 2007, p. 6) and that “the point is not to what extent the theory resembles the world but to what extent it helps us perform rational actions” (Gustavsen, 2003, p. 156).

While the notion of praxis can be traced back to Aristotle (Eikeland, 2012), the idea of a closer relation between theory and practice emerges in the 1940’s from the work of social psychologist Kurt Lewin, who is also credited with having coined the term action research (Estensoro, 2012). Lewin, who worked with a

view of social research as both scientific and socially engaged, contributed two fundamental building stones for action research: knowledge production based on solving real-life problems and a transformed role for researchers from being distant observers to becoming involved in concrete problem solving (Greenwood & Levin, 2007). Brazilian pedagogue Paulo Freire's conceptualization of dialogue as praxis has also been very influential in action research (Costamagna, 2015; Greenwood & Levin, 2007; Herr & Anderson, 2005).

Action research scholars have developed different approaches such as: Pragmatic Action Research; Action Science; Action Learning; Participatory Research; Educational Action Research, Appreciative Inquiry and Appreciative Learning. The approach to action research followed in this dissertation is Pragmatic Action Research. One of the distinguishing features of this approach is that it tests theory through its efficacy in action aiming to produce valid and actionable knowledge (Greenwood, 2007). While there is no fixed recipe for producing such actionable knowledge, Pragmatic Action Research has three main characteristics: (i) work takes place in arenas where participants and researchers engage in a dialogical relationship; (ii) mutual reflection among participants and researchers leads to creation of new knowledge; and (iii) multi-method techniques and work forms are responsive to the needs of the research process (Greenwood & Levin, 2007).

An important characteristic of the dialogical arenas proposed by Pragmatic Action Research is their democratic and inclusive nature that does not necessarily seek to achieve consensus but rather values diversity in the knowledge co-generation process. In this approach, that draws on the Nordic industrial democracy tradition, dialogue is therefore a central concept, and language and communication come close behind. Björn Gustavsen (1992) who follows the work of linguistic philosopher Ludwig Wittgenstein (1889-1951) asserts that the development of new language and practice are mutually dependent and that such dependence is mediated by dialogue. From this perspective, he states that research which only produces words will have a limited effect on practice.

A more recent approach that draws in part from Pragmatic Action Research and Gustavsen's theory on dialogue and development is Action Research for Territorial Development. This approach, developed by Karlsen & Larrea (2014), has influenced a number of doctoral dissertations over the past years that study issues related to territorial development: social innovation (Estensoro, 2012); capability building (Costamagna, 2015); and the role of universities (Romano, 2017). Action Research for Territorial Development (ARTD) is also an important influence in this dissertation and inspired one of its objectives which, as explained in the introductory chapter, is to develop an analytical framework that facilitates connectivity.

### **3.1.2 The positionality of researchers in the process**

Researchers' positionality is perhaps the aspect of action research in which the influence of methodology on method is more evident. In the previous chapter on method we explained that the method followed was insider action research because the action research process took place in the author's own organizational setting. We also described how the group that collaborated in the process was formed and advanced that in this chapter we would address its methodological implications.

Action research is indeed a collaborative research process in which researchers interact with other participants and can influence and be influenced by the research process. Herr & Anderson (2005), writing for doctoral action researchers, argue that for reasons of trustworthiness and validity, researchers should clarify how they position themselves with regard to the research setting and to the other participants. To this end, they identify a continuum of positionality in which researchers can place themselves throughout the research process.

The continuum runs along 3 main positions: insider, reciprocal and outsider. Insider has three categories: (i) insider researchers studying or reflecting on their own practice; (ii) insider researchers working with other insiders for professional or organizational transformation; and (iii) insider researchers working with outsiders who have been invited to collaborate. Reciprocal positionality takes place when insider and outsider teams work together to

improve their knowledge base or practices and do so in the context of equal power positions. Outsider positionality has two categories: (i) outsiders in collaboration with insiders, in which researchers facilitate for example a process of organizational development or community empowerment and (iii) outsiders studying insiders. According to the authors, this latter positionality is associated with positivistic approaches to the social sciences in university settings.

Following the continuum of positionality described above, the author of this dissertation is an insider researcher working with other insiders for professional or organizational transformation. Coghlan (2007) and Coghlan and Brannick (2010) warn that compared with action researchers who do not belong to an organization, insider action researchers face a number of challenges. One of them is pre-understanding. This happens because it may be difficult to develop a spirit of inquiry in familiar situations where things are likely to be taken for granted. In this dissertation this posed a dilemma not only for the PhD student in her role as member of the organization but also for her supervisor who, as explained in the chapter on method, participated together with a co-author, in the action research process.

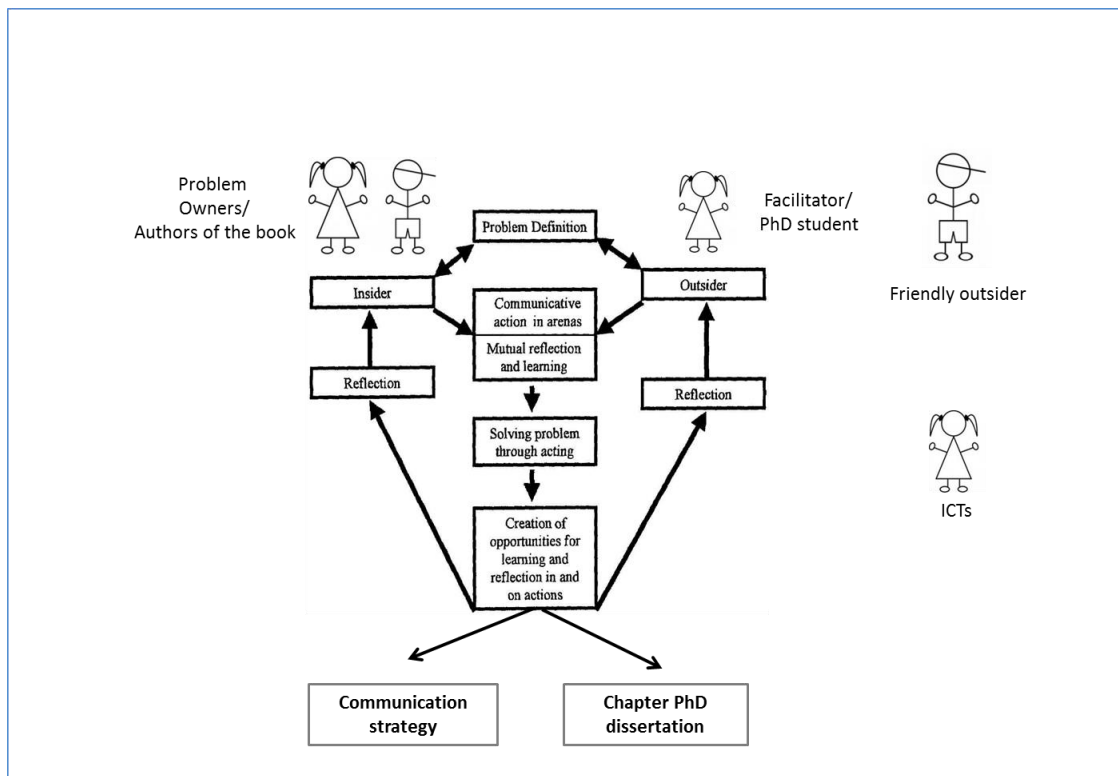
This dilemma was addressed by redefining the roles that each participant played in the action research process. The first step regarding role redefinition addressed the relation between the PhD student and her supervisor. It was agreed that all throughout the time that the action research process developed, the supervisor would stop supervising this dissertation leaving that role entirely to the co-supervisor. This decision prevented the supervisor's taken for granted assumptions to affect the supervision of the PhD student. The second step taken to address this dilemma was to assign the role of critical/friendly outsider to the co-supervisor. This decision helped the PhD student in her meaning making process by unveiling her own taken for granted assumptions.

Critical or friendly outsiders are described by Herr & Anderson (2005) as peers or colleagues that debrief with researchers helping them make meaning of the process and posing questions regarding how it is that they know what they claim to know. For Greenwood & Levin (2007) friendly outsiders also contribute to the process through their links to the outside world and by opening up lines of

discussion in the process. The co-supervisor of this dissertation, a researcher who worked in another university, was familiar with action research but had never participated directly in an action research process, nor used it as a research methodology so he was able to fully play the role of critical outsider.

Another dilemma for action researchers is role duality (Coghlan, 2007; Coghlan & Brannick, 2010). Role duality involves handling both the organizational and research roles that can become conflicting and raise loyalty and identification dilemmas for the insider action researcher. In this dissertation role duality was not evident at the start of the process. Initially, when drafting the research proposal the PhD student chose the co-generative model by Greenwood & Levin (2007) to guide the action research process. As shown in Figure 5 Greenwood and Levin make a clear distinction between action researchers (outsiders) and practitioners (insiders).

**Figure 5. The Co-generative Model**



Source: Adapted from Greenwood & Levin (2007).

From this perspective the PhD student was an “outsider” to the project and the problem. She would facilitate the process helping researchers reflect but the

researchers would make their own decisions on how to communicate their book and would also act upon them. As a result of the process the two researchers would have solved their practical communication “problem” and the facilitator would have produced new knowledge relevant for the academic community through her dissertation.

This initial picture changed as the project unfolded for two main reasons. First, as mentioned earlier, there was an organizational expectation that the dissertation would contribute to the 2017-2020 Strategic Plan by conceptualizing on how communication can help research institutes in their role as change agents in territorial development. The plan had not been drafted when the initial research proposal for this dissertation was first written but it reinforced the PhD student’s interest in the development and outcome of the action research process from the point of view of her role in the organization.

A second development that affected role duality was described in the chapter on method: the PhD student and her co-supervisor were granted funding by the Provincial Council to develop the action research process. Through the project the PhD student had a stake in delivering an outcome to the Provincial Council in the agreed deadlines and this made her an important stakeholder in the project.

In one of the last meetings held between the PhD student and her supervisor before the latter handed over the relay to the dissertation’s co-supervisor, the supervisor expressed uneasiness about the situation. She suggested literature on role duality for the PhD student to read and reflect on whether the insider perspective felt more comfortable than the sheer distinction between outsiders and insiders in the model by Greenwood and Levin (2007). As a result, the PhD student decided to follow the insider action research approach presented in the chapter on method, thereby addressing the role duality dilemma described in this chapter.

It should be noted that becoming insider action researcher altered her involvement in the process. From an initial role in which she was expected to prepare and facilitate workshops that would allow the two researchers to reflect,

make decisions and act upon them, while she systematized the process and extracted lessons to bring to her dissertation, she was now expected to participate in the decision-making and also act on the decisions made so that she could deliver the results of the project on time to the Provincial Council of Gipuzkoa. The full range of activities that this role entailed was shown in Table 1.

### 3.1.3 Validity

All research, irrespective of its epistemological or ontological assumptions, is expected to adequately depict what was researched. Greenwood & Levin (2007) identify two main criteria for validity in action research. First, workability, that needs to show that the action research process resulted in a solution to the problem. Second, credibility, divided into internal and external credibility. Internal credibility needs to determine whether the participants in the process connect with the story being told about the results of the process or the conceptual frameworks that emerged from it. External credibility needs to determine whether those who did not participate in the process consider that both the process and the results are credible.

In terms of workability, and following the pragmatic tradition, in this dissertation the action research process resulted in a practical solution to the problem defined in terms of finding a novel way of communicating a research output, namely a book. At the time of writing, the practical solution is available at: <https://dgroups.org/groups/perfadt><sup>3</sup> and it is being used in different projects by different communities of practitioners and academics.

In terms of internal credibility a specific session with the participants in the action research process was held to reflect on the process and its outcome<sup>4</sup>. During the session, participants also discussed the contributions received from the pilot group that tested the practical solution. Each participant was asked to prepare a slide in which they shared how they had experienced the role they played in the process.

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<sup>3</sup> Retrieved on August, 3, 2018

<sup>4</sup> The session was held on September 21, 2017.

In terms of external credibility four main sessions were held: (i) a session with the stakeholders from the Provincial Council of Gipuzkoa who funded the action research process; (ii) a session with a mixed group of doctoral students and practitioners who participated in the pilot group to test the online tool; and (iii) a session with the full research group working in action research projects in the Institute<sup>5</sup>.

Moreover, the lessons and conceptual framework that resulted from the process were presented in an academic conference on Responsible Research and Innovation (CIMIE, 2017, 29 July, 2017) and at the time of writing a paper had been published in the *European Public & Social Innovation Review*. Also the PhD student had sent a revised version of a paper submitted to the journal *Action Research* which according to the editor had potential for publication once the revision had been addressed.

### 3.2 Qualitative research

Case studies can be based on qualitative or quantitative methods. In this dissertation we use qualitative methods, namely semi-structured interviews, which we triangulated with direct observation and secondary data. Flick (2007) describes qualitative research as means of understanding, describing and explaining social phenomena from the inside. The objective of qualitative research is to understand how people construct the world around them in terms that are meaningful and offer rich insight. He suggests that this can be done in three main ways: (i) analyzing experiences of individuals or groups; (ii) analyzing interactions and communications in the making; or (iii) analyzing documents or similar traces of experiences or interactions.

Among the set of elements identified by Flick (2007) as being common to the different approaches to qualitative research, the following were particularly relevant in the development of the case studies.

- Researchers' interest in accessing experiences, interactions and documents in their natural context in a way that gives room to the peculiarities;

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<sup>5</sup> These sessions were held on 5 July, 2017; 11 July, 2017; and 16 January, 2018, respectively.

- Researchers are an important part of the research process, either in terms of their own personal presence as researchers or in terms of their experiences in the field and with the reflexivity they bring to the role -as members of the field under study;
- Qualitative research is based to a large extent on case studies, or a series of case studies, and often the case is an important context for understanding what is studied;
- A major part of qualitative research is based on text and writing –from the field notes and transcripts to descriptions and interpretations and finally to the presentation of the findings and of the research as a whole. Therefore, issues of transforming complex social situations into texts are major concerns of qualitative research.

With this very brief discussion on the philosophical underpinnings of qualitative research we end our discussion on methodology. The chapter, which followed a chapter on method, was divided into two main sections. In the first section we discussed three issues particularly relevant in action research doctoral dissertations: what research is for; how researchers position themselves in their research processes and what constitutes valid knowledge. The second section included a shorter reflection on qualitative research, which was the approach chosen to address our multiple case studies. The reason for providing more space to discuss the philosophical underpinnings of action research is because action research is a less common approach in doctoral dissertations and may need further reflection.

Having discussed method and methodology, we turn to the first step of the PhD process illustrated in Figure 1, which is to build a theoretical analytical framework from the literature review. This is done in Part II of the dissertation.

## Part II Building a Theoretical Analytical Framework

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In Part II we build a *theoretical analytical framework* from a literature review on Responsible Research and Innovation (RRI) and Communication for Development and Social Change (CDSC). It is made of three chapters. The first chapter frames research institutes as change agents in territorial development within the debate on universities' third mission. In that context it identifies RRI, a framework that emerges within the literature on scientific and technological innovation that can help to understand how research institutes as change agents develop their research processes. The second chapter reviews the literature on communication studies in order to find a school that can complement the RRI framework with the communication perspective and identifies CDSC, and within it, participatory communication. The third chapter builds the theoretical analytical framework from the literature review of the two previous chapters. It therefore answers the first research question: What are the features of responsible research communication?



## 4 RESEARCH INSTITUTES AS CHANGE AGENTS IN TERRITORIAL DEVELOPMENT

As stated in the introductory chapter, the objective of this dissertation is to build an analytical framework on research communication for research institutes as change agents in territorial development that facilitates connectivity. In order to do so, we must first identify a framework to understand how research processes are developed in those institutes. This is done in this chapter as the basis from which to explore, in the next one, a school that can bring in the communication perspective.

The chapter is divided into two main sections. In the first section we trace the evolution of universities' third mission from its early interpretation as the transfer of knowledge from universities to firms and industry in order to spur economic growth, to one that advocates their full engagement in the development of the territories that host them. We conclude that a way to overcome the challenges that universities face to play this role is to create research institutes that can interact more closely with territorial actors to generate socially relevant knowledge.

In the second section we introduce RRI, a framework that emerges from within the literature on scientific and technological innovation, and is related to the role that universities, in their knowledge producing capacity, play in fostering economic growth. We conclude that RRI is a helpful framework to understand how research institutes as change agents in territorial development develop their research processes because it stresses the critical importance of the process and the role of stakeholders in it to produce socially relevant outcomes. We argue against a view of RRI as an approach to be imposed from the outside on researchers or used in instrumental terms, and endorse a view of responsible research as inextricably linked to how researchers understand their own practice and agency.

#### 4.1 A third mission for universities

The role that universities play in the development of their host territories was first addressed in the systems of innovation literature (Cooke, P., Gomez Uranga, & Etxebarria, 1997; Freeman, Christopher, 1987; Lundvall, 1992; Nelson, 1993). This role has been captured in concepts like the entrepreneurial university (Etzkowitz, 2001) or the triple helix of firms, university and government (Etzkowitz & Leydesdorff, 1998). These conceptualizations around the contribution of universities to economic growth have been loosely grouped around the idea of a third mission for universities (Laredo, 2007) beyond the two traditional missions of teaching and research.

The first mission dates back to the 11<sup>th</sup> Century, with the establishment of the University of Bologna and the University of Paris a century later, which provided education for the church and also educated lawyers, notaries and physicians (Arbo & Benneworth, 2007). The second mission of conducting research, is associated with William von Humboldt's reforms at the University of Berlin in 1810 that assigned professionally educated experts the task of exploring the world empirically, which had previously been done by amateurs (Arbo & Benneworth, 2007). The German model is regarded as the first academic revolution because it exported the concept of unified teaching and research to the United States (Lassnigg, Hartl, Unger, & Schwarzenbacher, 2017).

Indeed, the University of Berlin planted the seeds of the modern university, which is understood as a community of scientists concerned with producing knowledge for its own sake, thereby serving society (Beraza & Rodríguez, 2007; Graham, 2013). Knowledge production was detached of place and time in its claim for universalism, transcending its actual location (Bender, 1988). Moreover, any practical improvement due to academic activity was non-intended (Arbo & Benneworth, 2007). Goddard and Puukka (2008) argue that this notion of the university as a detached site for the advancement of knowledge for its own sake was of vital importance for its credibility and legitimacy.

It was only until the end of the Second World War that a link between advancing knowledge and socioeconomic progress was established through an influential report drawn up in the United States. The report titled *Science, the Endless*

*Frontier* (Bush, 1945) argues that building a strong scientific base is important in order to foster economic growth in the long term. The report did not establish, however, a precise mechanism by which science actually translates to economic benefits (Godin, 2006).

#### **4.1.1 Innovation and the transfer of scientific knowledge to industry**

When innovation became the focus of the debate on economic growth, the link between knowledge production and socioeconomic progress was further strengthened. Indeed, the absence of mechanisms to transfer scientific results to industry became an issue when an innovation gap was identified in the United States' industry due to the rise of competition (Etzkowitz, Webster, Gebhardt, & Terra, 2000). The Japanese economic miracle, based on the capacity of its firms to learn and innovate (Freeman, 1987), called attention to the critical role of innovation in economic growth. Knowledge, which combines both a tacit and an explicit dimension (Polanyi, 1966) was identified as the most important resource in the economy, and learning the most important process (Lundvall, 1992).

In this context, the literature on national systems of innovation explained innovation as the result of a non-linear interactive process among firms, universities and public institutions determined by national characteristics (Edquist, 1997; Freeman, Chris, 1994; Lundvall, 1992; Nelson, 1993). The literature on regional systems of innovation explained different economic outcomes within countries by territorially specific dynamics (Cooke et al., 1997; Morgan, 1997). Universities, in their knowledge production capacity, became key players in the economic development of the regions that host them. Since different kinds of regions provided different contexts, universities needed to adapt their roles to the different contexts (Tdtling & Trippl, 2005).

The systems of innovation literature paved the way for new conceptualizations of the role that universities can play in regional development. The entrepreneurial university is one such example. An entrepreneurial university is an engine of regional economic development because it is able to capitalize knowledge by transforming it into intellectual property and also by becoming a seedbed for new firms (Etzkowitz, 2001). The Triple Helix Model (Etzkowitz &

Leydesdorff, 1998) is another example. The concept suggests that the environments most conducive to innovation are created at the intersection of the institutional spheres of university, industry and government. Therefore, according to Ranga and Etzkowitz (2013), the potential for innovation and economic growth in the knowledge society rests on a more salient role for the university and in the constant reconfiguration of university, industry and government relations for the production, transfer and application of knowledge.

Some authors warn that the entrepreneurial model is occurring only in a few universities, mostly based in the United States (Yusuf, 2007) and institutional differences among countries should not be ignored when trying to extract lessons for regional development from the US model (Uyarra, 2010). In any case, according to Aranguren et al. (2016) in recent years the policy pressure for universities to play active roles in fostering economic development has intensified at the local and regional levels, due to the importance of proximity highlighted in the regional systems of innovation literature. Indeed, in the European context, the requirement by the European Commission that all regions develop a coherent territorial development strategy (known as Research and Innovation Smart Specialization Strategies or RIS3) in order to have access to structural funds, has contributed to reinforce the role of universities as key players in territorial strategies for economic growth (Kempton, Goddard, Edwards, Hegyi, & Elena-Prez, 2013; Valdaliso & Wilson, 2015).

#### **4.1.2 Mode 2 knowledge production**

While the literature on national and regional systems of innovation identified knowledge transfer as a critical element for innovation and economic growth, an influential essay published in the 1990's introduced a new way of producing knowledge that overcomes the need to transfer it. According to Gibbons et al. (1994) Mode 2 knowledge production is knowledge produced in a context of application with the intention of achieving useful purposes. This is different from Mode 1 which is knowledge produced theoretically for its own sake and later applied or transferred.

Gibbons et al. (1994) define Mode 2 knowledge as transdisciplinary, heterogeneous and flexible, where quality control is carried out by participants

in the knowledge creation process. Moreover, Mode 2 knowledge production takes place in agoras: problem-solving dialogical spaces characterized by anticipation and reflexivity: “Here knowledge-seekers have to reach out and anticipate reflexively the implications of research processes” (Nowotny, Scott, & Gibbons, 2003).

Mode 2 knowledge production has important implications for how knowledge has traditionally been produced in the university context. First, it links knowledge production to the solution of practical problems. Second, it opens up knowledge production to members outside academia. As Tuunainen (2005) reflects, “science, in this perspective, has no intrinsic character but becomes intermingled with the rest of the society where boundaries between major social institutions (e.g. the state, the market, culture and science) have become increasingly transgressive and fuzzy” (p, 277).

Reactions against shortening the distance between universities and organizations outside academia are mixed. Ziman (1996) warns against the loss of objectivity when all research takes place in close connection to its potential for application. Other authors voice concerns around the loss of academic independence (Slaughter & Leslie, 1997); and the ruin of the university as a cultural institution (Readings, 1996). The debate has been illustrated by Bleiklie & Kogan (2007) in terms of a transition from a republic of scholars to a stakeholder organization in which the university is but one voice among others. Finally, other scholars see Mode 2 knowledge production as pertaining to specific fields of political relevance such as environmental, health or energy issues and not representative of the whole range of scientific research (Hessels & Van Lente, 2008).

Etzkowitz & Leydesdorff (2000) suggest, however, that Mode 2 knowledge production is not really new, but the original format of science before it needed to gain credibility when it was still a fragile institution in the early 19<sup>th</sup> Century. Others claim that universities with the explicit objective of contributing to their surrounding are not new as illustrated by the cases of MIT and Stanford in the United States (Laredo, 2007; Mowery, Nelson, Sampat, & Ziedonis, 2015). Still others argue that the origins of Mode 2 knowledge production can be found in

the work of Kurt Lewin, Paulo Freire and Orlando Fals Borda, who developed participatory research (Greenwood & Levin, 2007).

#### **4.1.3 Research institutes as agents of change**

As Laredo (2007) notes, universities are now expected to contribute to the economic development of their host regions and develop a wide spectrum of problem-solving activities that are in no case homogeneous but depend on different contextual factors. While there is not one single definition of what should be understood by third mission, in this dissertation we endorse Jongbloed et al. (2008) who argue that in light of the broader and more visible role that universities are playing in their communities, the third mission should be understood as an umbrella term referring to a wide range of strategies emerging from universities to contribute to economic and social development.

In any case in order to play a strategic role as active participants in the socioeconomic development of their home regions, universities need also to draw on disciplines from the social sciences and the humanities (Aranguren et al., 2016; Benneworth & Jongbloed, 2010). This point is important because as Aranguren et al. (2016) argue, third mission approaches have tended to privilege natural sciences and engineering-based knowledge.

Building on the concept of the civic university, Goddard (2009) argues that universities should be fully engaged with the development of the regions that host them making it unnecessary to separate such activities into different missions. Tandon et al. (2017) suggest that if the third mission were understood as a mission of service it could encompass the other two. This way universities would be able to engage in the co-construction of socially relevant knowledge, providing spaces and intellectual resources to complement and build on the cultural and social capital of the communities that host them. Other authors advocate the development of an alternative mission of co-creation for sustainability where universities collaborate with other social agents to drive the physical and sustainable transformation of specific localities or regions (Trencher, Yarime, McCormick, Doll, & Kraines, 2014).

In the context of the expectation that universities become fully engaged in the socioeconomic development of the territories that host them, there is increasing

interest on the role that their research institutes can play as proactive agents of change (Aranguren et al., 2016; Karlsen & Larrea, 2014; Porter et al., 2016; Valdaliso, Jesús María & Wilson, 2015). This is so because when attempting to produce socially relevant knowledge universities face a number of challenges. Two of the most immediate ones are the need to draw from different disciplines and to interact more closely with an array of actors outside academia (Valdaliso & Wilson, 2015). Universities' structure around rigid disciplinary silos stands in the way of the former (Benneworth, 2017; Datta, 2012) while the latter raises a whole new set of issues that require the development of new capabilities for researchers (Aranguren et al., 2016).

Indeed, when researchers interact more closely with other territorial actors they need to address issues such as conflict, power relations, social capital, dialogue, communication, language, translation and mediation (Aranguren et al., 2016; Aranguren et al., 2016; Datta, 2012; Karlsen & Larrea, 2014; Sugden, Te Velde, & Wilson, 2009; Trencher et al., 2014). Researchers need to develop their work with humility, recognizing the limitations of their own knowledge; with active inquiry and an open stance; and with the ability to listen and to communicate in real, multi-way dialogues (Oswald et al., 2017). Overall, researchers need to facilitate change processes through research (Costamagna & Larrea, 2017). This takes us “beyond the typical focus on science and technology, highlighting the relevance of the contribution of ‘softer’ disciplines such as management, economics, the humanities and public policy” (Aranguren et al., 2016, p. 2).

In order to overcome some of those challenges and engage in the production of socially relevant knowledge, universities need to develop an open and flexible governance (Astigarraga & Eizagirre, 2017) and in order to do that they must change. As stated in the 2017 report issued by the Global University Network for Innovation (GUNI), for universities to play a transformative role for society, “they must be able to transform themselves first” (Grau et al., 2017, p. 45). One way of doing this would be to encourage pluralistic research environments that normalize mode 2 knowledge production (Greenwood, 2007; Karlsen & Larrea, 2014). This is not a question of replacing mode 1 for mode 2 knowledge production but rather a question of shifting balance between them and complementing them for different socioeconomic impacts (Aranguren, Karlsen,

Larrea, & Wilson, 2013). Indeed, epistemic governance needs to be addressed in the university context to foster creative and innovative organizational contexts for research, teaching and innovation (Campbell & Carayannis, 2016). Universities should moreover, foster a knowledge democracy, which respects multiple forms and sources in knowledge production and dissemination (Tandon et al., 2017).

While creating the conditions discussed above may take a long time to materialize, some of the aforementioned challenges may be overcome by creating challenge-driven research centers (Goddard & Vallance, 2013) characterized by openness and flexibility in their governance (Astigarraga & Eizagirre, 2017). Aranguren et al. (2016) provide empirical evidence on the potential for universities to act as change agents in territorial development through research institutes created within them as a result of institutional entrepreneurship. Such research institutes should be characterized by an organizational culture that encourages open innovation, thereby shaping the attitudes of researchers in developing a territorially engaged role (Alcalde, Aranguren, & Wilson, 2017). Through their connection with the outside world those research institutes, or research interfaces, introduce new ideas that can gradually influence change in the wider university structure (Chatterton & Goddard, 2000). Moreover, research institutes created within universities as change agents in territorial development, highlight the contribution that can be made from the social sciences to shape socio-economic development processes, in contrast to the typical focus on science and technology (Aranguren et al., 2016). In this dissertation we focus on this type of research institutes, created within universities to engage with other territorial actors in the creation of socially relevant knowledge.

Based on their experience working in research institutes created within universities to act as change agents in territorial development, Karlsen & Larrea (2014) develop a framework for action research in territorial development. Their framework focuses on *how* social researchers can act as agents of change in their territories working at the micro level. They suggest that in order to play that role, researchers need to change their communication patterns from linear to dialogical patterns. Indeed, communication patterns are socially constructed and can therefore be changed (Berger & Luckmann, 1971; Escobar, O., 2011).

In practice this means that instead of understanding research as writing up a report with conclusions and recommendations to hand in to the government or actor who commissioned the project (the transmission of messages to receivers), researchers need to engage in dialogical research processes in which academic knowledge and practitioners' knowledge co-generate actionable solutions to specific territorial challenges. In their book, they show how they have changed their communication patterns from linear to dialogical patterns through action research projects that have led to change in territorial development.

However, considerably less attention is paid in the literature to how the outputs of action research processes developed dialogically with other territorial actors are communicated. Indeed, when the time comes to share and disseminate research outputs, communication patterns normally adopt a linear path to readers. Lessons are systematized and packed into papers, books or reports, communicated as products, where dialogue –and its potential to transform- is no longer present. This dissertation addresses the gap in the literature on the dialogical dissemination of research outputs from action research processes, which is understudied in the literature. The aim is to complement what has already been said in the literature about action research processes, normally focused on the stage that precedes academic writing and dissemination.

When reflecting on the research outputs of such dialogical research processes, Karlsen & Larrea (2014) propose the concept of connectivity. They define connectivity as a dialogical approach to the transferability of research results. The authors develop their argument from Lincoln & Guba (1985) who argue that the responsibility of researchers in the transferability of their research results ends with the written text and that transferability can be enhanced by how well the text is formulated. Karlsen & Larrea (2014) argue that researchers may choose to extend their responsibility beyond the publication of results by connecting in a dialogue with other researchers and practitioners in order to enhance the workability of their frameworks and concepts in new contexts.

Cornish & Dunn (2009) make a similar argument when they argue that knowledge can get lost in translation when it is communicated through

conventional research outputs alone and suggest that participatory methods such as action research, can help to articulate it with more depth and meaning for those who can make use of that knowledge. Likewise, when reflecting on citizen science, which is research developed jointly by researchers and citizens, Schäfer & Kieslinger (2016) call for the provision of spaces to meet and exchange ideas in order to contribute to the broader dissemination and uptake of such projects' outputs.

In order to address the dialogical communication of research outputs from action research processes we build on the concept of connectivity, which, as acknowledged by Karlsen & Larrea (2014), in requiring the direct engagement of researchers, faces a challenge of scope. By addressing this challenge we aim to open a pathway to explore dialogue's transformation potential in a mezzo space situated between the micro one, in which academic knowledge is communicated dialogically to a small number of participants engaged in a given research process, and the macro one in which knowledge is disseminated following linear communication patterns to a larger number of researchers and practitioners through the distribution of printed or digital copies of books, papers or reports. If as Karlsen & Larrea (2014) have shown, changing communication patterns within research processes leads to change in territorial development, then changing communication patterns when communicating the outputs of those research processes may also lead to change.

Inspired by the authors' reflection on connectivity in terms of researchers' responsibility in the transferability of the knowledge they create, hereinafter we refer to the analytical framework that we aim to build, as the analytical framework on responsible research communication.

As a first step in the way of building the analytical framework it is necessary to find a framework to understand how researchers engage with other territorial actors in dialogical research processes that produce socially relevant knowledge. This will allow us, in a second step, to search for a compatible framework in communication studies that can bring in the communication dimension. In the next section we explore RRI a framework that emerges within the literature on scientific and technological innovation, strongly linked to the

discussion on research, innovation and economic growth, and therefore connected to the discussion on universities' third mission that frames the discussion on research institutes as change agents in territorial development.

## **4.2 Responsible Research and Innovation (RRI)**

Following the previous section, in which we looked into the role that research institutes can play as agents of change in territorial development, in this section we explore RRI, a framework that emerged within the literature on scientific and technological innovation and is strongly linked to the discussion on innovation and economic growth. Universities and research institutes, as the main sites for knowledge production, are key players in this framework which highlights the importance of the research process in order to obtain socially acceptable and sustainable innovations.

### **4.2.1 The emergence of RRI**

Notions of responsibility regarding science are not new. Rip (2014) goes back to the 16<sup>th</sup> Century to provide an account of an Italian mathematician and engineer who had to decide whether to publish, or not, his equation on how to predict the trajectory of a cannon ball because of the consequences for his country, once it was in the hands of the enemy. Another example is provided by Von Schomberg (2013) regarding the controversy of whether to build or not the Passarola, an early flying machine that had the potential negative effects of fostering crime, since fleeing from one country to the other would be made easier. Scientists have had to grapple with such issues always, albeit for many years they did so in a space relatively closed off from society. According to Rip (2014) the late 17<sup>th</sup> Century is the beginning of a long-term "settlement" of science in society in the form of a social contract that created a protected space for science to work, best illustrated by the notion of an ivory tower.

The environmental and anti-nuclear movements of the 1960's signaled the beginning of a new era in which science would need to interact more with society. This is illustrated by the emergence of a wide range of public engagement initiatives that in Europe went from an early approach based on an information deficit model that assumed that scientists needed to educate society

so that it could understand, and not oppose, the advancement of science, to dialogical approaches based on the recognition that scientists also needed to listen to society (Bauer, Allum, & Miller, 2007; Goncalves & Castro, 2009; Mejlgaard, Bloch, Degn, Nielsen, & Ravn, 2012; Skyes & Macnaghten, 2013). According to Rip (2014) the discussion on RRI might indicate that a new phase of the settlement of science in society is emerging, one that reinforces a trend towards stakeholder participation and citizen engagement.

RRI is born in the context of the debate around the positive and negative impacts of emerging technologies, particularly the ones that stem from the bio and the nano sciences. These technologies hold the promise of helping to solve global or grand societal challenges linked to the environment, energy security and aging societies, among other, but at the same time give raise to societal concern and public distrust (Landeweerd, Townend, Mesman, & Hoyweghen, 2015). Moreover, developing these technologies is part of the global race for innovation with its promise of economic growth and job creation (Zwart, Landeweerd, & van Rooij, 2014)

The controversy over genetically modified organisms (GMO) in Europe serves as an example of what is regarded in policy circles as a significant competitive disadvantage that has prevented Europe from reaping commercial and societal benefits (Sutcliffe, 2011). The GMO controversy is in fact characterized as an example of an irresponsible innovation, where major stakeholders were unaware of the importance of the social context, or where stakeholder interactions (between a firm, an NGO, and European institutions) were unproductive in the resolution of conflicts (Von Schomberg, 2013). In this context, when societal concerns around nanotechnologies in the early 2000s emerged, there was a perceived need to prevent the same thing from happening again. One way to do it was by communicating better with the different publics (Rip, 2014).

#### 4.2.2 The RRI framework

Von Schomberg (2013) offers the first definition of RRI in the literature<sup>6</sup> as follows:

A transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view to the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products in order to allow a proper embedding of scientific and technological advances in our society.

(Von Schomberg, 2013, p. 19)

He adds that the notion of societal desirability brings RRI beyond simple market profitability and steers innovation towards societal beneficial objectives (Von Schomberg, 2013).

In a seminal paper, Stilgoe et al. (2013) reflect that responsible research and innovation is in fact a move from the governance of risk, embedded in the development of science and technology, to the governance of research and innovation. They observe that this opens a process dimension to research and innovation, that in order to be responsible could be guided by four dimensions: anticipation, reflexivity, inclusion and responsiveness. Anticipation, they note, is rooted in discussions around political and environmental concerns or rapid social and technical change and calls for research and innovation processes to consider future impacts. In turn, reflexivity is about scrutinizing the value systems and theories that shape science, innovation and their governance, this means: "...holding a mirror to one's own activities, commitments and assumptions, being aware of the limits of knowledge and being mindful that a particular framing of an issue may not be universally held" (Stilgoe et al., 2013, p. 1571).

The third dimension proposed by Stilgoe et al. (2013) is inclusion, based on the recognition that new voices need to be brought into the governance of science and innovation in the context of the weakening of "expert" top-down policy-making. Finally, a responsible research and innovation process needs to exhibit

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<sup>6</sup> René Von Schomberg works at the European Commission's DG for Research and Innovation.

the capacity to change shape or direction in response to stakeholders and public values or to changing circumstances. The word that captures this, becoming the fourth process dimension of the RRI framework is responsiveness.

According to Owen et al. (2012) responsiveness is the real contribution that RRI offers to already existing frameworks such as socio-technical integration, real-time and constructive technology assessment (which includes non-scientists and uses their insights to modulate technology) and the many dialogue and engagement initiatives with publics and diverse stakeholders. Indeed, the notion of responsiveness, they argue, takes a step forward and attempts to link anticipation, reflection and inclusion to policy and decision-making processes.

This connects with Skyes and Macnaghten (2013) who argue that out of the many dialogues held between scientists and the public between 2004 and 2006, many of which were funded by the European Commission, there is still something that is not known regarding the impact of such initiatives on policy makers and scientists:

...whether they actually listened or learned from the public. A 'government minister' attending an event and hearing views from across the project is possibly an empowering experience for the people present, but doesn't mean that the minister was influenced. 'Recommendations being given' does not mean that any attention was paid to those recommendations.

(Skyes & Macnaghten, 2013, p. 7)

Initiatives like science shops, focus groups, citizen juries, consensus conferences and deliberative fora, among other, (Gonalves & Castro, 2009; Mejlgaard et al., 2012; Skyes & Macnaghten, 2013; Stilgoe et al., 2013), have been charged with only superficially supporting a dialogue between science, politics and publics (Stilgoe et al., 2013); of predominantly operating in pre-defined and cleansed spaces and of recasting a public knowledge deficit in terms of trust (Ribeiro, Smith, & Millar, 2017). It is also argued that the 1990's experienced an emergence of a participatory industry with an emphasis on a limited set of

techniques where participation professionals focused on the process of public engagement without questioning its purposes (Cooke, B. & Kothari, 2001; Long & Blok, 2017; Owen et al., 2012).

Von Schomberg's initial definition of RRI, and the framework proposed by Stilgoe et al. (2013) for a responsible governance of research and innovation have sparked a growing debate in the literature. However, it should be noted that the debate is not entirely driven by academic developments *per se* but, to a large extent, by policy objectives. Indeed, RRI as a concept (in capitals) has been taken up by the European Commission as part of Horizon 2020, the financial arm of a flagship initiative called Innovation Union, which has the stated aim of securing Europe's global competitiveness (European Commission, 2016).

Indeed, Owen et al. (2012) report that on May 11, 2011, a group of academics and policy makers met at a workshop held in Brussels. They were invited by the European Commission's (EC) DG Research to discuss the meaning of RRI. The discussions and debates held in that meeting were summarized in the document *A Report on Responsible Research and Innovation* (Sutcliffe, 2011) drawn up by the Director of MATTER; a think tank that works on facilitating the adoption and development of technological innovations. The report argues for the need to link scientific and technological research and innovation activities to social or environmental benefits and to do so with the participation of the relevant stakeholders in the research process from the beginning. It suggests a list of activities to help involve stakeholders (brainstorm events, focus groups, co-creation initiatives) and guidelines for research funders, governments and universities to help promote a culture of RRI. According to the report universities should inspire and motivate researchers to consider the wider impacts of their work (Sutcliffe, 2011).

The Horizon 2020 program has three general objectives: (i) support for excellent science; (ii) support for industrial leadership; and (iii) support for research to tackle societal challenges<sup>7</sup> (European Commission, 2014). RRI is one

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<sup>7</sup> The Horizon 2020 program identifies seven grand societal challenges: (1) Health, demographic change and wellbeing; (2) food security, sustainable agriculture and forestry,

of the cross cutting issues in the program and through its Science with and for Society Program (Swafs) the European Commission aims to embed RRI in the European Research Area (European Commission, 2014). In this context, some Swafs calls grant funding to projects that explore how to translate RRI from a conceptual notion to an implementable policy. Researchers working on those projects then publish their findings in the form of academic papers, feeding the ongoing academic debate.

RRI is thus experiencing an evolution both in theory and in policy that is feeding each other continuously. Rip (2016) uses the metaphor of the emperor's new clothes to reflect on how the European Commission is funding RRI without knowing what it is. It is only real due to the scholarly community's focus on it. He argues that it is likely that the fashion may pass hand in hand with the changing bureaucracy in Brussels but that the reflexive moments it has created will leave traces to be taken up under other names.

We agree with Rip in that RRI as a label may pass but connect with his reflection in section 4.2.1 regarding the need to discuss what responsible research and innovation may mean in the context of the profound structural changes taking place between science and society. Indeed, RRI and its four dimensions of anticipation, reflexivity, inclusion and responsiveness did not emerge in a vacuum and point to the future context in which academic institutions are likely to have to develop and communicate their research processes.

#### **4.2.3 RRI in practice**

RRI's focus on the research process so that it is able to bring about socially acceptable innovations makes universities and research institutes the prime actors to flesh out its meaning in practice. For Owen et al. (2012) RRI represents a challenge for researchers and universities to reflect on their role in the innovation ecosystem while Banda (2017) advocates the development of a

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marine and maritime and inland water research, and the bio-economy; (3) secure, clean and efficient energy; (4) smart, green and integrated transport; (5) climate action, environment, resource efficiency and raw materials; (6) inclusive, innovative and reflective societies; and (7) secure societies that protect the freedom and security of European citizens (Klaassen, Kupper, Rijnen, Vermeulen, & Broerse, 2014).

culture in universities in which the values supporting RRI are an intrinsic part of research and innovation processes. The findings from a case study undertaken in a British university on how researchers interpret RRI, identified a challenge with a cleave between those that believe in a greater inclusion in scientific research, and those seeking to maintain the current shape of science-society relations (Hartley, Pearce, & Taylor, 2016).

From a literature review that looked into 235 articles retrieved from the EBSCO and Google Scholar databases, Burget, Bardone & Pedaste (2017) conclude that RRI is still an amalgam of ideas around the governance of research and innovation. The authors found that one of the most prominent characteristics in the articles considered in their sample is that attention has shifted from the outcomes of research to the research processes. They also found that out of RRI's four process dimensions (anticipation, reflexivity, inclusion and responsiveness) inclusion is the most discussed. In contrast, responsiveness has received less attention. We argue that this may be because a responsive research process, one that results in decision making and change, first needs to figure out the meaning of inclusion.

Inclusion may indeed be one of RRI's most difficult process dimensions. Indeed, according to Burget et al. (2017) many authors understand RRI as the ongoing involvement of society in different stages of the research and innovation process. However, they also characterize it as a challenge because inclusion needs to be balanced with efficiency considerations regarding time and money. In this line of thought inclusion in RRI will have to cope with the innovation imperative embedded in competitiveness and economic development (Eizagirre, Rodríguez, & Ibarra, 2017).

Beyond efficiency considerations, inclusion in RRI also calls on the need to reflect on how knowledge is produced and where to draw the lines of its cognitive, normative and institutional borders (Eizagirre, 2017). Indeed when research and innovation is done with and for society, it (de)institutionalizes the so-called, Republic of Science, once delegated to a closed group of scientists following a set of agreed rules (Randles, Laredo, Loconto, Walhout, & Lindner, 2016).

Moreover, when “society” is broken up into its different elements (civil society, government, firms, industry...) other issues emerge. Some authors caution against the risk that merging agendas already in place, such as Ethical, Legal and Societal Aspects of emerging sciences and technologies (ELSA), with innovation and industrial agendas, might lead to silencing critical voices due to increased dependency on private sector parties and policy agendas (Zwart et al., 2014). Others suggest a meta-governance approach to RRI that can somehow order and is able to intervene in already existing agreements with firms and industry like Corporate Social Responsibility (CSR) or the ISO 2600 standard on social responsibility (Walhout, Walhout, & Kuhlmann, 2013). For Rip (2014), RRI can be seen as an attempt at social innovation in which what is being innovated are the roles and responsibilities of actors and stakeholders in research.

Some authors reflect on scope and communication when thinking how to develop research processes along the lines of RRI. Deblonde (2015) argues that research and innovation can only be responsible if it is locally concrete and context-specific in order to be able to clarify the different interpretations of the stakeholders confronted with a particular challenge. We endorse this view which is important when linking RRI to the understanding of research institutes as change agents in territorial development working in local and micro processes. Giulio et al. (2016) suggest that RRI needs to incorporate styles of communication that recognize vulnerability, particularly in the two dimensions of inclusion and responsiveness and point to methodologies used in the social sciences like action research to articulate better RRI practices.

Landeweerd et al.(2015) suggest that more than a governance of research and innovation, RRI could be understood as a way of “doing” governance. That is, embedding decision making processes within practice, and not before practice. They note that doing governance implies the space for making explicit what moves all the different stakeholders on issues of science and technology, focusing on identifying the shared values and interests on the table. This is about open-ended learning processes to be done collectively, rather than a means of implementing policy. Burget et al. (2017) echo this view and argue that it is unclear whether RRI can actually be implemented as a procedure because

responsibility implies engagement and engagement relies on personal commitment.

Bardone & Lind (2016) also develop a view that distances itself from the notion of RRI as a policy in need of implementation and reflect on the meaning of responsible research. Building on the Aristotelian concept of phronesis that addresses the relationship between theory and practice, they argue that responsibility is rooted in the way in which researchers practice and interpret their own work. The authors furthermore suggest that responsible research is ultimately a form of taking care, that points to a relational aspect implicit in researchers' work and inextricably linked to how they understand their own praxis and agency.

Indeed, Bardone & Lind (2016) claim that responsible research is a type of active engagement that cannot be separated from researchers becoming part of the practice themselves. The authors also suggest that care is a way to reach high-level objectives like the so-called grand challenges but in an indirect way.

When we care, we are engaged in the world not to fulfil a goal. But we are immediately attuned to, and therefore taking care of the rough grounds of the practice, the day-to-day activities, while renouncing to address directly what we may call 'the grand challenges', our high-level objectives. Yet we claim that taking care may help get closer to the same very high-level objectives but indirectly.

(Bardone & Lind, 2016, p. 15)

In this dissertation we endorse Bardone & Lind's (2016) interpretation of responsible research as a form of taking care because it has important implications for our analysis:

- If responsibility is understood as rooted in the way researchers practice and understand their own work then, as the authors acknowledge, responsibility is relevant for all researchers, including researchers working in the realm of the social sciences, the focus of this dissertation.

- The notion of care as an indirect way to reach high-level objectives connects with this dissertation's focus on micro process where "by looking closer, one may see far" (Karlsen & Larrea, 2014, p. 3).
- The argument that responsibility as care brings researchers' agency to the forefront and points to a relational aspect implicit in researchers' work makes a natural connection with connectivity, which is ultimately about how researchers interpret their responsibility in the transferability of the knowledge they create.

Inspired by Bardone & Lind's (2016) reflection on responsible research as a form of taking care, we coin the term responsible research to refer to inclusive and responsive dialogical processes aimed at bringing about change in territorial development.

### 4.3 Conclusions

RRI is a helpful framework to understand the different dimensions that need to be considered when research institutes engage with other territorial actors in research processes that aim to address social challenges. By drawing attention to the research process, it overcomes the vision of research as only results that need to be transferred to firms and industry to foster innovation and economic growth. Moreover, in highlighting the importance of including stakeholders and other societal actors in the research process, RRI recognizes the limits of academic knowledge alone in finding solutions to complex societal challenges. It is an approach based on Mode 2 knowledge production, like action research.

However, in contrast to an understanding of RRI as an implementable framework imposed in exchange for funding, we endorse the definition by Bardone & Lind (2016) of responsible research as a form of taking care. Their definition is important for this dissertation because it makes responsible research relevant for all disciplines, including the social sciences that have not been part of the RRI debate.

We are not suggesting that the social sciences should be treated as the natural sciences or other "hard" sciences but we argue that the social sciences should also reflect on the meaning of responsible research. Economics, business

studies, education, communication and political sciences, among other, not only impact the lives of people, they also contribute to solve societal challenges and can transform localities, regions and countries. As Benneworth & Jongbloed (2010) and Aranguren et al. (2016) point out, third mission activities by universities have also privileged natural science and engineering-based knowledge leaving out the social sciences and the humanities.

Moreover, Bardone & Lind's notion of taking care as an indirect way to reach high-level objectives connects with this dissertation's focus on micro process where "by looking closer, one may see far" (Karlsen & Larrea, 2014). As discussed in this chapter, thinking of RRI as a way, for instance, of addressing a grand challenge, can be quite difficult when what one imagines is having to include a large group of citizens and local and global transdisciplinary actors that have not worked together before to make decisions. We argue that this imagined scenario is possible but only in the long term and not without first working with bottom-up approaches that build social capital and trust among participants. This is how "indirect approaches to reaching high level objectives" are understood in this dissertation.

Furthermore, responsibility as care, which as Bardone & Lind (2016) suggest points to a relational aspect implicit in researcher's work and to how they interpret their own practice, brings researchers' agency to the forefront and makes a natural connection with connectivity, which is ultimately about how researchers interpret their responsibility in the transferability of the knowledge they create.

Finally, one of the most relevant aspects of RRI is that it did not emerge in a vacuum but illustrates the profound structural changes affecting the relation between science and society, which are long-term and not the result of a moment in time turbulence. The RRI debate taking place in the literature and in European policy circles points to the context in which research institutes and academic institutions in general are likely to be expected to develop their research in the future. In other words, stakeholder engagement and participation in research processes is part of the new settlement of science in society, as clearly put by Rip (2014).

Having found a framework that helps to understand dialogical research processes developed by research institutes as agents of change in territorial development, we are now ready to examine, in the next chapter, communication science. The aim is to identify a school of thought within communication studies that can bring the communication dimension to responsible research.

## 5 COMMUNICATION FOR RESPONSIBLE RESEARCH: A THEORETICAL INQUIRY

The objective of this dissertation is to build an analytical framework for research institutes as change agents in territorial development that facilitates connectivity. A first step in this direction was to identify in Chapter 4, a framework to understand how those institutes develop their research processes, particularly dialogical research processes. We found that RRI, an emerging framework in science and technology studies related to third mission conceptualizations was a suitable framework because it stresses the critical importance of the research process to produce socially relevant or acceptable outcomes. Inspired in Bardone & Lind (2016), we coined the term responsible research to refer to inclusive and responsive research processes in which researchers engage in a dialogue with other territorial actors to bring about change in territorial development.

In this chapter we explore communication studies in order to identify a school that is coherent with responsible research and can complement it by bringing in the communication perspective. It is divided in two main sections. In the first one we turn to science communication, a natural starting point since it is closely related to the field of scientific and technological innovation. We also follow the lead by Scholten et al.(2016) who argue that RRI and science communication share many similarities. We conclude that science communication indeed shares many similarities with RRI and even overlaps with it. However, the same structural changes in the relation between science and society that fostered the emergence of RRI are affecting science communication, which is in the process of reframing itself in the light of new challenges that question its scope and nature.

We therefore turn to a school of thought that has been studying the relation between communication and social change for more than half a century and has the added advantage of its focus on development. We conclude that one of its main theoretical approaches, participatory communication is coherent with the definition of responsible research in this dissertation and therefore

complements it to build the analytical framework on responsible research communication.

## 5.1 Science Communication

The word “science” in science communication encompasses “the natural and physical sciences, the social and behavioral sciences and such applied fields as medicine, environmental sciences, technology and engineering” (Friedman, Dunwoody, & Rogers, 1986). In the 19<sup>th</sup> Century, science already occupied an important place in the media and by the early 20<sup>th</sup> Century, a news agency in the US worked specifically with scientific information (Weigold, 2001). This is also the time in which Slossen, Heyl and Millikan developed their science communication agenda in the United States (Logan, 2001). Their agenda outlined the following objectives: encouraging support for the scientific method as a strategy for public officials to assess complex public affairs choices; helping citizens and public officials better understand the connection between investment in science research and the economic future of the US; fostering more interest in science as a career among American youths; and, enhancing public goodwill and support for science among taxpayers (Logan, 2001, p. 137).

Laugksch (2000) argues that the roots of science communication as it is understood today, date back to precise historical events, namely the space race between the US and the Soviet Union during the Cold War, which peaked in the late 1950's with the Soviet launching of Sputnik; the miraculous recovery of the Japanese economy after the Second World War; and the rapid tech-based industrialization of the so-called four Asian tigers from the 1970's. The author argues that concepts such as “science literacy”, used in the US, or “public understanding of science” used in the United Kingdom and other European countries, emerged during the second half of the 20<sup>th</sup> Century to guarantee public support for the advancement of science, crucial for economic growth, international competitiveness and prosperity. Those early efforts to increase the public understanding of science rested on the assumption that it was necessary to act on an information deficit that prevented the public from understanding the

importance of scientific developments (Burns, O'Connor, & Stocklmayer, 2003; Laugksch, 2000; Weigold, 2001).

Early interpretations of scientific literacy characterized the public as having inadequate knowledge and science as having all the required knowledge (Burns et al., 2003). In this context, dissemination was understood as top-down and unidirectional (Miller, 1992); and conceptually focused on how “accuracy and context are maintained as blocks of knowledge migrate from scientific experts through media channels to citizens” (Logan, 2001, p. 155). The link between scientists and journalists was normally found in science information professionals or public relations persons within the scientific organization, most of whom had been trained as reporters with no science background; these professionals were low in hierarchy and enjoyed small budgets (Weigold, 2001). This model that came to be known as the deficit model, is still dominant and stands behind the assumption among many scientists and policymakers that when controversies over science occur, ignorance is at the root of public opposition (Bubela et al., 2009).

Logan (2001) identifies the emergence of an interactive science communication model during the 1980's, a period characterized by decreasing levels of trust in science by society. Unlike the deficit model, the interactive model is less about informing persons, and more about improving communication among different societal actors, such as citizens, scientists, politicians, government and corporate representatives. The interactive model, influenced by the work of Putnam on social capital (1993; 2000); Carey on mass communication (1989), and Yankelovich on public opinion (1999) implies that “the flow of science knowledge is not always from experts to laypersons and might be more shared or multidirectional” (Logan, 2001, p. 136).

Parallel to the deficit and interactive models, a contextual model of science communication emerged during the 1980's. The seeds of this model are found in sociologist Brian Wynne's case study of Cumbrian sheep farmers' responses to scientific advice about the restrictions introduced after the Chernobyl radioactive fallout in the United Kingdom (Wynne, 1991; Wynne, 1992). The contextual model responds to the realization that, while scientists may have the

scientific facts, the members of the public concerned have local knowledge of and interest in, the problems to be solved (Burns et al., 2003; Irwin, 2009; Wynne, 1991; Wynne, 1992).

The 1980's are also the time in which according to Trench and Bucchi (2010), science communication emerges as a defined field of study at the intersection of science education, social studies of science, mass communication and museology. The authors describe it as a field concerned with communication between communities of scientists, interest groups, policy-makers and various publics, Indeed, it sits at a crucial point of intersection and influence between science, technology and society (Horst, Davies, & Irwin, 2016).

### **5.1.1 Models of science communication**

According to Trench & Bucchi (2010) the most solid thread of theoretical work in the field of science communication so far is the debate around three main models of science communication: deficit, dialogue and participation. Trench (2008) proposes an analytical framework of science communication models based on the coexistence of these three main models and their gradations.

As can be seen in Table 8, in the deficit model science is transmitted by experts to audiences perceived to be deficient in awareness and understanding. In the dialogue model science is communicated between scientists and their representatives and other groups, sometimes to find out how science could be more effectively disseminated, sometimes for consultation on specific applications. Finally in the participation model, communication about science takes place between diverse groups on the bases that all can contribute, and that all have a stake in the outcome of the deliberation and discussions.

However, it would be difficult to say that there has been a linear evolution from an information deficit assumption to other approaches based on dialogue or participation. While there has been a gradual shift in the policy discourse from key words such as “public understanding of science” to “dialogue”, “engagement” and “participation” it does not seem likely that scientific communities have radically altered their approaches; cultural change takes longer (Trench, 2008). Moreover, often, while the vocabulary may change to

dialogue or participation the underlying assumptions may be the same ones that support the deficit model (Cassidy, 2014).

**Table 8. Analytical Framework of Science Communication Models**

| Dominant models in PCST | Definition   | Variants on PCST models               | Science's orientation to the public   |
|-------------------------|--|---------------------------------------|---|
| Deficit                 | Science is transmitted by experts to audiences perceived to be deficient in awareness and understanding  | Defence<br>Marketing                  | They are hostile<br>They are ignorant<br>They can be persuaded                                    |
| Dialogue                | Science is communicated between scientists and their representatives and other groups, sometimes to find out how science could be more effectively disseminated, sometimes for consultation on specific applications | Context<br>Consultation<br>Engagement | We see their diverse needs<br>We find out their views<br>They talk back<br>They take on the issue |
| Participation           | Communication about science takes place between diverse groups on the bases that all can contribute, and that all have a stake in the outcome of the deliberation and discussions                                    | Deliberation<br>Critique              | They and we shape the issue<br>They and we set the agenda<br>They and we negotiate meanings       |

Source: Adapted from Trench (2008)

In sum, science communication encompasses a mix of approaches that revolve around the three models of science communication shown in Table 8. While some follow the lines of the deficit model, others are based on dialogue and participation and some combine them all. For instance, Longnecker (2016) proposes a model focused on the effectiveness of the communicative effort, highlighting the importance of taking into account the factors that affect how information is perceived and processed by recipients. Secko et al. (2013) build a model that brings deficit, dialogue and participation together in a multi-mode framework. In Hetland (2014) science communication is not only about the public understanding of science but also about how knowledge is produced. More recently, in the context of the debate on RRI, science communication is increasingly linked to third mission activities (Bucchi & Trench, 2016).

### 5.1.2 Current challenges

One of the most important challenges faced by science communication is its relation to the so-called impact agenda. Through the impact agenda researchers are increasingly asked to demonstrate the contribution of their projects to society and the economy in exchange for public funding (Fogg-Rogers, Grand, & Sardo, 2015).

The impact agenda has made the press release the most popular form of science communication because it attracts public interest and the possibility of the press reporting on the project, but also ends up blurring the line with what would actually be considered public relations activities (Carver, 2014). Another implication is that the pressure to prove impact places the focus of science communication on funders or potential funders instead of on society more generally (Claessens, 2014). Also, in the battle for public attention, research institutes are driven to self-promotion, image building and maintenance and self-marketing (Marcinkowski & Kohring, 2014).

In this context important discussions taking place are whether researchers should understand that communicating their work to society is part of their role or not (Grand, Davies, Holliman, & Adams, 2015) and how digital technologies can help them engage with society (Grand, Holliman, Collins, & Adams, 2016). If communicating their research to society is indeed part of researchers work then an important challenge is to incorporate communication with society (and not only with peers) into career progression indicators. This is important because communicating and engaging with society in any part of the research cycle is very time-consuming. This penalizes researchers who engage, in relation to researchers who do not engage and have more time to write and publish scientific articles, still the most important indicator for career progression (Watermeyer, 2015).

We argue that corporate and marketing-style communication activities, while necessary, should be complemented by communication activities specifically developed by researchers themselves to share their research outputs with society (public and private policy makers, citizens...). In other words research dissemination should be understood as part of the research cycle and not as

something that can be left solely in the hands of communication professionals. This calls for an important cultural change within universities. A first step could be to incorporate communication in the curricula of PhD programs and to include communication and engagement with society among the capabilities that need to be developed in order to pursue a career as a researcher.

In any case the link between communication professionals and researchers needs to be strengthened and the role that the latter play needs to be re-examined (Holliman, 2009; Holliman & Warren, 2017). This is so because communication professionals may know more about communication but researchers are the ones who understand their research. They therefore need to work together. However, because academics are more likely to empathize with other researchers that need to balance impact with research, teaching and administration, there is also the need to enhance the role of hybrid or blended researchers who are connected to both worlds (Packman, Rutt, & Williams, 2017). Likewise, communication professionals may need to change their role from transferring information to “explicating contexts, mediating between actors and brokering relationships” (Broks, 2017, p. 4).

The implications of the impact agenda cited above, collide with a second important challenge faced by science communication: the so-called post truth age of alternative facts. Having emerged with full force during the 2016 Brexit campaign, it reveals a deep chasm in the relation between science and society. Some even wonder if the post-truth age unveiled the failure of science communication (Broks, 2017). Certainly, this chasm calls for re-examining science communication and the role it has played in the relation between science and society.

In this context, Packmann et al. (2017) reflect on the well-known claim by the UK Justice Secretary during the Brexit campaign in the sense that the country had had enough of experts. They elaborate on the concept of knowledge resistance and argue that it also arises when academics are themselves resistance to the knowledge of others:

Knowledge resistance, whether a deliberate turning away or simply a failure to take into account the expertise or experiences of others, tends to arise where researchers are not working with partners, but instead are 'disseminating' knowledge to audiences...in "lay" terms through glossy reports and brochures, or worse solely in academic papers.

(Packman et al., 2017, p. 378)

Moreover, the post-truth era also calls for a deep reflection on why the social sciences have been left out of science communication. Indeed, the Brexit vote and the post truth age unveiled a deep distrust towards social scientists. David Walker, former member of the Economic and Social Research Council (ESRC) of the United Kingdom wrote an article in the aftermath of the British vote to leave the European Union reflecting on the declining ability of economists to make their voice heard in important public debates. He added: "...the referendum surely does expose the gaps in what we know about knowledge transmission, the politics of expertise and the impaired communication of much social science work..." (Walker, 2016).

According to Trench and Bucchi (2010), science communication has been used as a near synonym of the public communication of science and technology. Cassidy (2014) argues that this has to do with a general perception that the social sciences are less authoritative than the natural sciences and also due to the fact that they have more visibility, since social scientists often participate as experts in round tables and analysis on current events; they furthermore also play the role of the public intellectual.

The knowledge economy is cited as another factor that could explain why the social sciences are not present in science communication. For Trench and Bucchi (2010) this responds to the fact that the knowledge economy privileges knowledge that can be turned into technologies, services and products at the expense of the social sciences. It is interesting to note however, that in a case study of a regionally engaged university in Norway, Normann & Garmann Johnsen (2013) found that there was demand for knowledge from a wider range

of disciplines than the traditional scientific and engineering-based ones normally associated to science communication.

Cassidy (2014) argues that an alternative version of public communication of the social sciences is offered by social scientists working on action research and public engagement who endorse a view of working alongside non-academic research participants without advocating their role as that of experts. However, this latter approach has remained a niche segment which may have to do with the highly context-dependent nature of the social sciences (Heiss & Matthes, 2017).

### **5.1.3 Concluding remarks**

The impact agenda and the post-truth era are perhaps the most pressing challenges faced by science communication. They not only call on the need to reflect on what science communication is for, but also on to what extent it should be considered part of researchers' work; on the need to incentivize researcher's engagement with society through communication and to redefine the role of professional communicators and their relation with researchers. Furthermore, it calls for a deep reflection on why it has excluded the social sciences and, on whether a plurality of epistemological paradigms and not only positivistic natural-science based approaches can coexist under its umbrella. Reflecting on these connections may also help to address what Medvecky (2017) refers to as the epistemically unjust nature of science communication.

We suggest that the answers to these questions will also redefine the relation between science communication and RRI and between science communication and other concepts and frameworks like citizen science (Eitzel et al., 2017; Irwin, 2002; Riesch, 2015); engaged research (Grand et al., 2015); knowledge networks (Ryall, Hodson, & Strine, 2017); transdisciplinary research (Cundill, Roux, & Parker, 2015); knowledge mobilization (Ward, 2017); engaged excellence (Oswald et al., 2017). This is illustrated by a reflection from a group of researchers discussing citizen science: "we are essentially in the business of redefining or even disassembling boundaries" (Eitzel et al., 2017, p. 4).

It can be argued then that the structural changes taking place in the relation between science and society that paved the way for the emergence of the RRI

framework, are also redefining science communication in scope and nature. Science communication is indeed a complex, cross-cutting and problematic activity that needs further research on three main issues: (i) science communication as the making of science, which needs to explore whether science communication is separate from or part of making science; (ii) science communication as organizational communication that touches upon the professionalization of science communication and its relation to the public image and reputation of universities and research institutes; and, (iii) science communication for scientific citizenship that touches on questions of power, democracy and knowledge (Horst et al., 2016).

Moreover, while some scholars call for a knowledge democracy defined as “recognizing multiple forms of knowledge production, representation and dissemination beyond the printed texts, peer-reviewed journals, articles and books” (Tandon et al., 2017, p. 22), others highlight that cognitive justice could be achieved if science communication helped to articulate the co-existence of different types of knowledge (Visvanathan, 2009).

In sum, science communication is also affected by the structural changes taking place between science and society. As with RRI, the discussion in this section points to a redefinition of the role that science communication can play in helping universities and research institutes play a role in the development of the territories that host them. The current discussion is more on the side of opening a whole new set of questions that touch not only on how knowledge is disseminated and to whom, but on how knowledge is produced and who participates in its production.

Among the issues that emerge from the discussion in this chapter with a bit more clarity is that the impact agenda can act as a disruptive force if it means that research institutes and universities are driven to channel their resources to marketing-oriented communication strategies aimed only at attracting attention and gaining visibility, or for the sake of their funders. It can also act as a disruptive force if impact is understood only in terms of high-impact publications and not in terms of engagement and communication with actors outside academia. Likewise while the different disciplines and research methodologies

are likely to develop their own approaches to science communication in the context of the forces shaping the relation between science and society, the social sciences and the humanities will also need to figure out how they fit into the picture. This is not only true regarding the relation between researchers and actors outside academia, but also regarding the relation among researchers from different disciplines that will increasingly need to work together in multi and transdisciplinary research teams when attempting to address complex or wicked societal challenges.

Whatever the shape that science communication takes in the future it will need to encompass the social sciences and the humanities. Finally as with RRI it is likely that science communication will be more about interacting with actors that contribute other types of knowledge than about communicating using linear models, although both can easily combine in specific communication strategies.

Considering the wide array of concepts and frameworks that co-exist and are changing and redefining science communication, we turn in the following section to a multidisciplinary field of knowledge that has been addressing the link between communication and social change for over half a century. In terms of this dissertation it has the added advantage of its focus on development: Communication for Development and Social Change.

## **5.2 Communication for Development and Social Change (CDSC)**

Communication for Development and Social Change is a field of knowledge with a long track record of studying how communication can lead to social change. It has a long history of discussing the advantages and disadvantages of approaches to communication as a product and approaches to communication as a process when seeking social change. In fact, it can be argued that it is a form of science communication, since it studies the role that communication plays in transferring science and technology. In terms of this dissertation it has the advantage of its focus on development.

### **5.2.1 Reframing development**

Communication for Development and Social Change (hereinafter CDSC or communication for development) is a multidisciplinary field of knowledge developed at the intersection of communication and development studies. Its

emergence as a disciplinary field runs parallel to the modernization paradigm laid out by the United States and the Bretton Woods institutions after the Second World War, although its practical roots can be found in Latin America years earlier (Barranquero, 2011). Modernization, in which communication played a critical role, aimed at transferring Western science and technology to the so-called Third World in order to expand capitalism and prevent communism from advancing during the Cold War era (Fair & Shah, 1997; Lewin & Patterson, 2012; Roman, 2005).

The modernization paradigm articulated a wide constellation of actors that would work to address the complex challenges posed by development. This led to the emergence of a development industry, made up of universities, multilateral development banks, United Nations bodies and agencies<sup>8</sup>, Non-Governmental Organizations (NGO's); and private foundations associated to the US administration like the Ford and the Rockefeller foundations (Fair & Shah, 1997).

Theorization on the field has always borrowed from other disciplines “from rural sociology that provided the basis for the diffusion model to the radical pedagogy best illustrated by the contributions made by Brazilian educator Paulo Freire” (Thomas, 2014, p. 7). Moreover, since social change is a meeting point for political scientists, sociologists, psychologists, anthropologists, demographers, public health specialists, media activists, and communication scholars, the field has always been surrounded by some conceptual confusion but also disciplinary and theoretical cross-pollination (Waisbord, 2015).

The field is also known by different labels. According to Hermer and Tufte (2016) Development Communication (DevCom) is mostly used in higher education institutions in the United States and the Philippines, while European, Australian and Latin American universities commonly refer to the field as Communication for Development (ComDev, C4D). Communication for Development and Social Change (Servaes, Jan, 2005; Servaes, Jan, 2008) and Communication for Social Change (Figueroa, Kincaid, Rani, & Lewis, 2002; Gumucio Dagron & Tufte, 2006) are

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<sup>8</sup> The Food and Agriculture Organization (FAO), the United Nations Development Program (UNDP); or the United Nations Children's Fund (UNICEF) have had a salient presence.

umbrella terms that have tried to bring together all the different approaches in the field. Its central idea however is that communication leads ultimately to development, also understood as social change (Servaes, Jan & Malikhao, 2016).

Beyond the Cold War era and into the new millennium the explosion of smart phones and the social media seemed to signal a new momentum for the field, evidenced by the emergence of new social movements such as the Spanish 15M, Occupy Wall Street in the United States, the Arab Spring or the Yosoy132 movement in Mexico (Barranquero, 2015; Hemer & Tufte, 2016). Scholars working in the field engaged in a discussion on what to do with the word “development” or what should be meant by it, particularly after the publication of an anthology that covered the history of the field from 1927 to 2005, titled *Communication for Social Change* (Gumucio Dagron & Tufte, 2006), leaving out the word development.

Some authors argue that the word development should be kept to call attention to the fact that many countries are still facing acute development problems (Botero & Obregón, 2011). For Jacobson (2016), adopting Amartya Sen’s capabilities approach would help to direct the field’s work to communication that enhances human capabilities. Other authors propose to replace development with empowerment (Melkote, 2000) or good living (Barranquero & Sáez, 2017). For Waisbord (2015), eliminating the word development would allow the field to overcome its narrow premises grounded on a conception of the world rooted in Western views.

We suggest that since the field is closely tied to practice, the adoption of the United Nations Sustainable Development Goals (SDGs) is already reframing both the meaning of development and its scope. Indeed, all United Nations member states have pledged to work on 17 goals<sup>9</sup> as part of the 2030 Agenda for Sustainable Development. In contrast to previous global agendas like the Millennium Development Goals, reaching these 17 goals pertains to all countries, irrespective of their income levels.

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<sup>9</sup> The UNSDG can be found in: <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>

This brief introduction was meant to provide a context for the discussion that follows on the theoretical debates that have taken place within the field on how communication can lead to social change. As we shall see in the following sections they revolve around two views that stand at opposite ends of how communication can lead to change. The first view is linked to the modernization paradigm, which as explained earlier is born in the aftermath of the Second World War with the aim of expanding capitalism while preventing the expansion of communism in the so-called Third World. The second view is linked to the dependency paradigm, born in Latin America as a critique to modernization, arguing that Western development ideas were based on exploitative relations between center and peripheral regions (Cardoso & Faletto, 1979; Frank, 1967; Prebisch & Cabañas, 1949).

### **5.2.2 The modernization paradigm**

The modernization paradigm and its approach to communication is normally associated to the work of three US scholars: Daniel Lerner (1958), Everett Rogers (1962) and Wilbur Schramm (1964). Lerner wrote about communication for macrosocial change and individual psychology; Schramm wrote about the role of the mass media in national development and Rogers focused on the adoption of innovations. These scholars were influenced by the media effects-oriented tradition that studies the behavioral and cognitive effects of public communication strategies where the role of the mass media is to transmit messages that influence individual changes in attitude (Roman, 2005). This tradition draws from Laswell's classic 5 W's formula: "Who" says "What" through "Which" channel to "Whom" with "What" effect? (Servaes, 2007).

Modernization was understood as facilitating the transformation of pre-modern "backward" attitudes and practices of "traditional" societies into modern, rational and Western ways of life (Mowlana & Wilson, 1990); a largely technical function of technology transfer and promotion of Western ideals of development (Fair & Shah, 1997; Lewin & Patterson, 2012). It was based on the premise "that culture and traditions are barriers to achieving development" (Gumucio Dagron & Tufte, 2006, p. xvi) and therefore resulted in theories that blamed individuals, not systems, for a situation of underdevelopment (Servaes, 1999). It was a paternalistic paradigm based on the assumption that the knowledge or

innovations should be created or defined by experts from the West (Inagaki, 2007).

Under modernization, communication was understood as one way persuasion meant to change attitudes and behavior. Communication was “assigned the role of disseminating the ‘right’ knowledge” (Waisbord, 2005, p. 83). Indeed, the mass media were seen as “magic multipliers able to accelerate and magnify the benefits of development” (Fair & Shah, 1997, p. 4); communication was sender and media centric and attached great importance to communication technology, using general marketing techniques (Servaes, J. & Lie, 2014). Indeed, mass media campaigns were very often designed by advertising firms with no knowledge of health, agriculture or development problems in general (Gumucio-Dagron, 2011). As noted by Kaplún (1998), behaviorism is based on Pavlov’s stimulus-response theory based on non-reflective behavior guided by reward.

The modernization paradigm was therefore based on a knowledge-deficit assumption which would be overcome by massive injections of information:

The underlying assumption is that ‘information-poor’ people are poor because of a knowledge deficit. If only development strategists could massively provide the world’s poor people essential information, such people would be able to produce more, boost family incomes, integrate better into the society and be happier.

(Gumucio Dagron & Tufte, 2006, p. xvi)

The three main authors of the modernization paradigm partially revised their work in the late 1970’s<sup>10</sup> acknowledging an oversimplified conceptualization of development that ignored cultural specificity and emphasized mass media (Huesca, 2008). Rogers in particular is credited with having evolved in his work, incorporating notions of participatory communication in later years (Gumucio-Dagron, 2011; Roman, 2005). Moreover, Roger’s *Diffusion of Innovations* is

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<sup>10</sup> Lerner, D. (1976). Toward a New Paradigm. In Schramm, W. & Lerner, D. (eds). *Communication and Change: The Last Ten Years—and the Next*, Honolulu: East-West Center, p. 60-63; Lerner, D. & Schramm, W. (1976). Looking Forward. In Schramm, W. & Lerner, D. (eds). *Communication and Change: The Last Ten Years—and the Next*, Honolulu: East-West Center, p. 340-344; Rogers, E.M. (1976). Communication and Development: The Passing of the Dominant Paradigm, *Communication Research*, 3(2): 213-240.

actually the most resilient theory that emerges from within the modernization paradigm.

According to Rogers (1962) diffusion of innovations is the process by which an innovation is communicated through certain channels over time among the members of a social system. It involves a number of sequential steps from the knowledge of the innovation to its adoption. While initially centered on mass media, in his later work Rogers included the importance of interpersonal channels (communication mechanisms within families, neighborhoods, networks...) in the decision to adopt or not an innovation (Rogers, E. M. & Shoemaker, 1971; Rogers, E. M., 1976). However, while interpersonal communication is included, its role is chiefly to “retransmit and/or amplify the original message without altering the intents of the message” (Inagaki, 2007, p. 11); in other words, to persuade (Sonderling, 1997).

Current examples of communication approaches that draw from diffusion of innovations theory are social marketing and edu-entertainment. Social marketing uses advertising techniques to promote development goals such as contraception or children immunizations via television, radio and newspapers, making use of tools such as consumer research and audience segmentation (Morris, 2003). Entertainment education applies entertainment techniques to send media messages with the specific objective of educating and fostering behavior change. This approach uses soap operas for radio and television, popular songs and theatre, among other and in contrast with social marketing it does incorporate local culture and traditions so as to promote identification by target audiences (Gumucio-Dagron, 2011).

In sum, the modernization approach understands communication as a product, (television programs, radio spots or soap operas) and the researcher as an expert communicating knowledge, techniques and behavior modes (Inagaki, 2007). The main tool for communicating such knowledge is the mass media that will broadcast it and lead to change in behavior. Researchers that draw on the diffusion of innovations tradition are normally associated with the use of quantitative research methods (Morris, 2003; Servaes & Lie, 2014).

In this section we introduced the modernization paradigm, one of the most important theoretical paradigms in the field of communication for development. In the following section we look into the paradigm that emerged as a critique to it and therefore stands at the opposite end: the participatory paradigm.

### 5.2.3 The participatory paradigm

As mentioned earlier, the strongest critique to the ideological assumptions behind the modernization paradigm was developed in Latin America. Influenced by dependency theory, Latin American communication scholars held the view that uses of mass media in development imposed the interests of dominant elites and reinforced the *status quo* (Huesca, 2008). They were also influenced by pragmatist philosophy that sees reflection and action as interrelated and conceives the social sciences as an action-oriented form of inquiry, following the premises of democratic participation (Roman, 2005).

In the report *Farewell to Aristotle: "horizontal communication"* Beltran (1979) conceptualized horizontal communication as a process composed of access (the effective exercise of the right to receive messages); dialogue (the effective exercise of the right concurrently to emit and receive messages) and participation (the effective exercise of the right to emit messages). This move from vertical to horizontal communication was proposed as a conceptual template to replace the top-down, one-way transmission of information approach that characterized modernization (Dervin & Huesca, 1999). Beltran stresses the importance of understanding communication "integrally and dynamically as a process in which all components deserve comparable and undislocated attention" (Beltran, 1976, p. 127). The report was written during the years that led to the publication of the Mc Bride Report<sup>11</sup> by the United Nations Educational, Scientific and Cultural Organization (UNESCO).

The early rejection of a communication model based on information transfer suggested that "human understanding was forged through intersubjective co-

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<sup>11</sup> Scholars from the developing world were very active in the debates sponsored by the UNESCO that led to the publication of the Mac Bride Report in 1980. The report identified an alarming concentration of the media in a few US agencies and unequal access to information. It called for democratization of communication and the strengthening of national media. This led to the withdrawal of the United States and the United Kingdom from the organization on the grounds that the report was an attack on free press. Both countries have since re-joined and left the organization on several occasions.

activity” (Dervin & Huesca, 1999, p. 174). This transformed both individual and common understanding “which resulted in a re-constructed reality” (Beltran, 1979, p. 13). Communication therefore focuses on the “permanent process in which people discover, elaborate reinvent and make knowledge theirs; where process is “action-reflection-action elaborated within the subject’s own reality, experiences, social practice, with others” (Kaplún, 1998, p. 50).

The Latin American perspective also turned away early on from positivist notions of objectivity and neutrality. Beltran shows how researchers’ values permeated their inquiry by citing a passage of Díaz Bordenave’s PhD dissertation: “the scientist who says that he wants to do research without committing himself to changing rural society is in fact as ideologically committed as the other who believes in research as a tool for human and social change“ (Beltran, 1976, p. 125).

The uniqueness of each community was also stressed by the proponents of the participatory paradigm, who argued that while development processes may have universal characteristics, the solutions will always be local (Rifkin, 1996) and that processes should build network with similar experiences at the local, regional or global levels (Gumucio-Dagron, 2011). The Latin American critique to the modernization paradigm is summarized along the following principles (Barranquero, 2011, p. 166):

- The requirement to locate participation and dialogue at the centre of the paradigm in order to facilitate endogenous processes;
- The horizon of real democratization –not just representation – as the ultimate goal for development communication;
- The importance of dialogical communication for the promotion of awareness, empowerment and individual or collective autonomy;
- The intrinsic political character –emancipating or conservative- of all educational and communicative practices;
- The need for an integral change in all social areas, placing the focus on human beings, along with their ability to express and transform themselves through language and communication;
- Praxis and the roots of reflection and action;

- A horizontal, dialectical and more complex conception of the communicative process.

Brazilian pedagogue Paulo Freire was the major exponent of the participatory paradigm (Huesca, 2008; Jacobson, 1993; Morris, 2003; Roman, 2005). He was a prolific writer who influenced numerous fields of study but his book *Pedagogy of the Oppressed*, is seminal in participatory communication because in it he develops the two key concepts that underpin the paradigm: dialogical communication and praxis. The book was published in Portuguese in 1968 and in English in 1970<sup>12</sup>. In this dissertation we use the 1996 edition published by Penguin (Freire, 1996).

In *Pedagogy of the Oppressed* Freire criticized the narrative character of teacher-student relationships in which students are treated as empty containers to be filled with information deposited by teachers. He referred to this approach as banking education: “in the banking concept of education, knowledge is a gift bestowed by those who consider themselves knowledgeable upon those whom they consider to know nothing...[it] negates education and knowledge as a process of inquiry” (Freire, 1996, p. 53).

Instead he called for a problem-posing education in which students become critical co-researchers in dialogue with teachers:

Through dialogue, the teacher-of-the-students and the-students of the teacher cease to exist and a new term emerges: teacher-student with student-teacher. The teacher is no longer merely the-one-who-teaches, but one who is himself taught in dialogue with the students, who in turn, while being taught, also teach. They become jointly responsible for a process in which they all grow.

(Freire, 1996, p. 61)

Freire elaborates on this by attaching great importance to how the educator approaches dialogue. He argues that educational or political plans fail because those who design them only consider their own reality without asking

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<sup>12</sup> By The Continuum Publishing Company.

themselves if it connects with the reality of those who those plans are designed for. In his words: “One cannot expect positive results from an educational or political action program which fails to respect the particular view of the world held by the people” (Freire, 1996, p. 76). In this context he proposes a methodology through which the educator (or researcher) first discovers the issues that are relevant to the students (generative themes) in the context of their own reality and then codifies them and re-presents them returning them “not as contents to be deposited but as problems to be solved” (Freire, 1996, p. 104). Through this process he argues, “reality takes on its true aspect: a challenge which human beings must meet” (Freire, 1996, p. 87).

Connecting to the discussion on responsible research in Chapter 4, Freire’s dialogical communication theory connects with the multi and transdisciplinary character of responsible research through which researchers engage in a dialogue with actors outside academia and with researchers working in different disciplines, all of whom have different knowledges. Indeed, Freire rejects the information-deficit approach by arguing that through dialogue, the knowledge of the teacher (researchers) and the students (practitioners) interact and that both learn through that interaction. “Dialogical relations –indispensable to the capacity of cognitive actors to cooperate in perceiving the same cognizable object—are otherwise impossible” (Freire, 1996, p. 61). Furthermore, Freire does not see the solution of the teacher-student contradiction in instrumental terms. He argues that it is a right that every person has to name the world on their own behalf:

But while to say the true word –which is work, which is praxis-- is to transform the world, saying that word is not the privilege of some few persons but the right of everyone. Consequently, no one can say a true word alone—nor can she say it *for* another, in a prescriptive act that robs others of their words.

(Freire, 1996, p. 69)

We connect this with the discussion on responsible research as inextricably linked to how researchers understand their own practice and to how they

position themselves in relation to others with whom they interact in knowledge production processes. Freire's approach involves breaking the monopoly in knowledge production traditionally held by universities and sharing power. Indeed as Freire recognizes, solving the teacher-student contradiction involves redistributing power away from experts. The study of power and power dynamics have therefore been critical in participatory communication (Escobar, A., 1999; Gumucio Dagron, 2001; Huesca, 2008; Leal, 2007; Sonderling, 1997; Waisbord, 2005).

Finally, through praxis, Freire links reflection -- on its own only verbalism--, with action --on its own is only activism--, setting the basis for integrating academia more directly with practice:

Within the word we find two dimensions, reflection and action, in such a radical interaction that if one is sacrificed –even in part—the other immediately suffers. There is no true word that is not at the same time praxis. Thus, to speak a true word is to transform the world.

(Freire, 1996, p. 68)

In light of the above discussion we argue that participatory communication is the theoretical paradigm within CDSC to draw from in order to build an analytical framework for responsible research communication. This, because participatory communication is coherent with responsible research's focus on dialogical processes in which researchers and other territorial actors jointly define and address the challenges faced by their territories.

Indeed, Barranquero (2011) claims that participatory communication helped to include previously excluded knowledge in knowledge production and diffusion processes traditionally reserved for academics and universities. Likewise, Lewin and Patterson (2012) note that Freire's work outlined the intersection between communication and participatory methodologies recognizing the importance of politics around knowledge production.

In sum, in contrast to top-down, product-oriented diffusion of innovations approaches that seek to change behavior, the participatory paradigm is about

horizontal processes based on dialogue that empower communities to decide their own goals and means to achieve them. This approach sees a role for researchers as political actors, facilitators and communicators working in placed-based development processes that lead to change (Lewin & Patterson, 2012; Roman, 2005). Knowledge management, knowledge sharing, co-creation, are used to describe interaction among different knowledges in communication processes (Servaes & Lie, 2014). Scholars working with this approach understand communication not as means but as an end (Huesca, 2008; Wilkins, 1999) where the end is community building (Gumucio-Dagron, 2011; Kaplún, 1998; Waisbord, 2015).

Participatory action research and action research are signaled as the most compatible research methods for participatory communication (Cornish & Dunn, 2009; Einsiedel, 1999; Escobar, 1999). This connects with Cassidy (2014) in section 5.3 above who as noted, argues that social scientists working on action research offer an alternative version of social sciences communication. It also connects further back in Chapter 4, section 4.2.3 with Giulio et al. (2016) who argue that action research could help to articulate better RRI practices.

Based on the discussion above we endorse the definition of participatory communication as a “continual process of dialogue, listening, learning and action between people...that takes place in an arena where ideas are shared and reformed as part of the broader learning experience” (Cornish & Dunn, 2009, p. 667).

#### ***5.2.3.1 Challenges posed by the participatory paradigm***

Participatory communication poses a number of challenges, among them the instrumental use that can be made of it, its long-term approach and the difficulties of evaluating its impact with traditional measurement indicators. In this section we briefly look into each of these challenges that connect with the discussion in Chapter 4 on responsible research.

During the 1980's and the 1990's, participation became a commodity built into development strategies as a technique (Greenwood & Levin, 2007). Indeed, it became a buzzword in development, and as Cornwall (2007) argues, buzzwords like development, participation, and empowerment often go unquestioned and

are taken for granted. Moreover, the uncritical approach to participation by the development community itself became a new “tyranny” that focused on the techniques of participation without questioning its purposes (Cooke & Kothari, 2001)<sup>13</sup>.

Indeed, donor agencies like the World Bank, private foundations and many governments incorporated participation and dialogue into their language and agendas. Participation and dialogue were linked to funding, becoming a box to be ticked in order to obtain the resources need for development projects. Roman (2005) argues that the wide-ranging scholarship behind the participatory paradigm accounts for its elasticity but it also facilitates its manipulation. For Kaplún (1998) its elasticity lends itself to the masked reproduction of dominant communication patterns.

While participatory communication was originally conceived as a challenge to the status quo, when it became institutionalized it lost its ideological meaning and became just a set of techniques (Leal, 2007). When used uncritically its essence was distorted. Sonderling (1997) for instance, argues strongly against its portrayal as a platonic dialogue through which to reach mutual understanding as if it were just a matter of polishing communication skills, and notes that such instrumental accounts of dialogue make no reference to conflict and power relations, without which dialogue and participation cannot be understood.

These reflections connect with Chapter 4 where we discussed that linking RRI to funding by the EC may result in ticking boxes in order to obtain funding without a true change in practice in research processes. For that reason we endorsed the definition of responsibility as care by Bardone & Lind (2016), which does not separate responsibility from researchers’ practice. So just like responsible research is a way of doing research inextricably linked to how researchers understand their practice, our understanding of participatory communication is that it is also inextricably linked to how researchers understand that they should communicate and share their work.

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<sup>13</sup> In Chapter 4 we discussed how this trend also affected science communication.

Moreover, as explained in Chapter 2, in this dissertation we use action research as a method to develop one of the empirical chapters. We devoted a full chapter (Chapter 3) to discuss its methodology. This is important because when participatory communication is used as a mere technique without considering its epistemological and ontological assumptions, contradictions emerge leading to what Rogers terms “participatory diffusion” or semantic confusion, not being one nor the other (Rogers, A., 2005).

This does not mean that participatory communication does not use traditional information dissemination tools but they are always part of a wider dialogue: means and not ends (Barranquero, 2006; Gumucio-Dagron, 2008; Gumucio-Dagron, 2011; Servaes & Lie, 2014; Servaes, 2008). Moreover, its reliance on small media like community theatre, participatory video, digital storytelling and community radio accounts for its much narrower scope. However, as noted by Waisbord (2005) this is changing through communication technologies, namely the Internet, that is blurring the boundaries between “narrowcasting” and “broadcasting”.

A second challenge posed by participatory communication is that it is a slow process that often does not throw results in the short term and that may evolve in directions that were not foreseen initially. This is a challenge for academics. White (1999) explains that participatory communication implies a different understanding of research and research careers. First he refers to timing. In participatory communication the pace of research is not determined only from the research contract or even the development of the scientific field but from the rhythm of the group taking part in the research process itself. Second, in contrast to other communication approaches that may measure success by the creation of explanatory models that can be used to make the media more effective, success in participatory communication is likely to be in the subjective intentional order since it will more often be judged by the protagonists of the research process itself.

In this line of thought Lennie & Tachi (2013) observe that participatory communication projects are difficult to evaluate because they do not have predetermined outcomes but goals that are negotiated in dialogue with

stakeholders. These projects are also long-term and therefore at odds with results-oriented approaches fostered by funding bodies where researchers need to prove impact within the project's time frame, which is normally short-term (Cornish & Dunn, 2009; Lewin & Patterson, 2012; Waisbord, 2015).

The following section looks into the discussion in the literature that calls for more encompassing approaches to communication for development that can make the best of both paradigms in the service of social change.

#### **5.2.4 Building bridges between both paradigms**

In the two previous sections we looked into the two main conceptual paradigms prevalent in the field of communication for development. We noted that the diffusion of innovations approach that emerged from within the modernization paradigm relies on the mass media and on persuasion through interpersonal communication to foster behavior change. The participatory approach, on the other hand, relies on dialogue to co-generate solutions to jointly defined challenges. Table 9 summarizes the main differences between both approaches.

Some scholars argue that in practice both approaches do not seem to be totally disengaged. In a comparative analysis of studies and working papers that report on specific projects Morris (2003) finds a crossover between the diffusion of innovations and the participatory paradigms with scholars from one approach borrowing from the other. She notes that in participatory projects, information also needs to be transferred and that diffusion-oriented projects recognize that participation enhances their effectiveness. She argues that a rigid distinction between them is a false dichotomy and a suitable strategy would be a pragmatic mix of both approaches.

**Table 9. Differences between the diffusion and participatory approaches**

|                             | <b>Product/Diffusion</b>                              | <b>Process/Participatory</b>   |
|-----------------------------|---|--|
| Definition of communication | Information transfer/vertical                         | Information exchange/dialogue-horizontal   |
| Problem                     | Lack of information                                   | Structural inequalities/local knowledge ignored  |
| Solution                    | Information transfer (knowledge- attitudes- practice) | Information exchange/participation   |
| Goal                        | Outcome oriented: behavior change                     | Process oriented: empowerment, equity, community   |
| Frameworks                  | Modernization/Diffusion of innovations                | Social change/praxis (Freire)<br>Social mobilization/activism  |
| Types of interventions      | Social marketing<br>Entertainment education           | Empowerment education<br>Participatory Action Research<br>Rapid Participatory Appraisal<br>Community Involvement in Health |

Source: Adapted from Morris (2003)

Inagaki (2007) performs a similar analysis on a sample of empirical research published in English-language, peer-reviewed journals during the period 2000-2005. He finds however that although some efforts to integrate multiple theoretical frameworks have been made, a constructive crosspollination cannot be taken for granted. He argues that the epistemological assumptions of researchers tend to spill over to the methodological approach used, with a clear association between quantitative methods and vertical communication strategies and qualitative methods and horizontal/group communication strategies. Lennie and Tacchi (2013) argue that there is a need for an appropriate combination of qualitative and quantitative techniques, complementary approaches and triangulation, and above all, recognition that different approaches are suitable for different issues and purposes.

In this regard Mefalopulos (2005; 2008) suggests that in communication for development, once a shared objective has been defined through dialogue, then a variety of approaches may be used, including what he calls one-way or

monological. The latter however, should always be used as means to reach the wider objectives being sought as part of the wider dialogue. This was already acknowledged by the early proponents of a horizontal communication: "...monologue is often not avoidable and sometimes is even necessary, depending on the aims and circumstances...if vertical communication has to some extent to remain in the field, it should not be manipulative, misleading, exploitative or coercive" (Beltran, 1979, p. 18).

In any case there is widespread agreement in that the field still faces the challenge of building bridges between both paradigms (Barranquero, 2015; Inagaki, 2007; Morris, 2003; Roman, 2005; Waisbord, 2005) and that the debate, which is reminiscent of the 1970's, should be left behind and put at the service of social change (Waisbord, 2015). The historical circumstances in which both approaches emerged may explain why they are sometimes portrayed as irreconcilable opposites. As noted in the previous section, the participatory paradigm is born in Latin America as a fierce reaction to the ideological assumptions behind the modernization paradigm that blamed individuals for "underdevelopment" and used the mass media to impose the interests and world view of the United States (Huesca, 2008; Servaes, 1999). This led to entrenched narratives where participatory communication was the good and the mass media was the evil (Barranquero, 2015).

From the mid 1980's onwards, a number of scholars working in Latin America conceptualized more encompassing approaches that break away from the confines of the either-or debate (Barranquero, 2011, 2015). Some authors stressed that a transformative communication, one that leads to positive social change can only be the result of directed and systematically planned actions (Alfaro, 1993). The changing historical circumstances strengthen these new approaches: "Globalization and the question of the transnational go beyond the theoretical reach and scope of the old imperialism theory, thus forcing us to think of a new fabric of actors and territories, of contradictions and conflicts" (Martín-Barbero, 2006, p. 282).

And indeed, Jesús Martín Barbero (1998) developed his concept of mediations that breaks with the incompatibility between mass and popular culture while

Clemencia Rodriguez (2001) conceptualized citizen's media, highlighting how the new technologies can turn what were once considered audiences into active participants in communication processes. Moreover as mentioned earlier, the Internet, coupled with the widespread use of mobile phones, are changing the understanding of the space in which dialogical communication takes place. In this context some scholars warn of the resurgence of a new technological determinism (Ogan et al., 2009), but others argue that if used properly, Information and Communication Technologies (ICTs), may actually help to bridge the product/process divide (Thompson, 2008).

Virtual communities of practice may be one such example. Communities of practice place learning, knowledge transfer and participation among people at the core of collective action (Koliba & Gajda, 2009). They are described as learning communities (Lave & Wenger, 1991; Lock, 2007); and as relational structures mediated by the social construction of knowledge (Buysse, V., Sparkman, K.L., Wesley, P. W., 2003; Nicolini, Gherardi, & Yanow, 2003) that exist at the intersection of intellectual and social capital (Lesser & Prusak, 2000).

In virtual spaces, participants in communities of practice engage in thinking and reflection processes characterized by an emergent dialogue (Kantanen, Manninen, & Kontkanen, 2014) that promotes the free flow of ideas and mutual astonishment; generating the unexpected (Hammond, Anderson, & Cissna, 2003). Thinking and reflection processes are enhanced by the use of written texts that provide more time for reflection (Boyd, 2016) and become thinking and learning devices (Dysthe, 2001; Lotman, 1988). Virtual communities may also generate virtual knowing in action (Amin & Roberts, 2008); social capital (Daniel, Schwier, & McCalla, 2003) and are a tool for social change (Fernández & Valverde, 2014). For Thompson (2008) the Web 2.0 offers a space for participant-driven production and communication of research at the same time. He adds that its networked structure offers a single logic of inclusion: "you are either included in the network or you are not, whoever and wherever you are" (Thompson, 2008, p. 828).

In this section we looked into the discussion in the field of communication for development that calls for building bridges between diffusion of innovations-

based approaches and participatory communication. While agreeing with this view, we argue that research institutes as change agents in territorial development can only co-generate socially relevant knowledge by communicating dialogically with other territorial actors. In this context linear communication may indeed help to fill in knowledge gaps or to set the basis for participants to start building a shared language when a given topic is unfamiliar to some, but only as part of the wider dialogue.

### **5.3 Conclusions**

In this chapter we set out to identify a school in communication coherent with responsible research. In order to do so we first looked into science communication, closely related to science and technology studies, the cradle of RRI and following the lead by Scholten et al. (2016) who argue that RRI and science communication share many similarities and could complement each other.

The chapter highlighted the coexistence of three main models of science communication: deficit, dialogue and participation. We noted however that this does not mean that there has been a linear evolution from deficit to dialogue since cultural change takes longer (Trench, 2008) and often, while the vocabulary may change to dialogue or participation the underlying assumptions may be the same ones that support the deficit model (Cassidy, 2014).

We noted that the impact agenda and the post-truth age of alternative facts are perhaps the most pressing challenges faced by science communication. They not only call on the need to reflect on what science communication is for, but also on to what extent it should be considered part of researchers' work; on the need to incorporate indicators that incentivize researcher's engagement with society; to redefine the role of professional communicators in research institutes and universities; and to incorporate science communication as part of doctoral programs. Furthermore, in the context of the post-truth age we argued that there is a need to reflect on why science communication has excluded the social sciences, and on the need to consider the co-existence of a plurality of epistemological paradigms within the science communication umbrella.

We suggested that the answers to these questions will redefine the relation between science communication and RRI and connecting back to Schölten et al. (2016) noted that science communication are not only complementary but may also significantly overlap, particularly if science communication is understood as the making of science, which is one of the challenges for science communication identified by Horst et al. (2016). We also discussed that science communication may also need to reflect on how it connects, contributes or overlaps with other concepts and frameworks that explore the borders between science and society like citizen science, engaged research, knowledge networks and transdisciplinary research, among other.

In this context we turned our attention to a field that could also be considered as science communication but that has normally been boxed in a different paradigm: Communication for Development and Social Change. It can be argued that it is a form of science communication since it is concerned with the role that communication plays in transferring science and technology. In terms of this dissertation it has the advantage of its focus on development.

The chapter presented a brief introduction in order to contextualize the discussion that followed regarding its two main theoretical paradigms: the modernization paradigm and the participatory paradigm. We concluded that the modernization approach, which is mostly based on the diffusion of innovations theory developed by Rogers (1962) understands communication as a product and uses the mass media as its main tool, with the objective of influencing behavior change. Researchers that work with this tradition play the role of experts communicating knowledge and techniques.

The chapter then looked into the participatory paradigm, the approach that emerges as a critique to modernization, largely based on the work of Brazilian pedagogue Paulo Freire (1996). It highlighted that through his conceptualization of dialogical communication and praxis, Freire set the basis for the development of participatory communication. We argued that participatory communication is the theoretical paradigm within CDSC to draw from in order to build an analytical framework on responsible research communication. This, because participatory communication is coherent with responsible research's focus on

dialogical processes in which researchers and other territorial actors jointly define and address the challenges faced by their territories. We endorsed the definition of participatory communication as “a continual process of dialogue, listening, learning and action between people that takes place in an arena where ideas are shared and reformed as part of the broader learning experience” (Cornish & Dunn, 2009, p. 667).

We then looked into the challenges posed by participatory communication and connected with the discussion in Chapter 4 on RRI, concluding that it faces similar challenges, like its instrumental use. We highlighted that in this context, the definition of responsible research as a form of taking care that is inextricably linked to how researchers understand their practice (Bardone & Lind, 2016) is so important in this dissertation. We also connected with the discussion on science communication in section 5.3 through White (1999) who reflects that participatory communication is at odds with how research is understood in traditional university contexts in terms of time and impact.

The chapter also highlighted that participatory action research and action research are identified as the most compatible research methods for participatory communication. This connected with the discussion on science communication where Cassidy (2014) argues that action researchers offer an alternative version of public communication of the social sciences. We also made a connection with Chapter 3, where Giulio et al. (2016) suggest that action research could help to articulate better RRI practices. In this context we noted the importance of using coherent research methods in order to avoid falling in contradictions that end up stripping the approach from its dialogical and democratic essence.

Finally, we looked into the discussion that calls for building bridges between diffusion of innovations-based approaches and participatory communication so that the complementarities between both paradigms improve overall communication for social change. While endorsing this view we argued that research institutes can only co-generate socially relevant knowledge by communicating dialogically with other territorial actors and that linear communication is convenient only when it complements and fulfils needs

identified as part of the wider dialogue. We also noted that communication technologies, namely the Internet and the widespread use of mobile phones are expanding the scope for dialogical processes offering new spaces where they can develop.

Having identified a school in communication coherent with the principles of responsible research that can help us to bring in the communication dimension, in the following chapter we build a theoretical analytical framework on responsible research communication.

## 6 THEORETICAL ANALYTICAL FRAMEWORK BASED ON THE LITERATURE REVIEW

In the previous chapter we identified participatory communication as the theoretical paradigm within communication studies that can help us to build a theoretical analytical framework on responsible research communication. This, because participatory communication is coherent with responsible research's focus on dialogical processes in which researchers and other territorial actors jointly define and address the challenges faced by their territories. Responsible research is a term coined from the literature review on the third mission of universities and RRI developed in Chapter 3. The chapter helped to identify a framework to understand how research institutes as change agents in territorial development engage in dialogical research processes with other territorial actors.

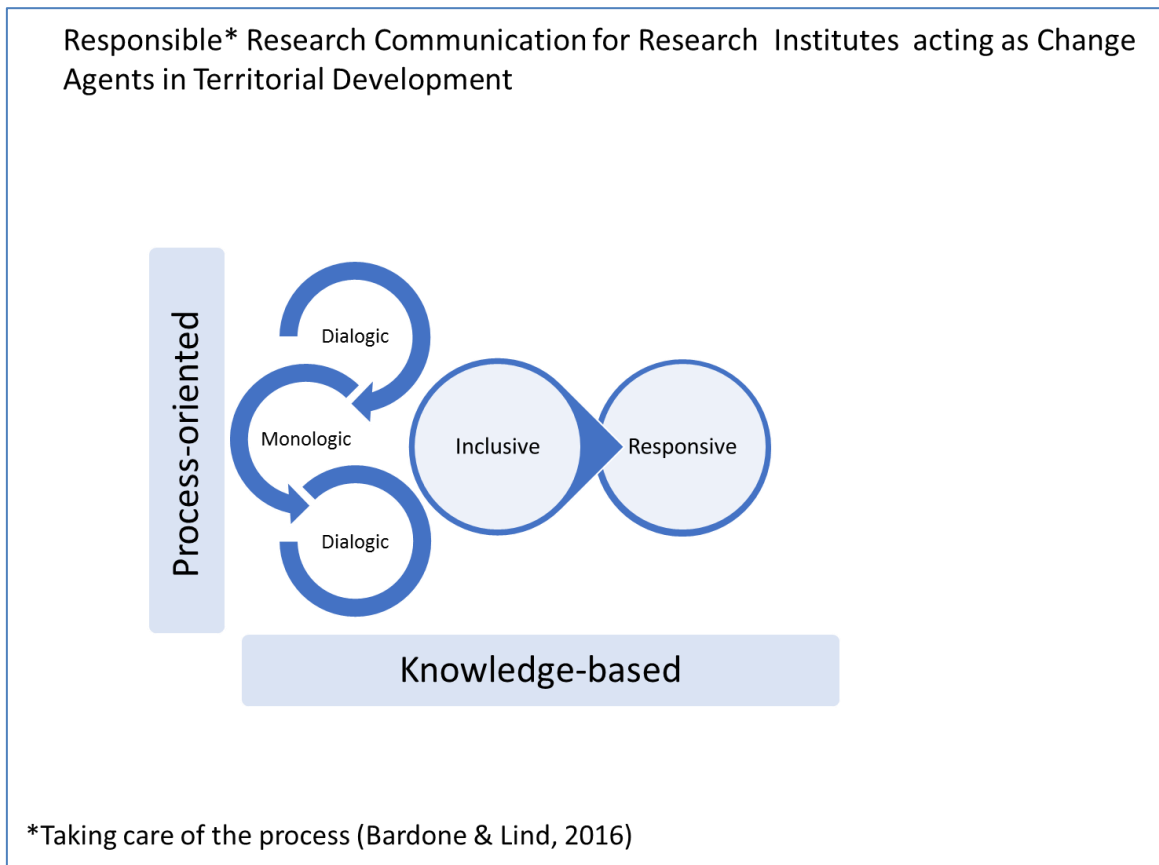
This chapter therefore draws from participatory communication and specifically from Paulo Freire's contribution to the field through his conceptualization of dialogical communication and praxis (Freire, 1996), to build a theoretical analytical framework on responsible research communication. As will be explained below, it also draws from RRI, namely through the definition by Bardone & Lind (2016) of responsibility as care and also by using the RRI language in two of its features. This is meant to make the connection between both bodies of literature visible in the analytical framework and to highlight the contribution that participatory communication can make to RRI. The chapter therefore answers the first research question of this dissertation: What are the features of responsible research communication?

The chapter is divided in two sections. The first one presents and explains the analytical framework discussing the connection of its four features to the literature. The second section summarizes the theoretical discussion of the two previous chapters and prepares the ground for the first empirical part of the dissertation that follows.

## 6.1 Theoretical Analytical Framework on RRC

The theoretical analytical framework on responsible research communication (RRC) is made up of four features: (i) process-oriented (which includes dialogical and monologic features); (ii) knowledge-based; (iii) inclusive; and, (iv) responsive (Figure 6).

Figure 6. Theoretical Analytical Framework



Source: Author's own elaboration.

Table 10 presents the definitions of each one of the features of the theoretical analytical framework and its link with the theoretical discussion in Chapter 5. As mentioned earlier, while the definitions of the four features are taken from the literature on participatory communication, in two of them (inclusive and responsive) the RRI language is maintained. The objective is to make the connection between both literatures visible in the analytical framework and to highlight the contribution that participatory communication can make to RRI.

**Table 10. Theoretical Analytical Framework on RRC**

| Dimension   | Definition  | Chapter/Section  |
|---|---|--|
| Process-oriented<br>(dialogical/monologic/dialogical) | Communication is a dialogical process that can combine a wide range of tools and methods including monologic communication but always as means and not as ends. | Chapter 5<br>-5.4.2.2 The participatory paradigm<br><br>-5.4.3 Building bridges between both paradigms |
| Knowledge-based                                       | Dialogue takes place among actors with different types of equally valuable knowledge  | Chapter 5<br>-5.4.4.2 The participatory paradigm   |
| Inclusive   | Through dialogue territorial actors become co-researchers and power is redistributed away from researchers  | Chapter 5<br>5.4.2.2 The participatory paradigm  |
| Responsive  | Dialogue is made of reflection and action that lead to change.  | Chapter 5<br>5.4.2.2 The participatory paradigm  |

Source: Author's own elaboration

The first feature of the analytical framework is that it is **process-oriented**, placing emphasis on the *how* of communication instead of on *what* is being communicated. Understood in this way this approach “rejects communiqués and embodies communication” (Freire, 1996, p. 60). However, it recognizes that linear (or monologic) communication, may be used as part of the wider dialogical process when suitable (Barranquero, 2015; Beltran, 1979; Inagaki, 2007;

Kaplún, 1998; Mefalopulos, 2008; Morris, 2003; Roman, 2005; Waisbord, 2005) and that the Internet as a tool offers new spaces in which to engage in dialogical communication processes (Kantanen et al., 2014; Thompson, 2008).

The second feature of the analytical framework is that it is **knowledge-based**, meaning that dialogue takes place among territorial actors with different types of knowledge. It draws from what Freire (1996) describes as the solution of the teacher-student contradiction where the teacher is not only the one who teaches but is also taught in dialogue with the students. It is a precondition for dialogue to take place. “Dialogical relations –indispensable to the capacity of cognitive actors to cooperate in perceiving the same cognizable object—are otherwise impossible” (Freire, 1996, p. 61). It is a critical dimension of the analytical framework because it is a precondition for dialogue, but it is also the more static dimension since it is an acknowledgement, inextricably linked to researchers understanding of their practice; to how they relate to others during their practice. That is why it is placed as the base in Figure 6.

A third feature of the analytical framework is **inclusion**. This term belongs to the language of RRI and as stated above, the decision to use it is to make the connections between the literature on RRI and the literature on participatory communication visible in the analytical framework and bring them closer. More so, since as discussed in Chapter 3, inclusion is the most salient dimension in the literature on RRI. However, the definition draws directly from Freire (1996), from his pedagogical approach that attaches great importance to teachers/researchers first discovering the issues that are relevant for participants (generative themes), codifying them and re-presenting them so that participants are able to connect them with their own reality and possible need to transform it. Inclusion is therefore understood not in quantitative terms (i.e. the number of participants) but in terms of communicating and sharing academic knowledge in ways that resonate with the reality and concrete experiences of other territorial actors.

-A fourth element is **responsive** a term that also comes from the language of RRI and that in this dissertation draws from Freire (1996) to link dialogue to change, through his concept of praxis. As noted in Chapter 4, responsiveness is

the dimension in RRI that links the research process --through inclusion, anticipation and reflection-- to decision-making and change. We noted however that it is the dimension that has been least discussed and developed in the literature. By drawing from Freire (1996) and linking responsiveness to praxis, participatory communication sheds light on the dimension that according to Owen et al. (2012) is the real contribution that RRI makes to previous dialogue and engagement initiatives with publics and diverse stakeholders.

## **6.2 Conclusions**

The theoretical analytical framework presented in this chapter draws from the theoretical discussion of two previous chapters. The first of them, Chapter 4, introduced research institutes as change agents in territorial development and identified RRI as a framework to understand how they engage in dialogical research processes that co-generate socially relevant knowledge. The second one, Chapter 5, looked into the field of communication studies and identified participatory communication as the theoretical paradigm from which to draw from in order to build an analytical framework to communicate the outcomes of those dialogical research processes. In what follows we summarize the main discussions in both chapters that led to the construction of the analytical framework presented in the previous section.

Chapter 4 presented a revision of the literature on the role that universities play in the development of the territories that host them. We concluded that in playing that role they face a number of challenges and that research institutes created within them are better placed to proactively engage with other territorial actors to produce socially relevant knowledge. This is due to their challenge-driven orientation and more open and flexible governance. We noted that these institutes highlight the role that can be played by the social sciences in shaping territorial development and discussed how in order to play a role as agents of change in their territories, social researches need to change their communication patterns from linear communication to dialogical communication with other territorial actors. This means understanding research as engaging in micro knowledge creation processes with those actors to find actionable solutions to specific territorial challenges (dialogical communication patterns)

instead of as handing in written reports or diagnoses (linear communication patterns).

We called attention to the fact that when the results of those dialogical research projects are communicated, they normally adopt a linear one-way communication approach where dialogue is no longer present. We argued that this pattern of communication could be changed through connectivity, a dialogical alternative coined by Karslen & Larrea (2014) that would enhance the workability of the newly created knowledge in other contexts. As the authors acknowledge however, since connectivity requires the direct engagement of researchers, it necessarily faces a challenge of scope. We explained that this dissertation addresses that specific challenge, opening a pathway to explore dialogue's transformation potential in the mezzo space found in between direct participants in dialogical research processes and researchers and practitioners who only read the results published in books, papers or reports.

A first step in that direction was to find a framework to explain how researchers engage with other territorial actors to produce socially relevant knowledge. We identified RRI, a framework born within the literature on scientific and technological innovation that attaches four features to the research process as a way to produce socially relevant or acceptable outcomes: anticipation, reflexivity, inclusion and responsiveness. We underlined that RRI does not emerge in a vacuum and is rather the result of structural changes in the relation by science and society and therefore points to the future context in which research institutes and academic institutions are likely to develop and communicate their research.

From the debate in the literature regarding the potential of RRI to become an implementable framework, a debate fostered at the policy level by the European Commission's Horizon 2020 program, we endorsed the definition by Bardone & Lind (2016) of responsible research as a form of taking care, inextricably linked to how researchers understand their own practice. We highlighted that since responsibility as care cannot be separated from researchers becoming part of the practice themselves it overcomes the vision of responsibility as a set of externally-imposed guidelines and brings researchers' agency to the forefront.

This connects with the essence of connectivity which is related to researchers' responsibility regarding the transferability of their research outputs. Third their notion of care as an indirect way to reach high-level objectives connects with our focus on micro process where "by looking closer, one may see far" (Karlsen & Larrea, 2014 p. 3). From this discussion we coined the term responsible research to refer to dialogical research that develops between researchers and other territorial actors to find actionable solutions to specific territorial challenges.

In Chapter 5 we turned our attention to communication studies with the aim of identifying a school to draw from, in order to build a theoretical analytical framework on responsible research communication. As a natural first step we looked into the literature on science communication, closely related to scientific and technological innovation, where the RRI framework was born. We concluded that RRI and science communication share many similarities and actually overlap. We noted that science communication is also affected by the structural changes in the relation between science and society from which the RRI discussion emerges and is in the process of redefining its boundaries with citizen science, transdisciplinary research and other approaches that call for a wider understanding of its scope and purposes. Among some of its main challenges we identified the impact and agenda and the post-truth movement and the fact that it has traditionally left out the social sciences and the humanities, among other knowledge fields.

We therefore turned our attention to CDSC, which we also refer to as development communication. We argued that CDSC can also be thought of as a form of science communication and that in the specific context of this dissertation it has the added advantage of its focus on development. From the literature review we identified two main theoretical paradigms: the modernization paradigm based on the mass media and the participatory paradigm based on dialogue. We concluded that the latter, based on Paulo Freire's conceptualization of dialogical communication and praxis (Freire, 1996) is the paradigm that can complement responsible research by bringing in the communication dimension. Indeed, based on his thinking participatory

communication is understood as dialogical process in which people share and co-create new knowledge to address problems that they have jointly identified.

We also noted that participatory action research and action research are signaled as the most compatible research methods for participatory communication, which connected with the discussion on science communication were Cassidy (2014) argues that action researchers are an alternative form of public communication of the social sciences communication. We also connected with Giulio et al. (2016) in Chapter 4 who suggest that action research could help to articulate better RRI practices.

Finally in the context of the discussion of the challenges faced by the wider field of CDSC, we agreed with the need to build bridges between participatory communication and linear communication approaches but only when the latter is part of a wider dialogue. We highlighted the role the Internet and the widespread use of mobile phones that open up new spaces for dialogue; spaces that offer a new logic of inclusion (Thompson, 2008).

Based on the above, we built a theoretical analytical framework on responsible research communication made up of the four features described above: (i) process-oriented (with dialogical and monologic features); (ii) knowledge-based, (iii) inclusive and (iv) responsive. The analytical framework draws heavily from Freire's conceptualization of dialogical communication and praxis that planted the seeds of the participatory communication paradigm but it also draws from Chapter 4 to make the connections between both bodies of literature visible in the literature and to highlight how participatory communication contributes to RRI.

In sum, in this chapter we built a theoretical analytical framework on responsible research communication from the revision of the literature on RRI and CDSC developed in the two previous ones. As explained in Chapter 2 (see Figure 1), the next step is to test the theoretical analytical framework in practice using action research as a method, which, as has been noted earlier, is coherent with participatory communication. The lessons that emerge from testing the

theoretical analytical framework in practice, will transform it into an actionable analytical framework.



# Part III Testing the Theoretical Analytical Framework in Practice

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The main contribution of this third part of the dissertation is the transformation of the theoretical analytical framework into an actionable analytical framework. The theoretical analytical framework is transformed through an action research process where theoretical concepts are tested in practice with two researchers from Orkestra-Basque Institute of Competitiveness. This third part of the dissertation therefore answers the second research question: How did researchers in Orkestra-Basque Institute of Competitiveness use the responsible research communication framework to communicate their research output? It is made of an introduction, four chapters -one for each feature of the theoretical analytical framework- and conclusions.



## 7 INTRODUCTION

In Part II of this dissertation we built a theoretical analytical framework on responsible research communication based on a revision of the literature on RRI and CDSC. The former helped us to define responsible research and the latter helped us to identify a communication paradigm coherent with responsible research. We labelled the analytical framework that resulted from the literature review, theoretical analytical framework on responsible research communication (RRC). Hereinafter we refer to it as theoretical analytical framework.

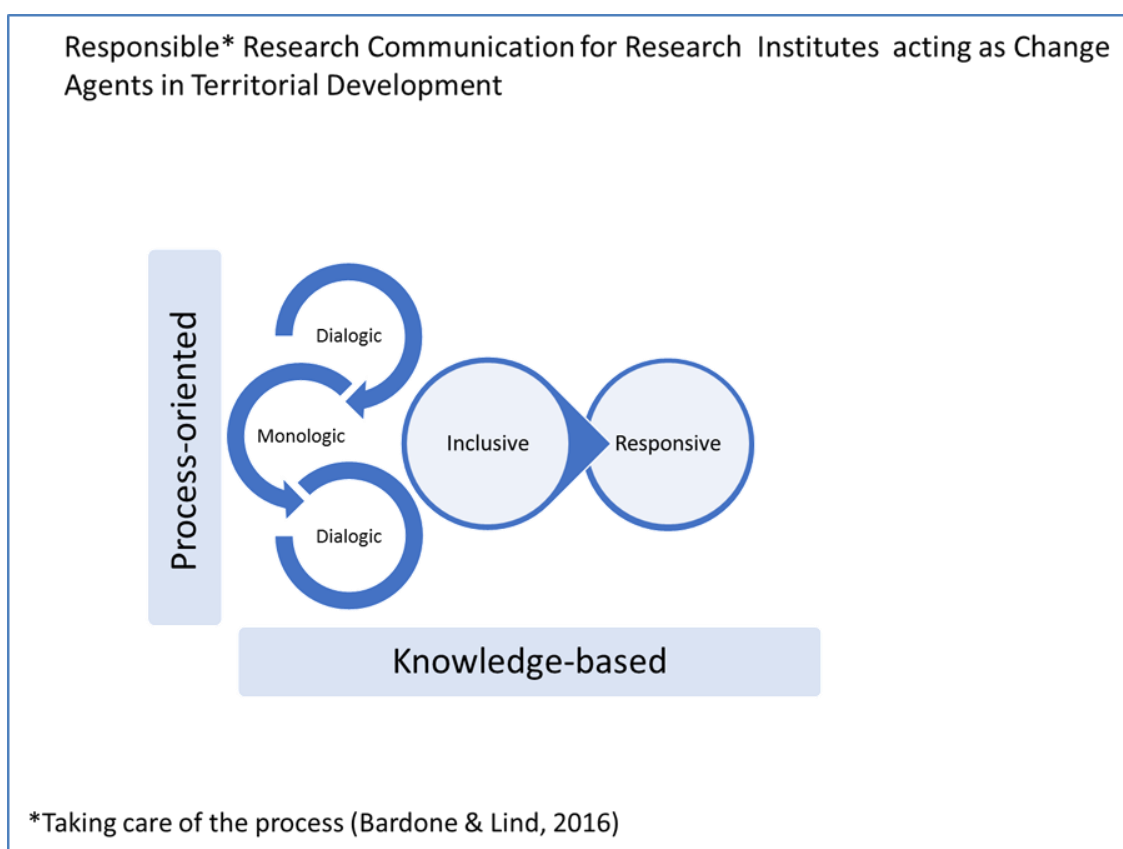
The main contribution of this third part of the dissertation is the transformation of the theoretical analytical framework into an actionable analytical framework. The theoretical analytical framework was transformed through an action research process where theoretical concepts were tested in practice with two researchers from Orkestra-Basque Institute of Competitiveness. This third part of the dissertation therefore answers our second research question: How did researchers in Orkestra-Basque Institute of Competitiveness use the responsible research communication framework to communicate their research output?

In this introductory chapter we summarize the transformation of the analytical framework into an actionable analytical framework (section 7.1) and present the context of the case in Section 7.2. The chapter is followed by Chapters 8 to 11 that describe the full action research process in detail.

### 7.1 From a theoretical to an actionable analytical framework

Our starting point is the theoretical analytical framework that we presented in Chapter 6 (Figure 6, reproduced below). It is composed of four features: (i) process-oriented, which incorporates dialogical and monologic features; (ii) knowledge-based; (iii) inclusive and (iv) responsive.

Reproduced from Chapter 6, Figure 6.



Source: Author's own elaboration.

Table 11 shows which features in the theoretical analytical framework were transformed into which features in the actionable analytical framework.

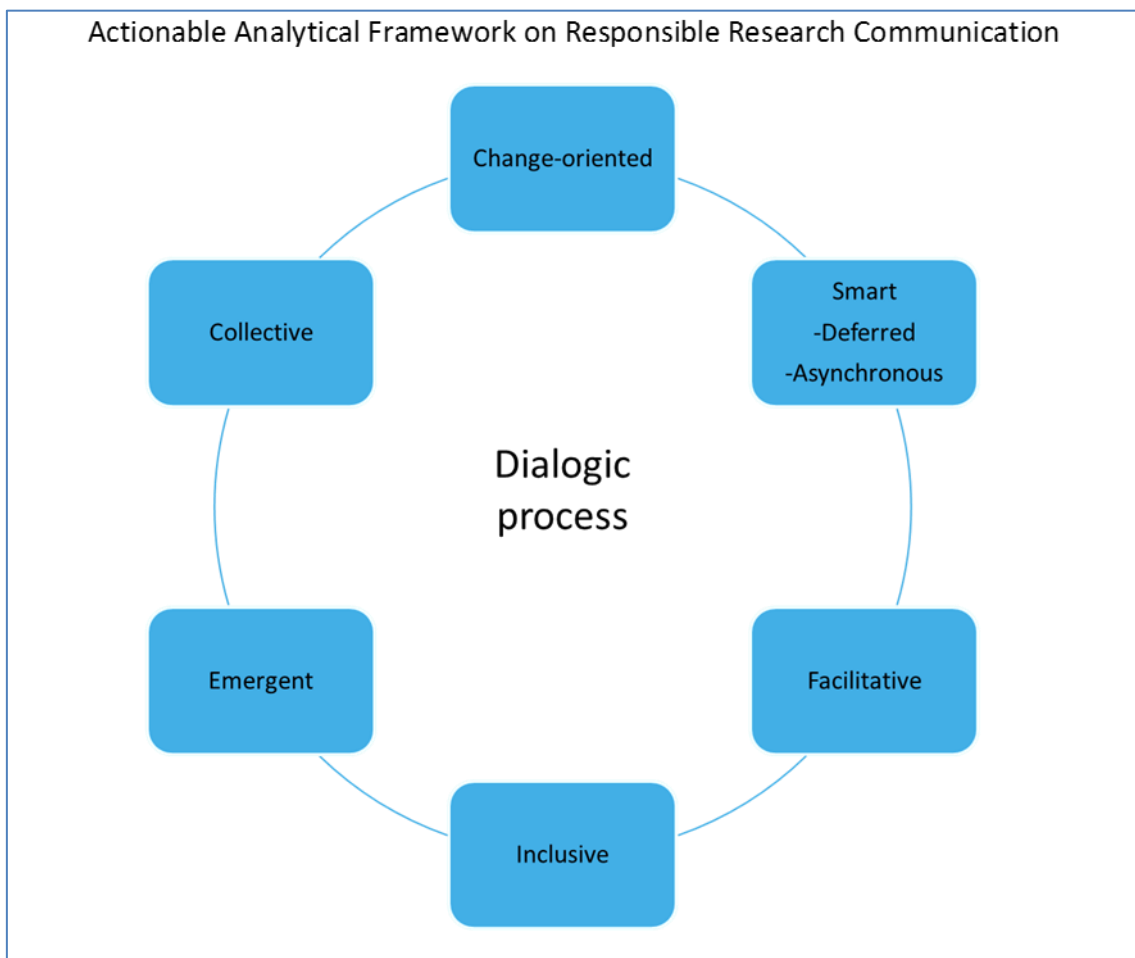
**Table 11. Features in the theoretical and in the actionable analytical frameworks**

| Features in theoretical analytical framework | Features in actionable analytical framework  |
|--|--|
| Process-oriented (dialogical/monologic)      | <ul style="list-style-type: none"> <li>• Change oriented</li> <li>• Smart</li> </ul> |
| Knowledge-based                              | <ul style="list-style-type: none"> <li>• Facilitative</li> </ul>                     |
| Inclusive                                    | <ul style="list-style-type: none"> <li>• Inclusive</li> </ul>                        |
| Responsive                                   | <ul style="list-style-type: none"> <li>• Emergent</li> <li>• Collective</li> </ul>   |

Source: Author's own elaboration.

Finally, Figure 7 shows the resulting actionable analytical framework.

**Figure 7. Actionable Analytical Framework**



Source: Author's own elaboration.

As mentioned earlier, this transformation took place by taking the theoretical analytical framework to action. Lessons were identified that made the theoretical features more actionable. The lessons learnt are summarized in the following tables (Table 12 to Table 15).

Each table is made of two columns and a lower box. The column on the left reproduces the features and definitions of the theoretical analytical framework shown in Table 10, Chapter 6 of this dissertation. The column on the right shows the actionable features and definitions that emerge from bringing the theoretical features to practice. The lower box justifies those changes in terms of the lessons learnt from the reflection-decision making-action process.

**Table 12. From process-oriented to smart and change oriented**

|   |   |
|---|---|
| Theoretical analytical framework  | Actionable analytical framework   |
| <b>Process-oriented</b>   | <b>Change-oriented</b>  |
| Communication is a dialogical process that can combine a wide range of tools and methods including monologic communication but always as means and not as ends.   | A dialogical process is made of reflection and action that lead to change.  |
|   | <b>Smart process</b>  |
|   | <p>Communication is a dialogical process that needs to be smart to overcome the time-consuming nature of real time face to face dialogue. It combines two features:</p> <ul style="list-style-type: none"> <li>- A deferred dialogue takes place delayed in time. Researchers communicate their frameworks and other researchers and practitioners speak back later, contributing their own reflections.</li> <li>- An asynchronous dialogue is a fully-fledged dialogue, but participants do not need to engage simultaneously.</li> </ul> |
| <p>Testing process-oriented in practice unveiled that a dialogical process is about change and assumptions cannot be made that change is understood in the same way by all. Change needs to be made explicit from the outset. It also unveiled the need to overcome the time-consuming nature of face-to-face dialogue, which is not explicit in the literature. The smart feature maintains a process perspective, but a more nuanced process perspective.</p> |   |

Source: Author's own elaboration.

**Table 13. From Knowledge-Based to Facilitative**

|   |   |
|---|---|
| Theoretical analytical framework  | Actionable analytical framework   |
| <b>Knowledge-based</b>  | <b>Facilitative</b>   |
| Dialogue takes place among actors with different types of equally valuable knowledge. | Dialogue among actors with different types of knowledge needs to be facilitative to reduce the barriers that may hamper understanding among them. |

This is, again, a change towards a more nuanced definition. Testing knowledge-based in practice unveiled that dialogue among actors with different types of knowledge is not automatic and is nevertheless often taken for granted. Work needs to be done to reduce the barriers that may stem from the different languages and frameworks that interact in a dialogical process.

Source: Author's own elaboration.

**Table 14. Inclusive is a high goal and was not made actionable**

|   |   |
|---|---|
| Theoretical analytical framework  | Actionable analytical framework   |
| <b>Inclusive</b>  | <b>Inclusive</b>  |
| Through dialogue territorial actors become co-researchers and power is redistributed away from researchers. | Through dialogue territorial actors become co-researchers and the conditions for conflict to emerge need to be facilitated. |

The workshop unveiled that inclusive is a demanding dimension that is not easy to materialize in practice since it involves generating the conditions for conflict among the diversity of actors to emerge. It is nevertheless a critical dimension of responsible research communication so each case should be transparent about how it approximates this feature. It is the only feature of the framework that was not made actionable.

Source: Author's own elaboration.

**Table 15. From Responsive to Emergent and Collective**

|  |  |
|--|--|
| Theoretical analytical framework   | Actionable analytical framework  |
| <b>Responsive/Emergent</b>   | <b>Emergent</b>  |
| Responsive: Dialogue is made of reflection and action that lead to change. | Dialogue is dynamic, ongoing and changing. It unfolds step by step and cannot be planned.                                      |
|  | <b>Collective</b>  |
|  | Keeping the dialogue alive is a collective responsibility that in turn depends on what is being made by dialogue collectively. |

By the time the fourth and last workshop arrived, the action research process had unfolded in such a way that responsive was not a helpful concept since its change dimension had been addressed in the first workshop. Responsive was replaced by “emergent” in the fourth workshop to help researchers reflect on how to build the space in which to continue writing the book through an asynchronous dialogue. Emergent calls attention to the fact that dialogical processes can lead to unexpected paths and cannot be planned like linear processes. The feature helps to adapt expectations. Collective is also linked to emergent, making it actionable by unveiling the importance of participants response to the process, calling for a collective responsibility.

Source: Author’s own elaboration.

As can be seen in Table 12 to Table 15, changes from one column to the other are not radical changes that contradict or negate the original features of the analytical framework. They are nuanced adaptations of the original features and become actionable by making the taken for granted assumptions explicit. They therefore help to adjust expectations when bringing theory to practice. The only exception to this was the last feature (Table 15) which was replaced to respond to the needs of the action research process as it had unfolded.

## 7.2 Context of the case

The action research process took place in Orkestra-Basque Institute of Competitiveness, a research institute based in the University of Deusto, a private university in the North of Spain. Orkestra was created in 2006 with the stated mission of acting as a change agent in territorial development by contributing to improve the competitiveness of the Basque Country. A decade after its foundation, during the elaboration of this PhD, it was implementing its 2017-2020 Strategic Plan that identified the need to conceptualize how communication contributes to strengthen its role as an agent of change.

The process of identifying researchers to engage in the action research process was narrowed down by two main considerations. First, the time frame of the PhD process, since it was important to find researchers who had systematized research outputs in an academic publication but had not yet communicated it. Second, according to Cornish & Dunn (2009), action researchers are better equipped to explore non-linear approaches to research communication than researchers working with other methodologies.

Based on the aforementioned considerations, the action research process developed with two action researchers in Orkestra who at the time of developing the empirical part of this dissertation had finished writing a book titled *Actores facilitadores del desarrollo territorial. Una aproximación desde la construcción social* (Costamagna & Larrea, 2017). Hereinafter we refer to them as the researchers or the authors of the book. The book, a reflection on the role that facilitators play in territorial development, systematized the outcomes of responsible research projects in which both authors had participated.

The PhD student (hereinafter also the facilitator) documented the whole process (See Table 1, Chapter 2) and by bringing the theoretical analytical framework to action, a process known as reflection-on-action (Estensoro, 2012; Karlsen & Larrea, 2014; Schön, 1983), she identified lessons that transformed the theoretical features of the analytical framework into actionable features.

### 7.3 The action research process

Chapters 8 to 11 describe the full action research process. Each chapter starts with a brief introduction on the feature of the theoretical analytical framework that is being taken to practice. Each chapter is structured as follows:

- A first section on **concepts presented** shows how each feature of the theoretical analytical framework was presented to the researchers and provides evidence, by including the main slides from the presentations used in the workshops. This section is written in the first person (See Chapter 2 on the use of the first person).
- A second section on **discussion of concepts and decision making**, describes the reflection, decisions made and action planned around each one of the features of the theoretical analytical framework. To that end, thick descriptions are used. Thick descriptions are not neutral descriptions with objective facts but the interpretation of the process made by the person who is writing (Karlsen & Larrea, 2016). This section is also characterized by a writing style intended to convey the role of feelings and emotions in social processes. Costamagna & Larrea (2017) argue that emotions are a natural part of processes and should be integrated in their understanding. Integrating them helps to understand that what happens or does not happen within processes is not entirely rational but also driven by emotions.
- A third section on **results of the learning process** conceptualizes on the lessons learnt from taking each theoretical feature to action.
- A final section on **action** describes how the lessons learnt from taking each theoretical feature to action materialized in practice.

Literal quotes are used as data and although the chapters follow a chronological order, describing the process as it unfolded, the following clarifications will make the reading easier:

- Early on in the process, the facilitator started referring to the practical solution that would be built during the action research process to communicate the book as “la cosa”, Spanish words for “the thing.” This was picked on quickly by the other participants in the process because it

helped to avoid bias if the terms course, meeting space, webpage, blog, etc. were used when the process was still at an early stage. “The thing” and “the tool” are used interchangeably in the following chapters to refer to the practical solution of the process.

- In the third workshop a formal decision was made to use the journey metaphor as the overarching theme for “the thing”. However this idea was not completely new since reference to a journey had been made since the first workshop. This explains why the language of “travelers” comes up before the decision to use the journey metaphor was made in the third workshop.

Before reading the following chapters, readers are invited to access the following link: <https://dgroups.org/groups/perfadt>. It is the result in practice of the action research process. Spending a few minutes in it, if only on the home page, may help to make the discussion that follows less abstract.



## **8 FROM PROCESS-ORIENTED TO CHANGE-ORIENTED AND SMART**

This chapter explains how process-oriented, the first dimension of the theoretical analytical framework was transformed into an actionable dimension. It does so in the following way. The first section on concepts presented, shows how process-oriented was presented in the first workshop, which took place on March 7, 2017. It provides evidence that it was presented, by including a selection of the slides used. The second section, on discussion of concepts and decision making, uses thick descriptions to describe the interaction that took place among participants when discussing process-oriented in the workshop. The third section on results of the learning process is a reflection on what the facilitator learnt from testing process-oriented in practice. The fourth and final section on action describes how the lessons learnt were materialized in the thing.

The theoretical analytical framework (Chapter 6, Table 10) described process-oriented as follows:

“Communication is a dialogical process that can combine a wide range of tools and methods including one-way communication but always as means and not as ends”.

### **8.1 Concepts presented**

This section presents the concepts used in the workshop to help researchers reflect on how to communicate their book with a process-oriented approach. What follows presents a selection of the slides from the power point that was prepared for the workshop and/or other materials that directly addressed process-oriented. The slides are accompanied by a brief comment, on what they were intended for.

Considering that the objective of the action research process was to help researchers explore novel ways of communicating their book by changing their communication patterns, I first presented the reflection by Escobar (2011), on patterns of communication. I wanted them to explicitly reflect on the action

research process as a process through which they would change their communication pattern from linear or transmission oriented to a process or dialogical-oriented one.

**Figure 8. Communication as Product and Communication as Process**

| Product/Transmission  | Process/Dialogue  |
|---|---|
| 'Good communication' is about conveying and receiving messages accurately   | The way we communicate creates, sustains and/or destroys relationships, organisations and communities                                 |
| <i>Key questions</i><br>What gets said? What message is transmitted?  | <i>Key questions</i><br>What is created by what is said or done?  |
| How clear is the information? How accurately is it heard? How completely is it expressed? Was the 'channel' effective?  | What contexts are created for those involved? What language and forms of speech are elicited? Who is invited to speak and who is not? |
| <i>Focus</i><br>What gets done?   | <i>Focus</i><br>What gets made?   |
| *Reality is made out of a complex web of communication patterns...communication patterns are change-averse and they tend to repeat themselves over time. However, they are not simply given, but made, and are thus changeable. |   |

Source: Adapted from Escobar (2011).

Without going into the specifics of RRI, but in order to explain its influence in the definition of the four dimensions of the theoretical analytical framework on which the action research process was based, I shared a few reflections on the current debate on science communication (Chapter 5) and how it connects with the changes taking place between science and society. I explained that RRI, which shares many similarities and may also overlap with science communication emerges from within these changes bringing in a process perspective to research and innovation. To this end I used the analytical framework on models of science communication by Trench (2008).

**Figure 9. Different Science Communication Models**

| Ideological philosophical associations | Dominant models in PCST | Science's orientation to the public   |     |
|--|-------------------------|---|-----|
| Scientism<br>Technocracy               | Deficit                 | They are hostile<br>They are ignorant<br>They can be persuaded                                    |     |
| Pragmatism<br>Constructivism           | Dialogue                | We see their diverse needs<br>We find out their views<br>They talk back<br>They take on the issue |     |
| Participatory democracy<br>Relativism  | Participation           | They and we shape the issue<br>They and we set the agenda<br>They and we negotiate meanings       | RRI |

Source: Adapted from Trench (2008).

I then introduced the literature on CDSC (Chapter 5) from which a process dimension to communication also emerges, presenting Table 9 by Morris (2003) (reproduced below) that summarizes the main differences between the diffusion of innovations paradigm and the participatory communication paradigm in the field of CDSC. By presenting the table I was able to tell the story of the context in which each approach emerged, the different players that shaped it and particularly why the participatory approach emerged as a critique to modernization, placing dialogue at the heart of communication for development.

Finally I presented a slide (Figure 10 below) with quotes from different authors in the field to suggest that both approaches could complement each other, as long as they are always part of a wider dialogue. In this context I hoped the authors could start thinking on how both would combine in the communication of their book and also on what they wanted to achieve by changing the communication pattern for their book from linear (just publishing the book) to dialogical.

**Reproduced from Chapter 5, Table 9**  
**Differences between the diffusion and participatory approaches**

|                           | Product/Diffusion                      | Process/Participative                                      |
|---------------------------|--|--|
| Development communication | Information transfer – vertical        | Information exchange-dialogue                              |
| Problem                   | Lack of information                    | Structural inequalities, local knowledge ignored           |
| Solution                  | Information transfer                   | Information exchange/participation                         |
| Goal                      | Behaviour change                       | Empowerment, equity, community (collective transformation) |
| Frameworks                | Modernization/Diffusion of innovations | Dialogue/praxis (Freire)<br>Social mobilization/activism   |
| Types of Intervención     | Entertainment-education                | Empowerment education,<br>Participatory Action Research... |

Source: Adapted from Morris (2003).

**Figure 10. Communication for Social Change**

Communication for Social Change

- The starting point is always the process. Technology and products are means, not and end (Gumucio Dagon, 2010; Barranquero, 2006; Mefalopulos, 2010; Servaes & Malikhao, 2008)
- The process can have a number of universal characteristics but its solution will be local (Rifkin, 1996; 1989)
- The process should build networks and link with similar experiences at the local, regional or global levels (Gumucio Dagon, 2010)
- “Positive social change is not casual nor immediate. A transformative communication calls for intentionally directed and systematically planned actions geared towards attaining particular objectives”\* (Alfaro, 1993)

\*Translated from Spanish


Source: Authors own elaboration.

Before the workshop I sent out reading material: a blog post that described a book's planned communication through participatory workshops in Brazil (Priego, 2014). My intention was that by reading the blog post they could start to connect with how they imagined the process for their own book, particularly since the blog post described face-to-face dialogue.

Figure 11. Participatory workshops with non-academics: reading material


2/9/2017 Impact of Social Sciences – Participatory workshops with non-academics foster positive social impact and work as a research validation mechanism.

## Participatory workshops with non-academics foster positive social impact and work as a research validation mechanism.

 [blogs.lse.ac.uk/impactofsocialsciences/2014/07/02/participatory-workshops-social-impact-research-quality/](http://blogs.lse.ac.uk/impactofsocialsciences/2014/07/02/participatory-workshops-social-impact-research-quality/)

2/7/2014

*Non-academic research users are often powerless in the decision-making processes for how research is communicated. **Jacqueline Priego-Hernandez** shares lessons from a knowledge exchange toolkit which aims to address this imbalance through participatory workshops. Drawing on a Freirean approach to learning, interactions between participants and researchers are seen as a key objective in itself. She argues that plans for impact need to be devised for the benefits to be shared, so that research end-user engagement can go beyond the limited number of participants in a dissemination event.*



Universities are increasingly preoccupied with responding to the Impact Agenda set out by HEFCE. In this context, attention is being paid to many different groups of non-academic users with the objective of 'making a difference' beyond academia. The LSE's Underground Sociabilities research project focuses on the work of grassroots organisations in Brazilian favelas and the transformative effect they have on these communities. In this endeavour, engagement with non-academics was fostered from the very inception of the research, in a collaborative partnership that relied on 'dialogue seminars' to discuss research steps and preliminary results. After the research results were published in book format, the next step towards enhancing impact was 'getting the research out there' through a range of outlets.

One of our strategies, participatory workshops, aims at sharing and discussing research findings with non-academic users who, on their own, could be considered 'powerless' in decision-making processes. We believe that direct intervention with these groups, specifically with those who live the realities we investigated, is of social value, and, if executed in the context of a wider knowledge exchange strategy, can foster positive social impact.

In light of this, we considered the best strategy would be to engage participants from our research (i.e. personnel from participating organisations and community members) in one of our knowledge exchange events. To this end, we created a toolkit in which our results were expressed in non-academic language likely to engage a wide range of participants. In this document, we outlined activities that explained academic concepts and findings in everyday language, focused on discussing such concepts, and sought to identify, in the discussion with users, actionable recommendations beyond those outlined in the book.

**Knowledge exchange strategy: Participatory workshops**

When searching for literature to 'translate' our findings into a participatory format, we found that there is little material available on how to foster knowledge exchange through participatory approaches. The majority of the literature focuses on participatory research methodology to generate data. A close concept is that of communicative validation, a research quality assurance measure whereby researchers check the relevance of their results against the views of research participants. We drew on and adapted these approaches for our dissemination strategy.

<http://blogs.lse.ac.uk/impactofsocialsciences/2014/07/02/participatory-workshops-social-impact-research-quality/> 1/3

Source: Image from post by Priego (2014).

## 8.2 Discussion of concepts and decision making

This section describes the discussion that followed the presentation of the concepts behind process-oriented communication, and the decisions made. As explained earlier, in this section we use thick descriptions, which are not neutral descriptions with objective facts but the interpretation of the process made by the person who is writing (Karlsen & Larrea, 2016). A second consideration is that the transformation of the different features of the theoretical analytical framework is linked to how the researchers participating in the process connect them with their own practice. This means that if this process had involved other researchers and not the ones who participated, then probably the dimensions of the framework would have been redefined differently. Finally, this section is described in a way that attempts to incorporate the role of emotions in the process (Costamagna & Larrea, 2017).

The workshop took place in the main meeting room at Orkestra. There was a bubbly atmosphere. I was excited but also feeling quite nervous since it was the first time I would be facilitating an action research process and faced the double challenge of facilitating experienced action researchers and also bringing conceptual frameworks that spurred reflection. They seemed intrigued and also happy to begin working on the challenge for their book. The researcher who was playing the role of friendly outsider and participating in an action research process for the first time wanted to know where he should sit, outside the table maybe, to make his outsider position clear. The IT expert also seemed expectant as to how the process would proceed.

The authors of the book were experienced action researchers with a career focused on territorial development in their home regions. Dialogue was central in their work. They rapidly reacted to Trench's analytical framework of science communication models that places dialogue and participation in different boxes. One of them said:

*"We come more from a discourse of dialogue as the generator of change...You would very likely say: communication generates change, and we would say: dialogue generates change. However if it is a dialogical communication, we are then talking about processes...."*

*cannot leave dialogue in a previous stage, since I would be left without the tool I work with”<sup>14</sup>.*

*(Quote taken from the verbatim minutes of the March 7, 2017, workshop)<sup>15</sup>*

Change also emerged as an important issue to discuss. During the introduction to the literature on CDSC, particularly when mentioning how the different players (multilateral organizations, governments, NGOs...) had contributed to shape the field in practice, one of the researchers said that it was important to be aware of the different uses that can be made of dialogue and especially that not everyone wants the same change:

*“For me there’s a whole debate here on our use of dialogue and change...selling Tupperware is also dialogical communication...but what change are we talking about?...Not everyone wants the same type of change”.*

When discussing the reading material, one of the researchers shared that it had made her reflect on the importance of planning:

*“As researchers, we take for granted many things regarding communication. We need to write a paper, a book...and we don’t stop to think what we are going to do with them. I think this process has to be different in that sense”.*

As mentioned earlier, the reading material described dialogical workshops as part of the book’s communication plan. This brought up a reflection by one of the authors, regarding how to incorporate dialogue in the communication plan of their book without it being as intense as the dialogical processes that they already develop in their own research processes:

*“What we are looking for is how to communicate the book through dialogue but without the intensity in dedication that face-to-face dialogue entails...Can we gain scale losing some intensity and still make it worth the effort?..*

Elaborating on these thoughts the same author later reflected:

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<sup>14</sup> As explained in Chapter 2, all quotes are translations from Spanish to English by the author of this dissertation.

<sup>15</sup> Unless otherwise stated, all the quotes in this chapter are taken from the verbatim minutes of this workshop.

*“Can we define a characteristic, an essence of dialogical that can be maintained in a context that will not be one-to-one? ...The book is an excuse to create a space where “n” people are engaged in dialogue”.*

Apart from gaining scale, that is, going beyond the more limited scope of face-to-face dialogue, the need to make dialogue feasible and sustainable came up again and again. One of the authors said:

*“...whoever has time, when they have it, writes something...because that person just had an experience, because that person read something and wants to share it and that’s it...and then maybe in two months that same person comes back reads what others have reflected...without having the obligation of contributing every week”.*

Concern regarding the sustainability of the dialogical communication process for the territorial actors whom the researchers wanted to engage when communicating their book (practitioners and researchers) also came up. This was discussed in the context of potential online tools that could help to develop a dialogue along the lines of what had been discussed earlier. One of the researchers said:

*“I still don’t know how much time this will demand from us...but I wonder if we shouldn’t create two different access windows: one for those [policymakers] who don’t have much time...and a different access window for people like us [researchers]...”*

While the objective of creating a dialogical space that was less time-consuming than face-to-face dialogue was clear, nothing had been said regarding the purpose of the dialogical process. I therefore asked them to take a few minutes and write down what they wanted to make or build through the dialogical process. One of the authors answered:

*“What do we want to build with this process?: Capabilities. Unless I find that (xx –the other author) has written something else. Capabilities. Capabilities, and in this specific case, for facilitating change. For territorial change driven by [territorial] actors”.*

The other author said:

*“I also wrote capabilities, but I think we should specify realistically what type of capabilities [...] we cannot be over ambitious... with the book it will be very difficult to develop facilitation capabilities...I think the book is*

*oriented towards helping others discover themselves as facilitators, which I think is also part of developing capabilities, the initial motivation....awareness”.*

In the context of the slightly different interpretations that the researchers made of what the purpose of communicating their book with a dialogical approach was, one of the authors connected back to the discussion on communication as a product and communication as process:

*“I think we should try to not lose sight of the original motivation, which is to communicate something that has already been constructed, but in a different way...If we want to communicate it with a process approach, I mean, you communicate it once, but then where is the process?...a process that continues the aforementioned construction process. In other words, writing the book will continue in the thing but writing is no longer the task of just two authors but of many”.*

Before ending the workshop we agreed that the researchers would get together after the workshop to write down their final reflections. They sent me an email the next day suggesting that, based on the discussion in the workshop, they had made the decision to plan the communication of the book as a process divided in two stages. The first stage would be a more reflective individual process and the second one a collective one, a space in which to continue writing the book.

*“The first one would be a kind of interactive journey in which participants internalize our contributions and the contributions of the participants that have been there before them. This is a kind of individual interaction with others that have already been there. Once this journey is completed, the tool could offer the possibility of participating in a construction process that is more alive, in which interaction with the authors is more direct, but always keeping in mind that we have a limited time for this”.*

*(Excerpt from an email sent by the authors on March 8, 2017)*

The decisions made in the workshop were therefore to design a process in two stages: a first stage would take the form of an interactive journey through the different chapters of the book (the authors' contributions) in which individual travellers would also be able to read and reflect on the contributions left by other travellers that had passed before. A second stage would take the form of a more direct form of dialogue in which to continue writing the book. The first

stage was built by reflecting, making decisions and acting on the concepts presented during the first three workshops. The second stage was built by reflecting, making decisions and acting on the concepts presented in the fourth workshop.

### 8.3 Results of the learning process

The main lessons from testing in practice process-oriented were that change cannot be left for later and dialogue needs to be smart. This section describes how those lessons helped to conceptualize actionable features.

The objective of the first workshop was to help researchers reflect on communication as a process and make decisions on how to materialize it in the communication of their book. By bringing the concept to researchers' practice, we learned two main things. First, a dialogical process is about change and assumptions cannot be made that change is understood in the same way by all. It is therefore important to make change explicit from the outset. Second, dialogue needs to be reframed in a way that addresses the time-consuming nature of its face to face nature, making it feasible.

#### Change needs to be made explicit from the outset

A first lesson from the workshop is that since dialogue and change are inextricably linked, change needs to be made explicit from the outset. In the theoretical analytical framework change was part of the definition of "responsive", the last feature, and was therefore going to be discussed in the fourth workshop. However, this division was artificial for the two researchers who, when discussing a dialogical communication process for their book could not leave "change" for a later stage. This is explained by their own methodological research approach, which, as one of the authors explained in the workshop, is based on dialogue as a tool for change.

Moreover, during the workshop it also became clear that assumptions cannot be made that change is understood in the same way by everyone. Work may have to be done to develop a shared meaning around it. Indeed, the workshop unveiled that although both researchers seemed to have a common understanding of what they wanted to change by communicating their book with

a process-oriented approach, when asked to write it down and share it, some differences became apparent.

We therefore decided to place the “responsive” feature as the first feature of the analytical framework and rename it to “change-oriented”, which is the language which both researchers used and can therefore relate to more directly.

A process-oriented approach to communicating research outputs needs to be smart in order to overcome the time-consuming nature of face-to-face dialogue.

Dialogue needs to be reframed in a way that addresses the time-consuming nature of its face to face nature. This is particularly important considering that the alternative, which is to communicate academic outcomes as a product, is something that can be done once and for all and is normally not researchers' responsibility but someone else's (i.e. publishers, communication staff...). The clues that allowed us to transform the theoretical process-oriented concept into the actionable smart concept emerged from the reflections and the decisions made as a result of the workshop. Indeed, during the workshop the two researchers reflected especially on the time-intensity of this dialogical exercise and through their decisions figured out how to address this not only for them but for the territorial actors that they wish to engage with in a dialogue. They did so by designing a process divided in two different stages: an interactive journey and a space “in which to keep writing the book”. The names found to define each stage were “deferred” and “asynchronous” dialogue.

A deferred dialogue means that researchers speak once (they prepare and communicate their frameworks and concepts beforehand) and at a later time other researchers and practitioners speak back, contributing their own reflections. For researchers, it takes the time they invest in thinking how to communicate their research output which they can do on their own or with the help of a communication professional, depending on how much they want to sophisticate it.

While a deferred dialogue may seem a lukewarm or decaffeinated form of dialogue, it nevertheless changes the communication pattern considering our point of departure, a book that was going to be communicated in any case

without offering potential readers the possibility to reflect back on what researchers are conveying. Moreover it can be argued that this form of dialogue enhances reflection because it is based on writing and not on speaking. This connects with Boyd (2016), Lotman (1988) and Dysthe (2001) in Chapter 5, Section 5.4.3, who stress the reflective nature of written forms of communication and refer to them as thinking and learning devices.

The second feature of a smart dialogue is asynchronous. While still delayed in time, it cannot be done once and for all because it requires researchers continued engagement. It is in this sense a fully-fledged dialogue intended to co-generate new knowledge (a space in which to keep writing the book) but participants in the dialogue (including researchers) do not need to engage simultaneously. Moreover, the collective nature of this second feature distributes the responsibility of keeping the dialogue alive among all participants, thereby making it more feasible.

It can be argued that deferred and asynchronous are words that have very similar meanings since they both refer to something that happens at a later time. The difference is indeed very subtle and is related to what both words evoke more than on their actual definition. While deferred evokes something that is postponed for later, asynchronous evokes something that does not occur simultaneously. Combined, they offer researchers the possibility of designing communication tools that mix both in ways that respond to their particular circumstances and objectives.

Through its deferred and asynchronous features a smart dialogue moreover, contributes to address the challenge of scope faced by connectivity (Karslen & Larrea, 2014). Indeed, connectivity faced the limitation of requiring the engagement of researchers in every new context in which their concepts and frameworks were used. A smart dialogue also requires researchers' engagement but through its deferred and asynchronous features it offers them the possibility of exploring a novel form of communicating research outcomes that is neither intense face-to-face dialogue nor detached one-way communication. It also contributes to build bridges between the product-process

dichotomy in the field of CDSC discussed in Chapter 5 by combining both approaches in a way that makes use of the best of each.

#### Communication tools are means and not ends

Finally, a lesson emerged for action researchers playing the role of communication facilitators, particularly if they are insider action researchers. They need to consider that they will be acting on the decisions made in the workshops, creating communication tools that enable a smart dialogue, sometimes in collaboration with communication or IT staff not part of the action research process. Creating such tools and products can be very demanding and can therefore easily become ends, particularly in the face of deadlines and also because they are the immediate and most visible part of the process. To avoid confusion, it is helpful to keep in sight the wider objective of the process.

In sum, by bringing the theoretical concept “process-oriented” to practice, we learned two main lessons that transformed the theoretical analytical framework. First, a dialogical process is about change and assumptions cannot be made that change is understood in the same way by all. It is therefore important to make change explicit from the outset. Second for researchers to agree to change the communication patterns of their research outputs, dialogue needs to be reframed in a way that addresses the time-consuming nature and makes it feasible, becoming a “smart” dialogue.

Finally, a lesson for action researchers facilitating communication processes that does not appear in the actionable analytical framework but needs to be considered is that communication tools are the most immediate and visible part of the process so there is a risk that they become ends instead of means. It is therefore important to always keep in mind the wider change objective or purpose of the dialogical process.

#### **8.4 Action**

The lessons from the workshop were materialized in practice as a virtual process divided in two stages.

The first stage is a linear process that takes the form of an interactive journey in which participants engage in a deferred dialogue with the authors of the book. It is a self-reflective process designed to help participants discover themselves as facilitators. In the different stops of the interactive journey participants find not only the chapters of the book but short introductory texts written by the authors, videos in which the authors “speak” more directly to participants and a set of questions for participants to answer.

As they reach each stop, participants are also able to read the answers left by other participants who passed through the different stops before them. By writing their answer and by reading the reflections shared by other participants they deepen their own reflection process. Figure 12 shows two questions and the different answers in which the deferred dialogue takes place.

Figure 12. A deferred dialogue in the interactive journey



Source: <https://dgroups.org/groups/perfadt/firststop/discussions/852aq98l>, Retrieved on December 18, 2018

The second stage: the place in which to continue writing the book and where the asynchronous dialogue takes places was discussed in the fourth workshop.

## 8.5 Summary

In this chapter we described how process-oriented, the first feature of the theoretical analytical framework was tested in practice and transformed into smart, an actionable dimension. The first section focused on the concepts presented in the workshop to help researchers reflect on the process-oriented feature of their research communication. The second section described the

discussion that took place in the workshop around process-oriented and the decisions made, which illustrated researchers' concern for the time-consuming nature of dialogical processes. The third section presented the lessons learnt from testing the concept in practice and how those lessons transformed process-oriented into smart, an actionable dialogue. The last section on action showed how the actionable smart dialogue concept was materialized in practice.

**Reproduced from Table 12**

| Theoretical analytical framework   | Actionable analytical framework   |
|--|---|
| <b>Process-oriented</b>  | <b>Change-oriented</b>  |
| <p>Communication is a dialogical process that can combine a wide range of tools and methods including monologic communication but always as means and not as ends.</p> | <p>A dialogical process is made of reflection and action that lead to change.</p>   |
|  | <b>Smart process</b>  |
|  | <p>Communication is a dialogical process that needs to overcome the time-consuming nature of real time face to face dialogue. It combines two features:</p> <ul style="list-style-type: none"> <li>-A deferred dialogue takes place delayed in time. Researchers communicate their frameworks and other researchers and practitioners speak back later, contributing their own reflections.</li> <li>-An asynchronous dialogue is a fully-fledged dialogue, but participants do not need to engage simultaneously.</li> </ul> |

....Continued from Table 12

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Testing process-oriented in practice unveiled that a dialogical process is about change and assumptions cannot be made that change is understood in the same way by all. It is therefore important to make change explicit from the outset. Testing process-oriented in practice also unveiled the need to overcome the time-consuming nature of face-to-face dialogue, which is not explicit in the literature. The smart feature maintains a process perspective, but a more nuanced process perspective.

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Source: Author's own elaboration.

In the following chapter we look into the second feature of the theoretical analytical framework: knowledge-based and explain the reflection, decision making, action process that transformed it into an actionable feature.

## 9 FROM KNOWLEDGE-BASED TO FACILITATIVE

In the previous chapter we described how process-oriented, the first feature of the theoretical analytical framework was tested in practice and transformed into an actionable feature. In this chapter we describe the process that transformed knowledge-based, the second feature of the theoretical framework into an actionable feature.

In order to do so the first section on concepts presented, shows how knowledge-based was presented in the second workshop (April 12, 2017) and includes a selection of the slides used. The second section, on discussion of concepts and decision making, uses thick descriptions to describe the interaction that took place among participants when discussing knowledge-based in the workshop. The third section on results of the learning process is a reflection on what the facilitator learnt from testing knowledge-based in practice, thereby transforming it into an actionable feature. The fourth and final section on action describes how the lessons learnt were materialized in the online space.

The theoretical analytical framework (Chapter 5, Table 10) described knowledge based as follows:

“Dialogue takes place among actors with different types of equally valuable knowledge”.

### 9.1 Concepts presented

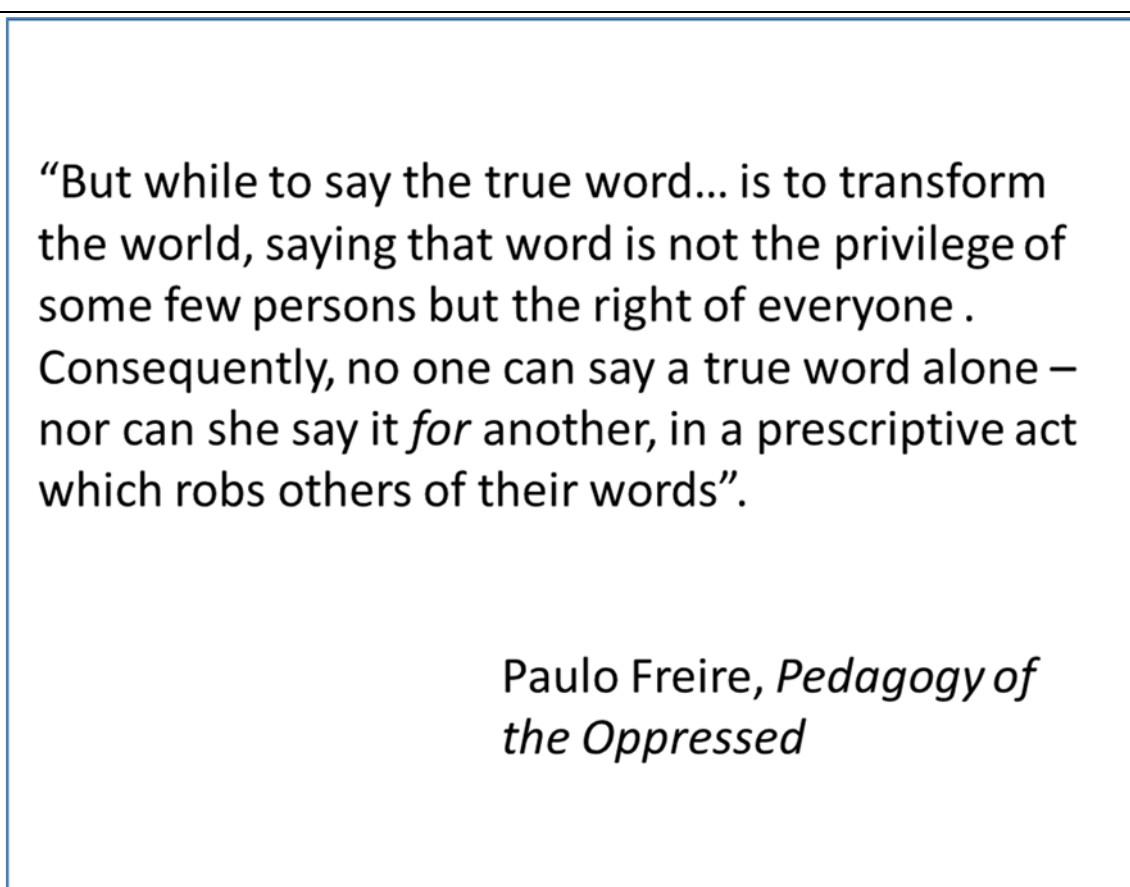
The objective of the second workshop was to reflect on the second feature of the theoretical analytical framework: knowledge-based. As mentioned above, this feature is about recognizing that the dialogical process takes place among actors with different types of equally valuable knowledge.

In the first workshop the researchers had already positioned their knowledge vis-à-vis the knowledge contributed by other territorial actors. This happened when discussing the reading material for that session, a blog post that described a book’s planned communication strategy that differentiated between

academic knowledge and end-users. One of the researchers had rejected that differentiation and stated “*We are all actors*” (Verbatim minutes of the Workshop held on 7 March, 2017).

Considering the above, in the workshop I presented one single quote by Paulo Freire (Figure 13), and asked them to reflect for a few minutes on what this meant for the communication of their book. By presenting this quote, I wanted to help them reflect who those other actors with whom they wanted to engage in a dialogue were.

**Figure 13. Quote from Pedagogy of the Oppressed**



Source: Freire (1996) p. 69.

## **9.2 Discussion of concepts and decision making**

This section describes the discussion that followed the presentation of the concepts behind the knowledge-based feature of the theoretical analytical framework and the decisions made. We use thick descriptions, which as we have mentioned earlier are not neutral descriptions with objective facts but the interpretation of the process made by the person who is writing (Karlsen &

Larrea, 2016). A second consideration is that the redefinition of the different features of the theoretical framework is linked to how the researchers participating in the process connect them with their own practice. This means that if this process had involved other researchers and not the ones who participated, then probably the features of the framework would have been redefined differently.

The discussion on the knowledge-based feature of the theoretical analytical framework took place during the second part of the workshop. During the first part I had presented a proposal of an online platform that could serve as a basis on which to build the smart dialogue defined as a result of the first workshop. The proposal was a result of intense work with the IT expert. We had also involved the Institute's project manager to make sure that the proposal made sense financially. The project manager was invited to the workshop to help answer any questions that the researchers may have. A happy atmosphere spread through the room when one of the researchers exclaimed after seeing it:

*“How very tangible everything now!”<sup>16</sup>*

(Quote taken from the verbatim minutes of the April 12, 2017, workshop)<sup>17</sup>

When in the second part of the workshop I asked researchers to reflect on what other type of knowledge apart from their own needed to have a space in the online tool, one of the authors made a connection with the first part of the workshop. He said that the proposal that had been presented in that part of the workshop was the result of a multidisciplinary effort by people with different types of knowledge participating in the project:

*“Our knowledge [the author's] on facilitators and on territorial development only, is not enough...Other knowledges within this team give that knowledge a multidisciplinary shade”.*

The other author reflected that apart from their own knowledge (the book):

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<sup>16</sup> As explained in Chapter 1, all quotes have been translated from Spanish to English by the author of this dissertation.

<sup>17</sup> Unless otherwise stated, all the quotes in this chapter are taken from the verbatim minutes of this workshop.

*“...two other knowledges or levels of knowledge are necessary: the first one is participant’s knowledge...and the other is knowledge that will be co-generated...Something that is neither the knowledge that we shared initially, nor the knowledge that they share... I would see that back and forth game and co-generation”.*

The workshop ended with the decision to design a specific space in the online tool for the voice of the researchers and a specific space for the voice of the other territorial actors. The space for the voice of researchers would include, apart from the chapters of the book, shorter texts with welcome messages and videos. These latter elements would allow researchers to introduce the chapters of the book in a more conversational way thereby facilitating immersion in the chapters of the book. A decision was also made to design different journeys: longer ones for those that may want to invest more time (researchers) and for those who may not want to (policymakers). The discussion never came to the point of specifically identifying who the territorial actors with whom researchers wanted to engage were.

### **9.3 Results of the learning process**

The main lesson from testing in practice knowledge-based is that a dialogue among actors with different types of knowledge needs to be facilitative. This section describes how this lesson helped to conceptualize an actionable feature.

By testing the knowledge-based feature in practice we learned that communication among people with different types of knowledge is not automatic and that work needs to be done to reduce the barriers that may stem from the different languages and frameworks. This was addressed by substituting the term knowledge-based with facilitative. The underlying meaning in terms of recognizing the equal value of all types of knowledge does not change, but it becomes more actionable by stressing the importance of working to make understanding among people with different types of knowledge possible.

As was described in the previous section, during the first workshop the researches had already positioned their knowledge vis-à-vis the knowledge that

the actors outside academia would contribute. “*We are all actors*” one of the researchers had said as a reaction to the reading material that made a very clear distinction between academics and end-users. The decision made in the workshop in terms of designing a specific place in which the other territorial actors could contribute their own knowledge was a natural consequence of this. However, an underlying objective, important for the facilitator in terms of her role as an insider action researcher who also acted on the decisions made was not met: identifying those other territorial actors as in a list.

When preparing the workshop the facilitator had made the assumption that since the researchers had already positioned their knowledge vis-à-vis the knowledge of other territorial actors, a reflection around the knowledge-based feature would lead automatically to a list of the territorial actors meant to contribute their knowledge in the online space. In this sense she had been unable to present the issue in a way that was understood by others the way she meant it, assuming that she would be understood. A simple lesson derived from this is that assumptions cannot be made that others are automatically going to understand what we mean or what we want to know.

The online tool proposed in the first part of the workshop is another example of this. One of the researchers, reflecting on the knowledge-based feature, referred to the multidisciplinary effort behind the online tool that had been presented earlier. Presenting it had been the result of intense work undertaken between the facilitator and the IT expert. However they had not been able to understand each other automatically, it took them some weeks to start using a language that they both recognized. Since this was crucial in order to move forward, it actually became a stated objective as shown in the quote from the facilitator’s diary:

*“During the process that we will develop together on Fridays we will try to start finding a shared language that facilitates our communication with the researchers later on”.*

(Entry from the researcher’s diary quoting an email sent to the IT expert, March 23, 2017)

The decision made in the workshop to write shorter texts and shoot videos to introduce participants to the chapters of the book in a more conversational way was meant to facilitate communication between researchers' knowledge and the other territorial actors who have different types of knowledge.

Based on the above, we substitute knowledge-based with facilitative in the actionable analytical framework. It does not change anything regarding its original meaning which is to acknowledge that dialogue takes place among actors with different types of equally valuable knowledge. By substituting it with facilitative it stresses the importance of working to reduce the difficulties that may arise when people with different types of knowledge communicate with each other, thereby making it actionable.

Facilitative acknowledges that work needs to be done to reduce the barriers that may hamper understanding between actors with different types of knowledge.

#### **9.4 Action**

This section explains how the lessons from the workshop were materialized in the online tool.

First, for the first part of the process (where the deferred dialogue takes place) specific spaces for researchers' knowledge and for the knowledge of the other actors were built. As shown in Figure 14, participants are faced with a screen where they can easily find two spaces. One of them with the voice of the authors and the other one where travelers contribute their own knowledge. Figure 15 shows an example of one of the videos through which researchers try to facilitate their communication with the other actors. Finally, Figure 16 shows the short texts prepared by the authors to also facilitate their communication with their readers.

Figure 14. Interactive journey: Spaces for two different types of knowledge

Personas Facilitadoras DT

Acceso Discusiones Biblioteca calendario Miembros Admin

Buscar ayuda mi cuenta

Discusiones recientes

Zer iradokitzen dizu persona fakitadore edo bideratzaile terminoak? / ¿Qué te sugiere el término persona facilitadora? / What does the term facilitator suggest to you? / No seu entender, o que é ser uma pessoa facilitadora? / Amaiia Zumeaga en January 5

Zu zeu persona fakitadorea zarela uste al duzu? / ¿Crees que eres una persona facilitadora? / Do you feel you are a facilitator? / Você acredita ser uma pessoa facilitadora? / Amaiia Zumeaga en January 5

**Facilitative Actors of Territorial Development. A Social Construction-Based Approach**

Click here to see the introductory video

If you have arrived at this point, you are about to embark on a journey and we feel that it is important to tell you the story behind it. Some years ago we set off on a path carrying very little in our rucksacks other than an extremely strong intuition that we were facilitators in our territories. When we received requests for presentations or workshops and we tackled "how we were carrying out some actions" we always ran into doubts and debates on the processes. So we decided to take a turn in the road and write a book on facilitators, which led us to places as different as Azpetia, Rafaela, Buenos Aires, San Sebastian, Montevideo, Tierra de Fuego, Madrid, Turin, Barcelona or Bilbao. And we gradually filled our rucksacks with new concepts and frameworks that we put to the test once again in our practices. Near the end of that stretch of the road, we ran into Patricia Canto who, using her doctoral dissertation as an excuse, invited us to try a different way of travelling. And she led us to this virtual space where we intend to cross your path and see where it takes us. Our hope is that together we manage to discover or make visible a key figure in the development of territories.

↑  
Travelers

↑  
Authors

Source: <https://dgroups.org/groups/perfadt>. Retrieved on August 22, 2018.

Figure 15. Videos in which the authors introduce the different stops

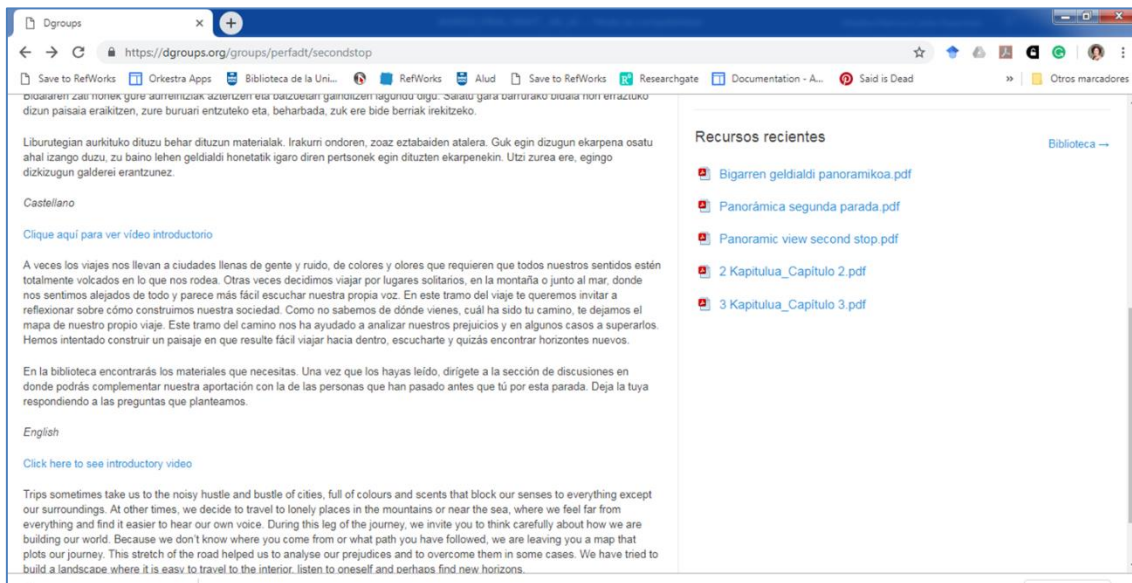
de listado cuales son los roles y quehaceres del facilitador, y, a continuación, se mencionan

LAUGARREN GELDIALDIA | CUARTA PARADA | FOURTH STOP

Oculo

Source: <https://dgroups.org/groups/perfadt>. Retrieved on August 22, 2018

Figure 16. Introduction to the chapters of the book



Source: <https://dgroups.org/groups/perfadt>. Retrieved on August 22, 2018

## 9.5 Summary

This chapter focused on describing how knowledge-based, the second feature of the theoretical analytical framework was tested in practice and transformed into an actionable feature. The first section focused on the concepts presented in the workshop to help researchers reflect on the knowledge-based feature of their research communication with a particular emphasis on the equal value of the knowledge that each actor contributes. The second section described the discussion that took place in the workshop and the decisions made on how to communicate their knowledge in a way that was understood more easily by other territorial actors. The third section presented the lessons learnt from testing the features in practice and how those lessons transformed knowledge-based into facilitative, an actionable feature. The last section on action showed how facilitative was materialized in practice.

Reproduced from Table 13

| Theoretical analytical framework   | Actionable analytical framework   |
|--|---|
| <b>Knowledge-based</b>   | <b>Facilitative</b>   |
| Dialogue takes place among actors with different types of equally valuable knowledge | Dialogue between actors with different types of equally valuable knowledge needs to be facilitative to reduce the barriers that may hamper understanding between them |

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Testing knowledge-based in practice unveiled that communication among different types of knowledge is not automatic and that work needs to be done to reduce the barriers that may stem from the different languages and frameworks. The underlying meaning in terms of recognizing the equal value of all types of knowledge does not change, but the dimension becomes more actionable by calling for the reduction of possible barriers to understanding.

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In the following chapter we look into the third feature of the theoretical analytical framework: inclusive, and explain how it was transformed into an actionable dimension.



## 10 INCLUSIVE IS A HIGH GOAL

In the previous chapter we described how the second feature of the theoretical analytical framework was transformed into an actionable feature. In this chapter we describe the process that transformed inclusive, the third feature of the theoretical framework into an actionable feature.

In order to do so the chapter is structured into 4 sections. The first section introduces the concepts presented in the workshop (May 9, 2017) in order to help researchers reflect on inclusive. It provides a selection of the slides used to present those concepts. The second section, on discussion of concepts and decision making, uses thick descriptions to describe the interaction that took place when discussing inclusive in the workshop. The third section on results of the learning process is a reflection on what the facilitator learnt. The fourth and final section on action describes how the lessons learnt were materialized in the online tool.

The theoretical analytical framework (Chapter 5, Table 10) described inclusive as follows:

“Through dialogue territorial actors become co-researchers and power is redistributed away from researchers”.

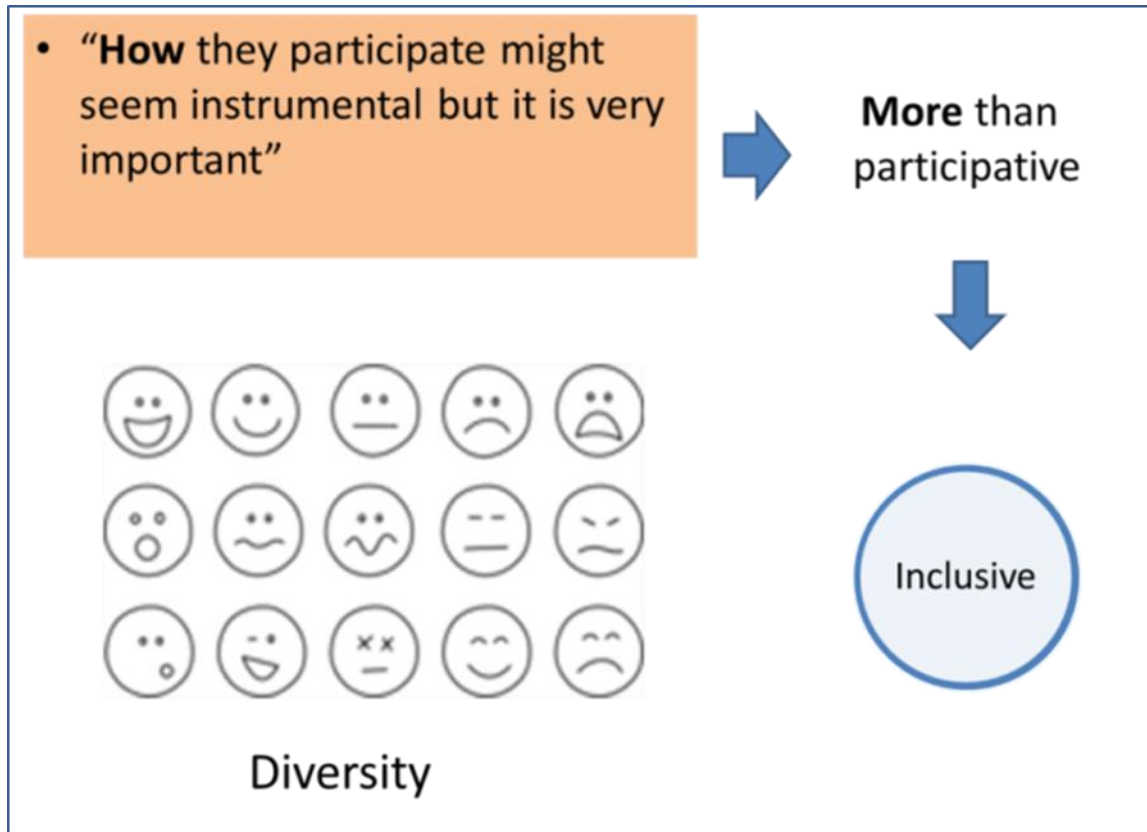
### 10.1 Concepts presented

The objective of the third workshop was to reflect on the third feature of the theoretical analytical framework: inclusive. This feature, as described above is about connecting academic knowledge with the context of the other territorial actors to make it relevant in their realities.

In order to introduce the concept I first presented a slide (Figure 17) that connected with something that had come up in the previous workshop. One of the researchers had made a distinction between creating a space in the online tool for other actors to participate and “how” they participated. By bringing this up I wanted them to take a step beyond focusing on creating specific spaces for other territorial actors to contribute their knowledge (mere participation) to start

thinking how to make the tool relevant for those actors in the context of their diverse realities (inclusion).

Figure 17. Inclusive is more than participative



Source. Author's own elaboration.

I elaborated (Figure 18) that participation is key in the literature on RRI and CDSC. In the former, the challenge is to move beyond previous public engagement and citizen participation initiatives criticized for focusing only on the participation process without questioning its objectives. In the latter it has been used in an instrumental way to legitimize decisions. With this I wanted to reinforce the idea of inclusion as needing to go beyond a focus on participation in quantitative terms to a focus on how it can be relevant for the other territorial actors. I then highlighted the challenge that arises with asymmetries in power relations. I wanted the authors to reflect that since the online tool would be open to a diversity of actors, among them academics, practitioners, doctoral and master students and even different levels of a same government, it might be important to consider that power relations might hamper participation.

Figure 18. Participation as means

| Participation as means...   |  |
|---|--|
| Citizen participation   | Participatory Communication  |
| “Participation professionals” focused on the process without questioning its objectives (Owen et al. 2012; Macnaghten et al. 2013...) | As means to legitimize decisions (Huesca & Dervin, 1997; Cornish & Dunn, 2010; Gumucio-Dagron) |
| A “new tyranny” <i>-framing effect-</i> that reinforces <b>power relations</b> ... (Cooke & Kothari, 2001)                            |  |

Source. Author's own elaboration.

In this context I presented a slide ( Figure 19) on Freire's pedagogical education, specifically how he proposes to solve the teacher-student contradiction. My intention was to help researchers reflect that the online tool could be inclusive if it helped to make the book chapters resonate with the context and experiences of the other actors.

I focused on inclusion in this way because at this stage of the process all that was left was to work to build an environment that helped participants to contribute their experiential knowledge by connecting to their diverse realities. Indeed, the online platform that we had decided to use already had a number of characteristics that made it inclusive in a more “traditional” way (easy to use, accessible in low-band width zones, an interface in different languages) and we had been endowing it with different characteristics that were already making it inclusive in that more traditional way (deferred participation and asynchronous

dialogue to enable participants to contribute their knowledge when they wanted to; specific spaces for other actors to contribute their knowledge etc..).

**Figure 19. Solving power relations**

**How to solve power relations?**

Freire, P. (1996) *Pedagogy of the Oppressed*

- It begins when the teacher asks herself or himself what she or he will dialogue with the latter about ...designs the program with them
- It resolves the teacher-student contradiction ...They become jointly responsible for a process in which all grow
- The students are now critical co-investigators aware of the way they exist in the world ...they come to see the world not as a static reality but as a reality in process, in transformation

Source: author's own elaboration.

## **10.2 Discussion of concepts and decision making**

This section describes the discussion that followed the presentation of the concepts behind the inclusive feature of the theoretical analytical framework and the decisions made as a result of such discussions. As in the previous chapters we use thick descriptions, understood as the interpretation of the process made by the person who is writing (Karlsen & Larrea, 2016). It is also important to consider that the redefinition of the different features of the theoretical analytical framework is linked to how the researchers participating in the process connect them with their own practice. Finally, we also consider the role of emotions (Costamagna & Larrea, 2017) which explains the writing style in what follows.

The workshop was running a bit behind schedule because some of the participants had not been able to arrive on time. It was a hot day. I introduced a new member of the team: a person working in communication at Orkestra who would provide technical assistance on the audiovisual material for the online tool. I urged participants to keep in mind that we had many decisions to make and only one workshop left after this one. As explained in Chapter 1 the project to build a novel communication approach for the book was being financed by the Provincial Government and in that context there were important deadlines to meet. One of them was to test a beta version of the online tool with a pilot group during the summer.

When discussing the upcoming pilot test, a number of questions related to the online tool emerged: Would participants need an invitation to access the tool or would access be available to anyone who found the link on the web? Would the interactive journey be individual or could participants perhaps travel in groups? One of the researchers suggested that he had in mind the latter option. The other author reflected:

*“Until now I had understood that this is a journey that each one does on their own...he/she interacts with others that have left things [reflections] behind...are we now suggesting a facilitator to dynamize groups?...because that was not my idea of a journey...But well we might have to give it a second thought...Is this a training process with a teacher and a student or is it a place in which participants travel on their own, finding things [reflections] and leaving their own behind?”<sup>18</sup>*

(Quote taken from the verbatim minutes of the May 9, 2017 workshop)<sup>19</sup>

The other author agreed that he might have complicated things a bit but he had been travelling in Brazil recently and had realized that large groups could also be an option.

*“I just came back from Brazil and there is group there that when we have the tool ready we can work with...we can combine individual capability building and collective capability building when we work with groups...we are throwing ideas around here aren't we?”*

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<sup>18</sup> As explained in Chapter 1, all quotes have been translated from Spanish to English by the author of this dissertation.

<sup>19</sup> Unless otherwise stated, all the quotes in this chapter are taken from the verbatim minutes of this workshop.

This was followed by an exchange of ideas around all the different types of journey that it could be necessary to design in order to include the different types of travelers and ways of travelling. I was worried that we were opening up the discussion and going back to things that had already been decided. I reminded the researchers:

*“What I would really like for us now is to focus on just two journeys from now until September: a long one for researcher and a shorter one for policymakers and other actors likely to invest less time”.*

Later, when I presented Freire’s pedagogical approach as a way of addressing inclusion, the idea was resisted by one of the authors along the lines that the tool did not offer the conditions to fully reflect Freire’s pedagogical approach.

*“...However we could think on how to make it more inclusive than before, when it was only a book...opening it up to participation...We are giving them [other actors] a sort of right to reply...This is way more inclusive than the book...”*

I insisted that all I was trying to do was to help us to move forward considering our time constraints and upcoming deadlines:

*“...What I am trying to convey is that we have a book with 6 chapters and we have an online platform that we can more or less imagine now because we have spent a lot of time designing it...and now we have to think how to present those chapters in an inclusive way...simply that”.*

The other author jumped in to say that perhaps it wasn’t necessary to rule out Freire completely and that the questions posed to participants in each step of the interactive journey could be designed with a Freirean vocation. He supported his argument as follows:

*“I understand what [author x] says. When one works in face-to-face environments it is very difficult to co-generate...but at least we try and that helps us to do a lot of things that we wouldn’t have done otherwise”.*

The other author replied that if Freire’s methodology was the path forward for inclusion then it would be necessary to define:

*“Is this a training process?”*

The other author replied that:

*“It is not a training process, it is a journey...training is discarded although it does have bits of training. We could also discard research...but then it does have bits of research...It moves from one to another”.*

The pressure on the part of the facilitator to make decisions brought to the surface the different interpretations that both researchers implicitly held of what they wanted “the thing” to be, rooted in their own research interests. It also made the facilitator’s own interests emerge in the context of the responsibility she had acquired of delivering results to the provincial government funding the project.

The workshop ended with a reminder on the part of the facilitator of all the pending chores and the upcoming deadlines. Participants agreed that the journey metaphor would serve as the overarching theme for the online tool. Videos and other visual material as well as the language used in texts would evoke a journey (i.e., travelers instead of readers or participants; stops instead of chapters...). The interactive journey would be done individually or as part of a group but in the latter case the journey would not be facilitated.

Regarding the discussion on whether to use Freire’s pedagogical approach as a way of making the journey inclusive the following decision was made: In the space specifically designed for their voice, travelers would be faced by one or two questions formulated to help them connect with their own theoretical and experiential knowledge. In this way the interactive journey would have a Freirean vocation.

However, the most important decision on the meaning of inclusion was taken after the workshop. I sent out a questionnaire to the authors to know how they had experienced the workshop. I realized that I may have overstepped my role as an actor in the process (working to reach my own interest which was to meet the deadlines for the project). A few days later the researcher that had resisted the proposal to use Freire’s pedagogical approach sent me an email that she had previously discussed with the other author. In it she reflected on what had happened during the workshop in terms of the meaning of inclusion in the online tool:

*“I felt that Freire did not offer the right framework and excluded your proposal; X felt that my approach lacked empathy and excluded it...[Excluding some options] was necessary in our case because we can only build one ‘thing’ and not all the possible versions of ‘the thing’... but in ‘the thing’ itself I think we should renounce to try to build one particular path and define that space as a meeting point of different paths”.*

(Excerpt from an email sent by one of the authors on May 14, 2017, recorded in the research journal)<sup>20</sup>

She elaborated that:

*“In co-creation processes, after a stage that opens up to different ideas, proposals, visions and perspectives, a closing stage follows in which everything that has been shared is selected, prioritized, combined until a point is reached in which it becomes something that is only bits of all that was said or shared and becomes something different....we don’t have the time or resources to do that...which is always the result of slow and complex processes...so inclusion in the interactive journey can only be a sum of different perspectives on facilitation and not a transformation of its concepts and frameworks.”*

Based on the above she narrowed the definition of inclusive in the online tool as follows:

*“Building a melting pot of perspectives on facilitation, a tribute to the diversity of views on facilitation ... and the variety of theoretical frameworks and life experiences behind that diversity...”*

The decision was therefore made to define inclusive as a tribute to the diversity of views on facilitation. This meant that travelers contributions would not be edited censured classified or summarized in any way.

With these decisions made, designing the first part of the process that had been defined as an interactive journey was over. The fourth and final workshop would focus on building the second part of the process: a meeting space for all travelers in which to “continue writing the book”.

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<sup>20</sup> The following quotes are excerpts of the same email recorded in the research journal.

### 10.3 Results of the learning process

This section presents the lessons learnt from testing inclusive in practice. Inclusive is the third feature of the theoretical analytical framework. We learned one main thing from reflecting, making decisions and acting on this feature on the online tool:

Inclusion involves generating the conditions for conflict to emerge among the diversity of actors

In contrast to the two previous dimensions, the lessons learnt on inclusion were not so much the result of reflecting directly on the theoretical concepts presented in the workshop but more the result of reflecting on what happened in the workshop when such concepts were being discussed. As described in the previous section, when each one of the participants (the two researchers and the communication facilitator) tried to influence the decisions that would really determine the final shape of the online tool according to their interests (research backgrounds in the case of researchers and need to deliver the tool within set deadlines in the case of the facilitator) conflict emerged.

This was good for the process because it means that “the thing” was truly co-generated by all. However, it highlighted the importance of facilitating conflict and the difficulties that doing so would entail in the virtual conditions under which the book was going to be communicated.

According to Karlsen & Larrea (2014, p. 48) “Conflict is good when it implies that new insights, knowledge and innovations are created in the process. Conflict can break lock-in situations and create new development and paths”. The authors acknowledge however that “conflict needs to be handled in a way that uses the energy from a conflict in a positive mode to create common ground for taking the necessary actions on the path to reaching a consensus” (Karlsen & Larrea, 2014, p. 47).

In contrast, when decisions do not need to be made, when convergence is not necessary, conflict need not be a part of inclusion. Both RRI and CDSC are meant to produce sustainable change and this is only possible if all the actors with a stake in the problem or challenge are included. Chapter 5, discussed how for this reason power and power relations have been important objects of study

in participatory communication (Escobar, 1999; Gumucio Dagron, 2001; Huesca, 2008; Leal, 2007; Sonderling, 1997; Waisbord, 2005). This case throws a different light on the issue by highlighting the role of conflict in moving participatory processes towards truly co-generated and sustainable solutions.

By defining inclusive as a tribute to diversity, the authors renounced to facilitate the emergence of conflicting views and therefore to communicate their book in an inclusive way during the interactive journey. They opted for a space that would bring together a sum of different perspectives on facilitation that would add to the original concepts and frameworks in the book. This definition of inclusion connects with Thompson (2014, p. 828), mentioned in Chapter 5, who claims that the networked structure offered by the Web 2.0 offers a single logic of inclusion determined by whether you are in the network or not irrespective of who you are or might be, overcoming previous debates on power relations in communication for development.

This does not mean that inclusion should not be part of RRC. It means that it is a high goal that needs to be made actionable on a case-by case basis being transparent about how it is approximated. For “the thing” a decision was made to pose questions in each stop of the journey to connect the contents of each chapter to travelers’ own experience.

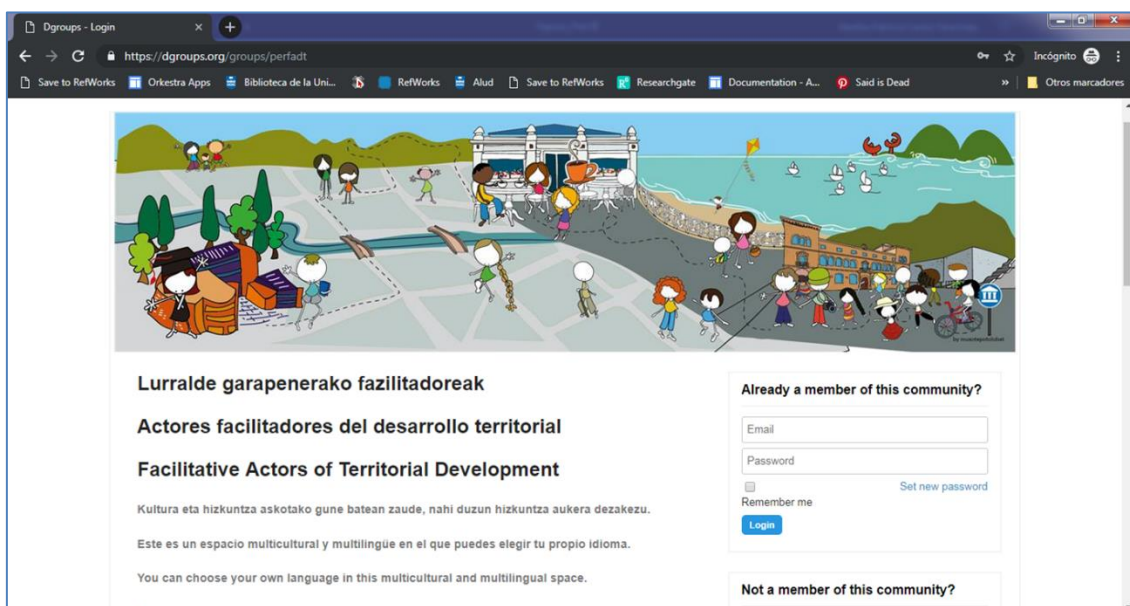
In this case the starting point was a book, which strictly speaking is exclusive of everything which it does not include. In contrast with the book, the online tool was built to engage in a smart dialogue with readers who are able to speak back to researchers and deepen their reflection not only with what researchers communicate but with the reflections that other actors have shared. This is not as inclusive as creating something new from conflicting ideas but it is still more inclusive than communicating the book through a traditional one-way approach.

In sum, inclusion is a demanding dimension that is not easy to materialize and involves generating the conditions for conflict to emerge among the diversity of actors participating in the process. This does not mean renouncing to inclusion altogether but acknowledging its complexity and being explicit about what it means in each particular case.

## 10.4 Action

After the workshop, in my dual role as insider action researcher and actor in the process it was my responsibility to act on the decisions made. The following slides show how those decisions were taken to action in “the thing”. The tribute to diversity meant in practice that travelers’ contributions would not be edited, shortened, or summarized and also that travelers would find a welcome note in the home screen with the following words: “You are an in a multicultural and multi-language space, please find your own language” (Figure 20).

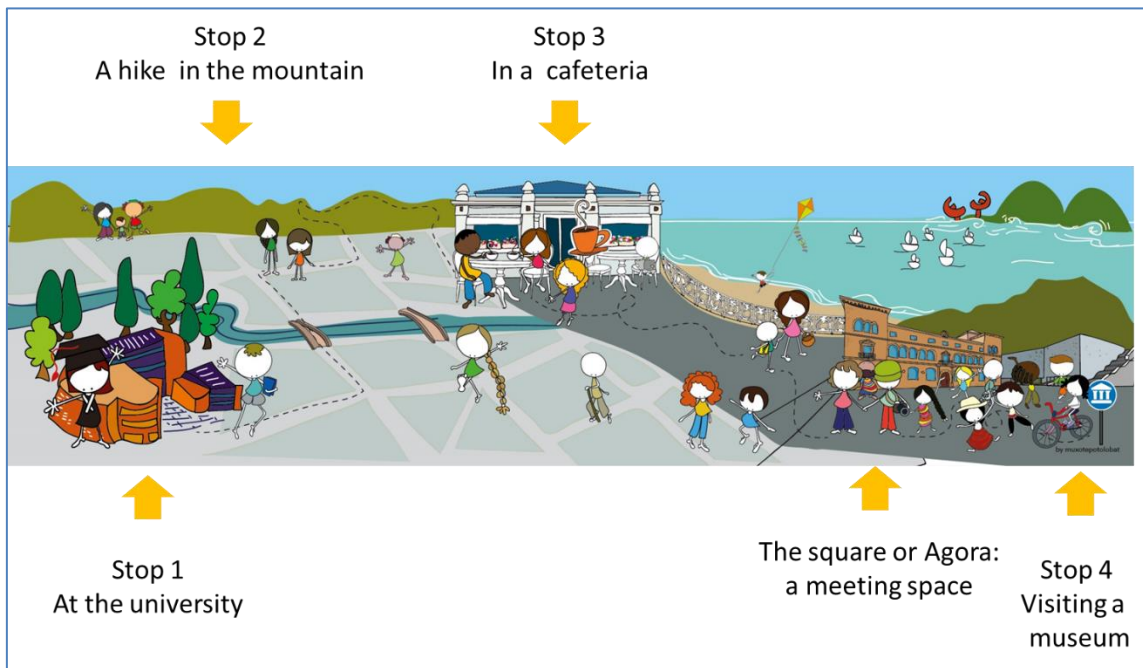
Figure 20. Home Screen: Map and welcome note



Source: <https://dgroups.org/groups/perfadt>. Retrieved on January, 13, 2019

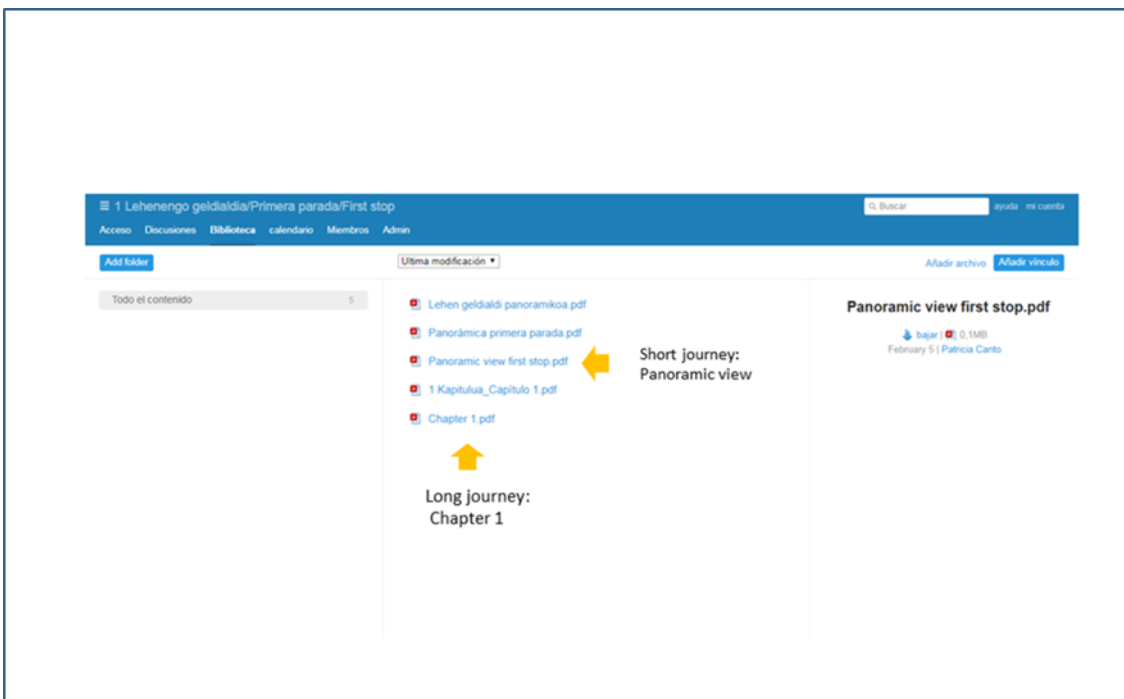
We also worked with a local artist in order to design our own drawing of a map that illustrated the different stops of the journey, which starts at a university and ends in a square. She produced a drawing of people of different ages and cultures in an attempt to invite diverse people to join the journey (Figure 21). Also, shorter versions of the chapters were written for travelers with less time for reading. Both the complete and the shorter versions of the chapters are available in the different stops of the interactive journey (see right hand column in Figure 22 below).

Figure 21. Map of the journey



Source: Adapted from: <https://dgroups.org/groups/perfadt>

Figure 22. Long and short versions of the journey

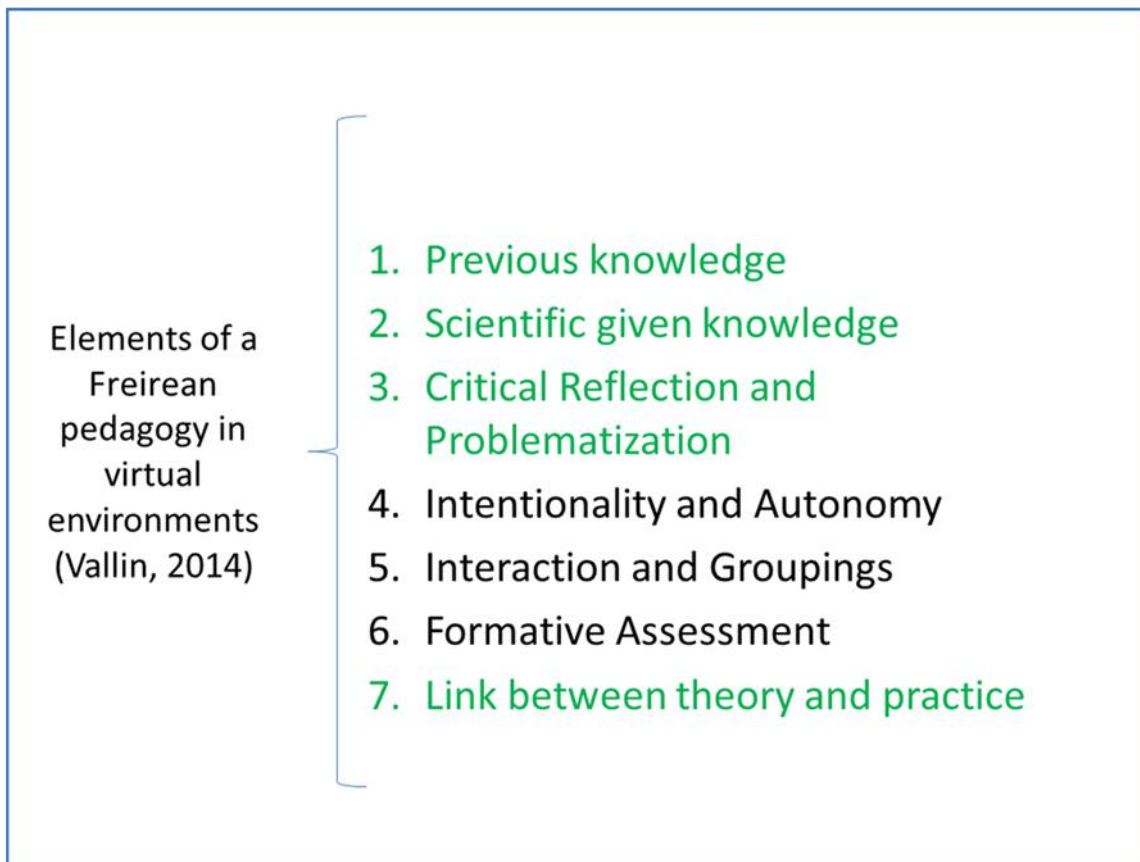


Source: <https://dgroups.org/groups/perfadt>. Retrieved on January 13, 2019

Regarding the questions for each stop, I looked into the literature to see how Freire's pedagogical approach could work in virtual environments and

suggested that we could use the elements suggested by Vallin (2014) as inspiration for formulating our questions. I sent the article to the researchers so that they could work on formulating the questions. Since the interactive journey was made of 4 stops, I suggested they use 4 of the 7 elements suggested by Vallin: (i) previous knowledge; (ii) scientific given knowledge; (iii); critical reflection and problematizing; and (iv) link between theory and practice (Figure 23).

**Figure 23. Elements of a Freirean pedagogy in virtual environments**



Source: Author's own elaboration.

The final questions included in the interactive journey are shown in Table 16.

**Table 16. Questions included in each stop of the interactive journey**

| Stop  | Questions   |
|-------|---|
| Intro | Do you feel you are a facilitator?<br>What does the term facilitator suggest to you?  |
| 1     | What lessons or experiences explain how you work today? (link your answer to the role you play in your territory)<br>Have any theoretical frameworks and/or experiences influenced the way that you understand a facilitator? |
| 2     | Could you share an experience in which you faced a complex problem and felt you lacked the tools to manage it?<br>Could you share an experience in which you managed a complex problem through a social construction problem? |
| 3     | Would you add any other characteristic to a facilitator?<br>Could you identify in yourself any of the characteristics of a facilitator?   |
| 4     | Would you add anything from your own experience?<br>Do you have any experience training facilitators or have you trained facilitators?  |

Source: Author's own elaboration.

## 10.5 Summary

In this chapter we described how inclusive, the third feature of the theoretical analytical framework was tested in practice through an action research process. The first section introduced the concepts presented in the workshop to help researchers reflect on inclusive in terms of the communication of their book. The second section described the discussion that took place in the workshop, how conflict emerged among participants and how conflict was later facilitated. The third section presented the lessons learnt from the process that took place in the workshop leading to the emergence of conflict. In this case, the lessons for the actionable analytical framework were based more on what happened in the workshop than on the actual discussion of the concepts presented. The last section on action showed how inclusive was materialized in practice. This is the only dimension of the analytical framework that proved difficult to land in the online tool.

Reproduced from Table 14

| Theoretical analytical framework   | Actionable analytical framework  |
|--|--|
| <b>Inclusive</b>   | <b>Inclusive</b>   |
| Through dialogue territorial actors become co-researchers and power is redistributed away from researchers | Through dialogue territorial actors become co-researchers and the conditions for conflict to emerge need to be generated |

The workshop unveiled that inclusive is a demanding dimension that is not easy to materialize in practice since it involves generating the conditions for conflict among the diversity of actors to emerge. It is nevertheless a critical dimension of responsible research communication so each case should be transparent about how it approximates this feature. It is the only feature of the framework that was not made actionable.

In the following chapter we look into the fourth feature of the theoretical analytical framework and explain how it was transformed in practice. This was done in a fourth workshop which focused on building the second stage of the process: the meeting space in which to continue writing the book.



## 11 FROM RESPONSIVE TO EMERGENT AND COLLECTIVE

In the previous chapter we described how inclusive, the third feature of the theoretical analytical framework was tested in practice and how it proved difficult to materialize in practice. In this chapter we describe how the fourth feature was tested.

According to the theoretical analytical framework, the fourth feature that we would test in practice was responsive. As explained in Chapter 5 the term responsive comes from the language of RRI but our definition of responsive comes from the literature on participatory communication, namely Freire's conceptualization of praxis that links dialogue to change (Freire, 1996). Through this we wanted to make the connection between both bodies of the literature visible in the theoretical analytical framework.

Responsive was defined as follows (Chapter 5, Table 10):

“Dialogue is made of reflection and action that lead to change”.

However, as we have discussed earlier, the transformation of the different features of the theoretical framework, when tested in practice, is linked to how the researchers participating in the process connect them to their own frameworks. In our case the link between dialogue and change emerged strongly during the first workshop so when the time to discuss responsive arrived, its change dimension was no longer relevant.

Moreover, as a result of the lessons learnt from reflecting-making decisions and acting on “process-oriented” we conceptualized a new form of dialogue: a smart dialogue. A smart dialogue is made up of two features: deferred and asynchronous. We developed the first feature during the second and third workshops and left the second feature, described as “a fully-fledged dialogue, but participants do not need to engage simultaneously” for the last workshop, where we would reflect on how to build the second stage of the process: “the space in which to continue writing the book.”

I felt that the literature on virtual communities of practice from Chapter 5 could help researchers to reflect on how to build a space to engage in an asynchronous dialogue. I discussed this with the researchers and we agreed that the call for the workshop would propose that we reflect on “dialogical” in general terms, instead of “responsive”. Meanwhile I would have time to identify more precise concepts to reflect on. In the literature on virtual communities of practice I found “emergent dialogue” and this is the concept that I used to help spur reflection. Emergent dialogue, following Hammond et al. (2003) is described as having:

“...a collaborative orientation and promotes the free flow of ideas and mutual astonishment”.

The following sections describe the reflection and decision making, what we learned and how the lessons were materialized in the online tool. We follow the same structure as in previous chapters. The first section on concepts presented, shows the concepts introduced in the fourth workshop (June 13, 2017) and includes a selection of the slides used. The second section, on discussion of concepts and decision making, uses thick descriptions to describe the interaction that took place among participants when discussing those concepts. The third section on results of the learning process is a reflection on what the facilitator learnt from the discussion on the concepts presented to bring to the actionable analytical framework. The fourth and final section on action describes how the lessons learnt were materialized in the online tool.

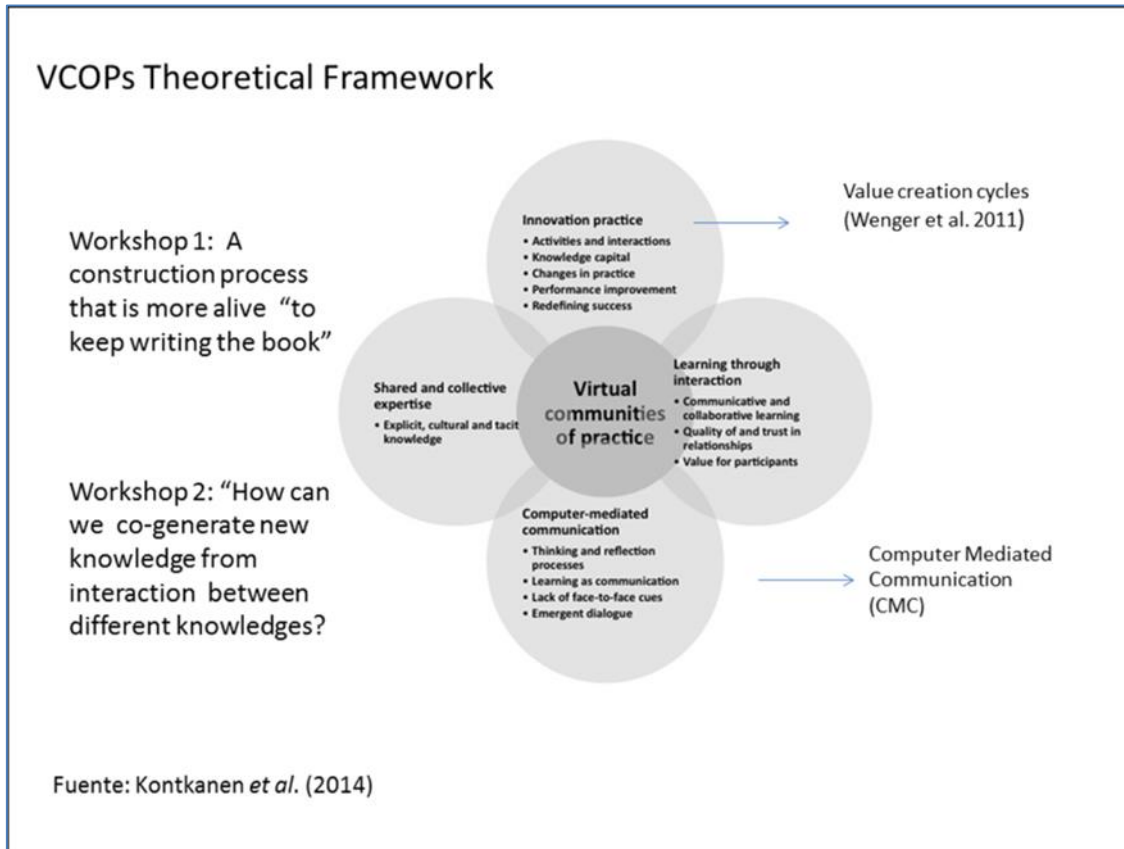
### **11.1 Concepts presented**

The objective of the fourth workshop was to present researchers with theoretical concepts that helped them reflect on how to design the second stage of the process: a space in which to continue writing the book that would take the form of an asynchronous dialogue. I brought concepts from the literature on virtual communities of practice discussed in Chapter 5 to help researchers reflect on how to create an asynchronous dialogical space in the online tool.

I first introduced the theoretical framework on virtual communities of practice where I found the concept (Figure 24). The framework also connected with our

discussion in the first workshop regarding how written texts can act as devices for thinking and reflection processes.

Figure 24. Virtual Communities of Practice



Source: Adapted from Kontkanen et al. (2014).

I then presented a second slide (Figure 25) to help researchers reflect on the differences between convergent and emergent dialogue.

Figure 25. Convergent and Emergent Dialogue

## The style of communication also matters...

“Dialogic communication refers to two-way , multi-vocal communication where all ideas are valued and communication is not just a tool to attain goals, but also means of producing new realities” (Kantanen, 2008; van Ruler, 2004)

- Convergent dialogue: designed to create a desired consensus
- **Emergent dialogue** : generates the unexpected

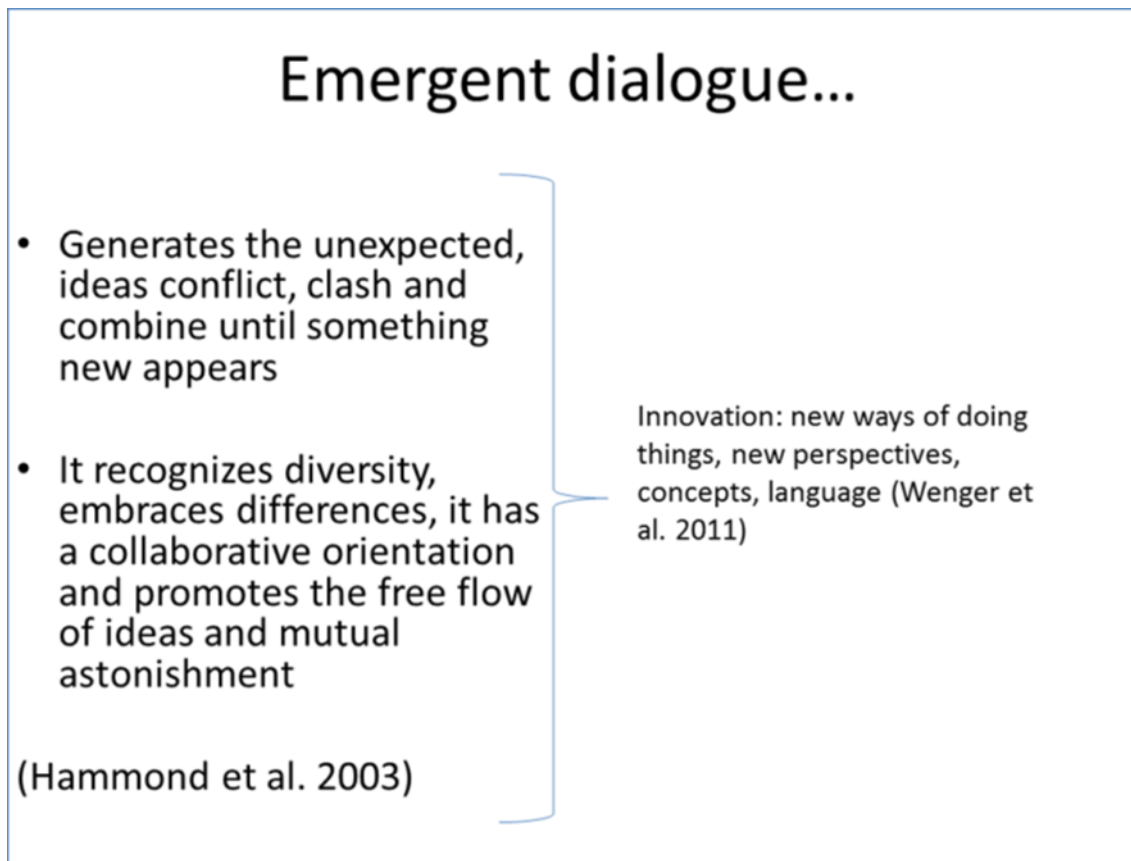
(Hammond *et al.* 2003)

Source : Kontkanen et al. (2014)

Source: Adaptaed from Kontkanen et al. (2014).

I then zoomed in on the concept of emergent dialogue which as I mentioned earlier was meant to help researches connect with and reflect on the asynchronous environment they wanted to create in order to “keep writing the book”. This is shown in Figure 26.

Figure 26. Emergent Dialogue



Source: Adaptaed from Kontkanen et al. (2014).

We now present the discussion that took place around the concepts that were introduced in the workshop and the decisions made.

### 11.2 Discussion of concepts and decision making

This section describes the discussion that followed the presentation of the concepts introduced in the workshop and the decisions made as a result of such discussions. As in the previous chapters we use thick descriptions, understood as the interpretation of the process made by the person who is writing (Karlsen & Larrea, 2016). It is also important to consider that the redefinition of the different dimensions of the theoretical framework is linked to how the researchers participating in the process connect them with their own practice.

After the presentation of the concepts the authors started elaborating on what the dynamic and changing features of an emergent dialogue meant for the second stage of the communication of their book:

*“I like the idea of emergent dialogue because from the outset we are saying that we do not know where this space is going to lead us...and I think this really is Freirean...This space will be constructed by everyone...”<sup>21</sup>*

(Quote taken from the minutes of the June 13, 2017 workshop)<sup>22</sup>

During the discussion the idea that we were talking about a more collective exercise, in contrast to the interactive journey, which had a more individual, reflexive nature, started to take shape. One of the authors remarked:

*“The [concept of] emergent dialogue is a big jump...I’m not sure if we begin a new journey...but we move on to a collective formula that may lead us to a learning community”*

The other author elaborated on this:

*“I think that community linked to continuity is beautiful....The question is can we articulate a team to do it...I think that that is where co-construction gains volume...”*

This reflection was followed by a discussion on whether it would be convenient to nurture this meeting space with questions or comments every two months in order to keep it alive or if it was best to leave it free for anyone to participate spontaneously whenever they wanted to. In this context the possibility of incorporating a facilitator was mentioned:

*“It is an exercise that will require facilitation because groups behave differently...sometimes they will adjust freely but at other times somebody will need to adjust it when the community starts diverging to something else....”*

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<sup>21</sup> As explained in Chapter 1, all quotes have been translated from Spanish to English by the author of this dissertation.

<sup>22</sup> Unless otherwise stated, all the quotes in this chapter are taken from the verbatim minutes of this workshop.

And the need for some rules was also mentioned:

*“I think that the most important decision here is to decide who from among all of us will continue working in ‘the thing’ and if the concept is emergent dialogue, there will be a few predefined rules of the game, but we will then have to let it unfold step by step ...”*

As the discussion developed, the authors also connected with an earlier reflection in the sense that in the asynchronous space they would no longer be “the authors” but part of the community that would continue “writing the book”. One of them said:

*“In that plaza or space, we [as researchers] are not going to be seen...or if we are, we are just one more...we won’t be more visible than the other participants....During the journey the challenge was how can we communicate the book in a different way? So in the journey we communicate. If we look at the verb: ‘we communicate’, we is the authors. However, now [the challenge] is to continue writing the book. Who writes the book? We all do; so we are not [the only] actors anymore...we are all actors”.*

The discussion that followed referred to a jump into the unknown and the feeling of insecurity it generated. It also led researchers to make the decision to also build the space in an emergent way. One of the authors said:

*“...so at this stage the only thing we can decide is who is going to facilitate that space...This might give us a bit of insecurity right now...it is really nice to feel that the [interactive] journey is now closed: we have four videos, four stops, four whatever...But in this new part...I think that the design of the space, not just the dialogue needs to be emergent”.*

The workshop ended with the decision to prepare a space in “the thing” for the virtual community, a square, or plaza but not more than that. After the pilot test we would ask participants if they would be interested in participating in a virtual community that continued discussing the role of facilitators for territorial development and we would continue building from there.

A few days after the workshop, a conversation between the facilitator and one of the researchers about when and how to present the online tool in Orkestra led to an email exchange in which the researcher said:

*“We should not be afraid to use the term ‘to appropriate oneself of the process.’ It means to define in a reasonable way and if possible by consensus to avoid misunderstandings, what each one of us takes from the process...And taking something does not mean keeping it, it means taking the responsibility of making it grow”.*

(Quote taken from the PhD student’s research diary)

The process had ended. The researchers now had a tool to help them communicate their book with an RRC approach; the facilitator had the data she needed to write the empirical chapter of her dissertation and in September she and the friendly outsider would be able to deliver to the Provincial Council a tool through which to generate facilitation capabilities among different territorial actors in Gipuzkoa.

### **11.3 Results of the learning process**

The main lesson from the workshop is that an asynchronous dialogue is emergent and collective. This section describes how this lesson helped to conceptualize an actionable feature.

As discussed earlier, the redefinition of the different dimensions of the theoretical analytical framework is linked to how the researchers participating in the process connect them to their own frameworks. This led us to substitute responsive, the fourth dimension in the theoretical analytical framework because its change dimension had been discussed during the first workshop. Also, we had agreed to build on asynchronous, one of the features of smart dialogue as “the space in which to continue writing the book” during the last workshop. In order to do so we reflected on the concept of emergent dialogue.

From reflecting, making decisions and acting on this last dimension we learned that emergent dialogues cannot be planned ahead. They are dynamic, ongoing and changing and require flexibility and the capacity to adapt to unexpected turns. A second lesson is that emergent dialogues are collective and their

sustainability will depend on what is made by dialogue: what relations, what learning, and what value for participants.

An emergent dialogue is dynamic, ongoing and changing and cannot be planned ahead.

In contrast to the first stage of the process planned to develop a deferred dialogue and for which videos, maps, short texts and indeed the journey's itinerary were designed beforehand, this second stage of the process could not be planned ahead. It therefore requires flexibility and the capacity to deal with uncertainty as it unfolds step by step. It may be more demanding for researchers time-wise though more promising in terms of discussing their concepts and frameworks to make them more workable in other contexts. It may also be more promising in terms of transforming the author's original concepts and frameworks and co-generate new knowledge.

The responsibility for keeping the dialogue alive is collective

The second lesson, which emerges from discussing the literature on virtual communities of practice, is that an emergent dialogue is developed and maintained collectively. What follows is that the responsibility for keeping it alive is also collective. This will in turn depend on what is being made by dialogue. This reflection connects with Escobar (2011) who describes communication as a process focused on what gets "made" through dialogue: what value, what environments, what experiences for participants.

Moreover, environments that support emergent dialogues may be able to offer one among many possible answers to Felt (2014), who suggests that transdisciplinary processes face a sustainability challenge. This is due to the temporary time frame of projects that do not help participants to incorporate new ways of working or relating with others. A responsible research communication approach to communicating research outputs from such projects may offer a pathway to sustainability. Again, this will depend on the value that participants see in the community.

Collective processes need to define how participants will appropriate themselves of the process

A third lesson that does not emerge from reflecting on the concept but from how participants in the process dealt with the collective nature of their process, highlights the importance of incorporating in the dialogue early on how participants are going to appropriate themselves of the process. The process of building “the thing” shows that at the end of a collective process in which members share a feeling of satisfaction about what was collectively achieved it can be difficult to start discussing how each participant can make use of this new knowledge (who communicates it, how, where, how to continue building on it). Avoiding misunderstandings in this regard is important in helping to keep the dialogue alive beyond the life span of the project.

In sum from reflecting, making decisions and acting on emergent dialogue we learned that an emergent dialogue is dynamic, ongoing and changing and cannot be planned ahead. A second lesson is that emergent dialogues are collective and their sustainability will depend on what is made by dialogue: what relations, what learning, and what value (why would other actors be interested in continuing to write this book?). A final lesson connects with the reflection on the nature of collective processes and highlights the importance of defining early on how each will appropriate the process in their own domain or activity.

#### **11.4 Action**

This section describes how in my dual role as insider action researcher and actor in the process I acted on the decisions made. I prepared a space in “the thing” in which the asynchronous dialogue to keep writing the book would take place. This space, however, had no previous description since it would be built through the emergent dialogue that developed among those who gradually joined. This was done in time for the pilot test that developed between June and September 2017. When they reached the last stop, participants were asked if they would like become part of a virtual community to continue sharing knowledge on the role of facilitators in territorial development. The majority of

participants said yes and they were granted access to the virtual space that was named: the Agora.

All newcomers to the Agora are faced with a first question of what they would like that space to be. The following are contributions made by travelers:<sup>23</sup>

*“I imagine a space for dialogue and self-discovery... Could this be a space in which to connect with our own experiences through questions?”*

(entry on October 27, 2017)

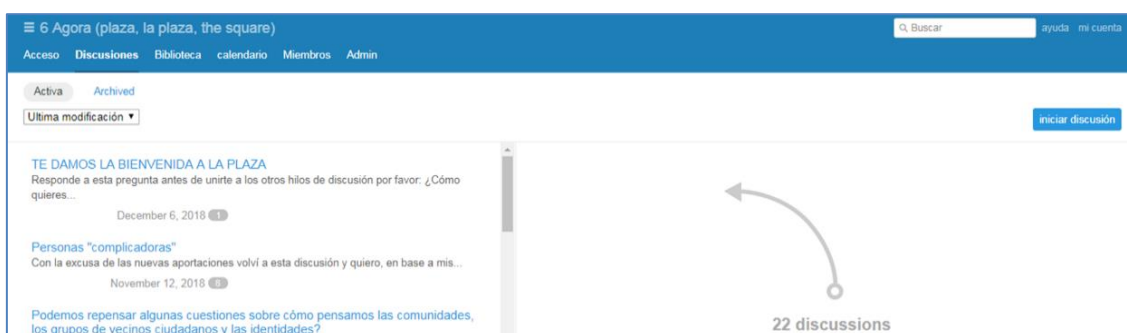
*“I imagine this as a noisy space, but also warm, like a space for recreation, to stop the daily routine and enjoy the encounter. I think of the squares in my country and they are definitely spaces in which one appropriates, occupies, protests, demonstrates, plays ...intensely plural”*

(entry on November 30, 2017)

They are then free to pose questions and participate in the different discussion threads. The right hand side in Figure 27, below, shows the number of discussion threads that have emerged from reading the book.

At the time of ending the writing process of this dissertation (January, 2019), there were 79 participants in the agora from 10 different countries: Argentina, Brazil, Finland, Italy, Mexico, Nigeria, Peru, Spain and Uruguay. The majority are from Argentina and Spain (the Basque region) who have so far engaged in 22 different discussions on their role as facilitators in territorial development.

**Figure 27. The Agora: a space in which to continue writing the book**



Source: <https://dgroups.org/groups/perfact>. Retrieved on January 19, 2019

<sup>23</sup> The author of this dissertation has permission to reproduce these comments, that have been translated from Spanish.

## 11.5 Summary

In this chapter we described how the decision was made to reflect on asynchronous dialogue, instead of “responsive”, the original feature in the theoretical analytical framework. We noted that the transformation of the different features of the theoretical framework, when tested in practice, is linked to how the researchers participating in the process connect them to their own frameworks. In our case the link between dialogue and change emerged strongly during the first workshop so when the time to discuss responsive arrived, its change dimension was no longer relevant. Moreover, as a result of the first workshop a decision was made to discuss asynchronous dialogue and build “the space in which to continue writing the book”.

The chapter was structured like the previous ones. The first section on concepts presented introduced the concepts discussed in the workshop. The second section on discussion of concepts and decision making used thick descriptions to describe the interaction that took place when discussing emergent dialogue inclusive in the workshop. The third section on results of the learning process is a reflection on what the facilitator learnt. The fourth and final section on action describes how the lessons learnt were materialized in the online tool.

### Reproduced from Table 15

|   |  |
|---|--|
| Theoretical analytical framework  | Actionable analytical framework  |
| <b>Responsive/Emergent</b>  | <b>Emergent</b>  |
| Responsive: Dialogue is made of reflection and action that lead to change | Dialogue is dynamic, ongoing and changing. It unfolds step by step and cannot be planned.                                      |
|   | <b>Collective</b>  |
|   | Keeping the dialogue alive is a collective responsibility that in turn depends on what is being made by dialogue collectively. |

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By the time the fourth and last workshop arrived, the action research process had unfolded in such a way that responsive was not a helpful concept since its change dimension had been addressed in the first workshop early. Responsive was replaced by “emergent” in the fourth workshop to help researchers reflect on how to build the space in which to continue writing the book through an asynchronous dialogue. Emergent calls attention to the fact that dialogical processes can lead to unexpected paths and cannot be planned like linear processes. The feature helps to adapt expectations. Collective is also linked to emergent, making it actionable by unveiling the importance of participants response to the process, calling for a collective responsibility

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Future research would have to look into what is being made by dialogue collectively in this space: what fosters or hinders participation and if new knowledge that is different from the knowledge shared by the authors during the interactive journey is being co-generated.

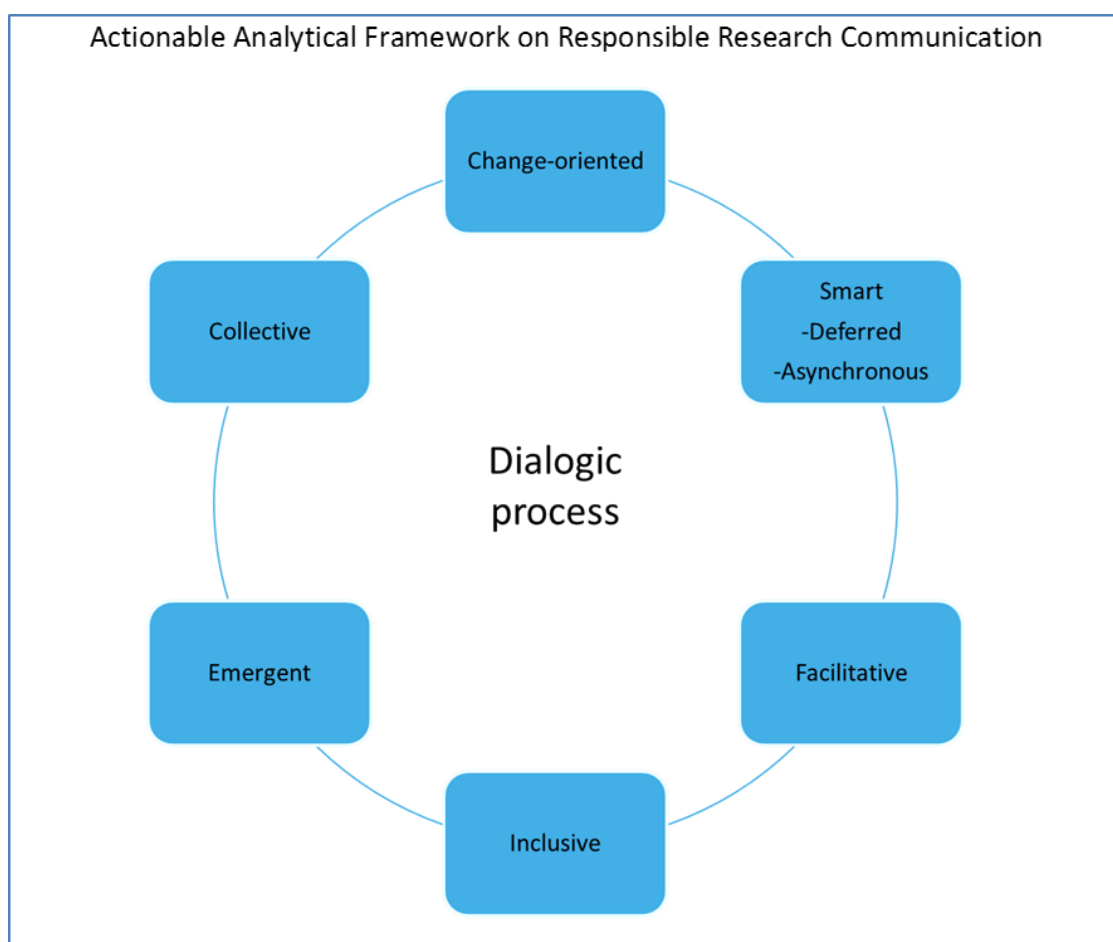
With this chapter, the description of the action research process comes to an end. The following chapter presents the actionable analytical framework that resulted from testing the theoretical analytical framework in practice.



## 12 ACTIONABLE ANALYTICAL FRAMEWORK THAT RESULTED FROM THE AR PROCESS

Part III of this dissertation presented a detailed account of the action research process developed to answer our empirical research question: How did researchers in Orkestra use the RRC framework to communicate their research output? Its main contribution was to transform the theoretical analytical framework on responsible research communication into the actionable analytical framework on responsible research communication. This was done through an action research process where theoretical concepts were tested in practice with two researchers from Orkestra-Basque Institute of Competitiveness. Below, we reproduce the drawing with the different features of the actionable analytical framework on RRC already shown in Chapter 7.

Reproduced from Chapter7, Figure 7



Source. Author's own elaboration.

This transformation took place by taking the different features of the theoretical analytical framework to action and identifying lessons that unveiled taken for granted assumptions, making them more actionable. Changes to the different features were therefore not radical changes but nuanced changes. Chapters 8 to 11 described the action research process and how this transformation took place. In order to do so each chapter was structured into four main sections: (i) concepts presented; (ii) discussion of concepts and decision making; (iii) results of the learning process; (iv) actions taken.

Chapter 8 explained how the feature “process-oriented” was transformed into the more actionable “change-oriented” and “smart” features. These features resulted from two main lessons. First, dialogue is inextricably linked to change, and assumptions cannot be made that change is understood in the same way by all. It is therefore important to make change explicit from the outset. Second dialogue needs to be reframed in a way that addresses the time-consuming nature of its face to face nature.

Chapter 9 explained how the feature “knowledge-based” was transformed into the more actionable “facilitative” feature. This was the result of testing it in practice and unveiling that communication among actors with different types of knowledge is not automatic and work needs to be done to reduce the barriers that may stem from the different languages and frameworks.

Chapter 10 explained what happened when testing the feature “inclusive” in practice. The main lessons learned was that inclusion is a demanding feature that is not easy to materialize and because it involves generating the conditions for conflict to emerge it requires facilitation, which is not always possible. The conclusion reached was that this does not mean renouncing to inclusion altogether but acknowledging its complexity and being transparent about how it is approximated, as was done in this case.

Finally, Chapter 11 explained how the feature “responsive” was transformed into “emergent” and “collective”. We explained that by the time the last stage of the action research process arrived, change, which was the main characteristic of the responsive feature, had already been addressed in the first workshop and we reflected instead on the concept of emergent dialogue in order to build on

“asynchronous” dialogue (the space in which to continue writing the book). By testing it in practice we learned two main lessons. First that emergent dialogue is dynamic, ongoing and changing and cannot be planned (as in deferred dialogue). Second that emergent dialogues are collective and need participants’ response to keep them alive.

**Table 17. Actionable Analytical Framework on RRC**

|  |  |
|--|--|
| Responsible Research Communication (RRC) is a process that explores dialogue’s transformation potential in a mezzo space situated between the micro one, in which research outputs are communicated dialogically to a small number of participants in research projects, and the macro one, in which research outputs are distributed through printed and digital copies to a larger number of researchers and practitioners. It is made up of six features: (i) change-oriented; (ii) smart; (iii) facilitative; (iv) inclusive; (v) emergent; and (vi) collective. |  |
| Change-oriented  | A dialogical process is made of reflection and action that lead to change.   |
| Smart  | A smart dialogical process overcomes the time-consuming nature of real time face-to-face dialogue through its deferred and asynchronous features:<br>-A deferred dialogue takes place delayed in time. Researchers communicate their frameworks and other researchers and practitioners speak back later, contributing their own reflections;<br>-An asynchronous dialogue is a fully-fledged dialogue, but participants do not need to engage simultaneously. |
| Facilitative   | Dialogue among actors with different types of knowledge needs to be facilitative to reduce the barriers that may hamper understanding among them.  |
| Inclusive  | Through dialogue territorial actors become co-researchers and the conditions for conflict to emerge need to be facilitated.  |
| Emergent   | Dialogue is dynamic, ongoing and changing. It unfolds step by step and cannot be planned.  |
| Collective   | Keeping the dialogue alive is a collective responsibility that in turn depends on what is being made by dialogue collectively.   |

The RRC framework, through its mezzo perspective and different features, facilitates connectivity, thereby opening a pathway to communicate research outputs from dialogical research processes in a way that extends the learning process beyond the publication of results.

Part IV of the dissertation tests the robustness of the actionable analytical framework on RRC with a diversity of researchers. The aim is to explore the extent to which it can help researchers working with different methodological approaches to reflect on how they communicate their research outputs.

## Part IV. Testing the robustness of the Actionable Analytical Framework

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Part IV of this dissertation presents the results of the embedded multiple case studies developed with a diversity of researchers and communicators from Orkestra-Basque Institute of Competitiveness to explore the robustness of the actionable analytical framework. It therefore answers our third research question: What attitudes to responsible research communication can be found in Orkestra-Basque Institute of Competitiveness? It is divided into two chapters. Chapter 13 presents the context of the case studies, introducing Orkestra and examining its approach to communication. Chapter 14 presents the results of the multiple case studies.



## 13 ORKESTRA AS A CHANGE AGENT IN TERRITORIAL DEVELOPMENT

This chapter describes the context of the embedded multiple case studies by introducing Orkestra-Basque Institute of Competitiveness (hereinafter Orkestra or the Institute). Orkestra is a research institute that exemplifies what we identified in Chapter 4, section 4.1.3, as research centers created within universities to help them overcome the challenges they face when they attempt to create socially relevant knowledge (Aranguren et al., 2016; Astigarraga & Eizagirre, 2017; Goddard & Vallance, 2013). The chapter is structured as follows. The first section introduces Orkestra. The second section presents Orkestra's 2017-2020 Strategic Plan through which it aims to consolidate as an active actor of change in the Basque Country. The third section examines Orkestra's approach to communication through its different activity reports and other internal documents. A final section sums up the main conclusions.

### 13.1 Transformative research for sustainable regional competitiveness

Orkestra is a research institute founded in 2006 that works on regional competitiveness. It is part of the University of Deusto, a private Jesuit university founded in 1886 in the Basque Country, one of Spain's oldest industrial regions<sup>24</sup>. In 2018, the year in which the case studies were developed, Orkestra was made up of 37 professionals, 17 of which were PhDs (Orkestra, 2017a). The Institute has the stated mission of strengthening the Basque Country's competitive advantages in order to achieve higher levels of socioeconomic growth that improve the quality of life of its citizens (Orkestra, 2017b). Its work touches on issues related to regional competitiveness such as sustainable development, innovation systems, policy analysis and evaluation, clusters and global value chains, energy and business innovation, among other. Accounts of the historical development of Orkestra and its different stages have been developed elsewhere (Aranguren et al., 2016; Larrea, 2017; Porter et al., 2016;

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<sup>24</sup> The Basque region has a public university, The University of the Basque Country, and two other privately managed universities: Mondragon University and the University of Navarre.

Romano, 2017). Orkestra has been studied as a case that illustrates how universities can develop their third mission (Larrea, 2017; Romano, 2017).

Compared to traditional university departments Orkestra has far greater autonomy and flexibility to decide on its management, structure and research orientation. This is so because of its configuration as a university development unit within Deusto Foundation, with a board of directors made up of university authorities but also public (provincial and regional governments) and private (firms) actors<sup>25</sup>. Orkestra is one of three university development units through which the University of Deusto seeks to transfer academic knowledge to society as part of its strategy to reinforce its third mission (Aranguren et al., 2016). The Institute's autonomy has been critical in its objective of playing a role as a change agent in the socio economic development of the Basque Country (Aranguren et al., 2016).

From its inception Orkestra has strived to produce socially relevant knowledge in the benefit of the socio-economic development of the Basque Country. Aranguren et al. (2016) explain that the Institute acknowledged early on, that this could only be done by interacting with other territorial actors such as public administrations, firms, cluster associations and local development agencies among other. Interaction became, together with research and teaching part of the triad of the Institute's core activities through which it set to achieve its mission. It has been shown that through this core activity Orkestra has been able to co-generate new knowledge that has benefited both its researchers -- who have systematized it in academic publications-- and the other actors, while fostering trust and social capital in the territory (Aranguren et al., 2016; Larrea, 2017; Porter et al., 2016; Romano, 2017) .

The Institute's change-oriented approach to research through interaction with other territorial agents was conceptualized as "transformative research". The term was coined within the Department of Clusters, Regional Development and Innovation<sup>26</sup> which was headed by the Institute's current Director General. In a reflection for the 2007 activity report she stated: "this area has defined its own

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<sup>25</sup> See [www.orquestra.deusto.es](http://www.orquestra.deusto.es) for Orkestra's annual activity reports, all of which include the composition of its Board of Directors.

<sup>26</sup> It was later renamed as Department of Territory, Innovation and Clusters.

unique value proposition based on the idea of working on transformative research” (Orkestra, 2008, p. 26). Developing a shared meaning of what was meant by transformative research led to the Institute’s approach to action research (Aranguren et al., 2016; Karlsen & Larrea, 2014; Larrea, 2018; Porter et al., 2016).

The process of defining a shared meaning of what the Institute would understand by transformative research was not free from tensions. There was a division between those who believed that action research could help to achieve the Institute’s mission and others that worried that traditional quantitative research would be displaced by less rigorous qualitative research (Karlsen & Larrea, 2014). Gradually, action research settled in as one more among the different approaches to transformative research in the Institute (Karlsen & Larrea, 2014; Larrea, 2018).

The Institute defines transformative research as “a dialogical, reflective, and analytical process based on dealing with a real problem of a critical agent of competitiveness (company, public administration, university....) towards its positive change in time, and to act upon this (Orkestra, 2017, p. 7).

### **13.2 Building an inclusive, sustainable and competitive territory**

The Institute is currently implementing its *Strategic Plan 2017-2020: Constructing an inclusive, sustainable and competitive territory* in which it sets out its vision to consolidate itself as an active actor of change in the Basque Country by 2020: The Plan states (Orkestra, 2017, p. 14):

Orkestra strives to be an active actor of change working for the economic and social development that comes about as a result of the improvement of social and inclusive competitiveness in the Basque Country and of the generation of new knowledge on regional competitiveness. This is the result of a dynamic team, committed to excellence...with an innovative way of working through transformative research...

During the process of elaborating the Strategic Plan, which involved dialogue with Orkestra’s stakeholders, a Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis was carried out. The analysis identified, among the

Institute's main strengths, its recognized capacity to develop transformative research projects with local and international stakeholders. Threats that could affect it included the loss of independence in research due to funding reasons or being unable to maintain its differential value in relation to other agents. The institute was also seen as having the opportunity to strengthen its social impact in the Basque Country and international relevance. Weaknesses included an unbalance between the development of projects and academic writing and insufficient influence capacity linked to the communication of the work being carried out.

In order to address the above and achieve its vision of consolidating as an active actor of change, the Institute identified four building stones as the basis for its work during the period covered by the plan. The four building stones are advocacy, building up institutional resilience; partners and collaborator engagement; and knowledge creation for transformation (Figure 28).

Figure 28. Orkestra 2020: Key Building Stones



Source: Orkestra 2017, p. 13.

According to the Strategic Plan (Orkestra, 2017), internationalization and the link with the University of Deusto are inherent to the Institute since its inception. In the former the focus is on reinforcing and widening the Institute's international

network and in the latter the focus is on strengthening mutual support while maintaining Orkestra's autonomy. Knowledge creation for transformation is focused on developing the Institute's current areas of expertise; strengthening its knowledge model and continuing to contribute to the frontiers of knowledge. Partners and collaboration engagement focuses on strengthening work with its partner institutions and collaborators and achieving a balanced and compensated financing model that allows for both, action and conceptualization. Institutional resilience is about achieving a balanced business model within a flexible and efficient organization that is able to attract talent from abroad. Advocacy is about being able to influence society in general and public and private actors in particular through knowledge generated in the Institute. In this fourth building stone communication is critical. The following subsection provides an account of the approach to communication in Orkestra based on available documented material.

### **13.3 Communication in Orkestra**

During the Institute's early years, research communication was based on a linear approach. The Annex of the Collaboration Agreement between the University of Deusto and the Basque Government that created Orkestra foresees "knowledge diffusion via publications, web page and seminars" as well as "active participation in the mass media in order to disseminate the Institute's results and activities" (Instituto Vasco de Competitividad-Fundación Deusto, 2006). From 2007 until 2014, the Institute published annual activity reports that provided an account of how its commitments were being carried out<sup>27</sup>.

In its 2007 report, the Institute presents the new web page in the following terms:

...a platform to promote our Institute, as a communication tool for our activities and a source of reference and useful resources about the contents in our knowledge areas. The page is designed to offer easy access to all the relevant information and expects to be the main

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<sup>27</sup> In 2016 the Institute published a special edition of the annual activity report to commemorate Orkestra's 10<sup>th</sup> anniversary (*10 years, 10 challenges*). A decision was made to publish from thereon only a reduced online version of the Institute's activities with key figures. A first one was published in 2017. See this and the previous annual reports in the following link: <http://www.orquestra.deusto.es/en/latest-news/annual-reports>.

communication and interaction means between Orkestra and stakeholders involved in the improvement of the competitiveness in the Basque Country.

(Orkestra, 2008, p. 80)

The 2008 report presents a new quarterly newsletter as an “external communication tool, informing the leading social and economic players of the Institute’s activities” (Orkestra, 2009a, p. 37). The report also presented the Institute’s new publications policy, stating as its main objectives:

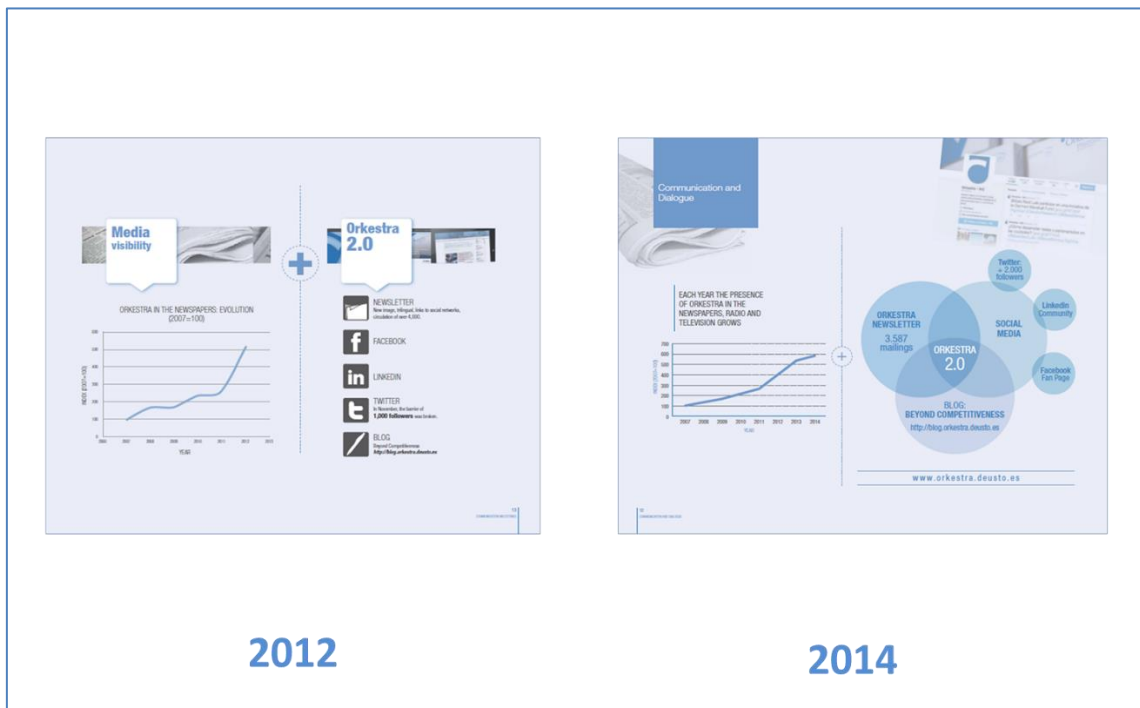
(I) stimulating debate on all aspects having an impact on competitiveness in the Basque Country, or influencing the way social and economic players understand it and, (II) making Orkestra a “must read and consult” organization worldwide on issues of territorial competitiveness, acknowledged for its rigour and capacity to influence.

(Orkestra, 2009a, p. 35)

The publications policy included guidelines for communication that involved the physical distribution of printed books and reports and their dissemination through press conferences, the website and the newsletter (Orkestra, 2009b).

Each annual activity report includes a section on mass media impacts that explains that appearing in the mass media responds to the Institute’s “essential function of generating and disseminating ideas useful for shaping public opinion”. In 2012, the report includes for the first time, a whole page for communication activities. The page presents a graph that illustrates the growing trend in the Institute’s mass media presence and lists the main elements of its Orkestra’s 2.0 communication strategy (Orkestra, 2013). In 2014, the page includes a heading that reads “Communication and Dialogue” (Orkestra, 2015). The social media were placed under dialogue (Figure 29).

Figure 29. Communication in Orkestra's annual activity reports 2012 and 2014



Source: Adapted from Orkestra, 2012, p. 13; , 2014, p. 12.

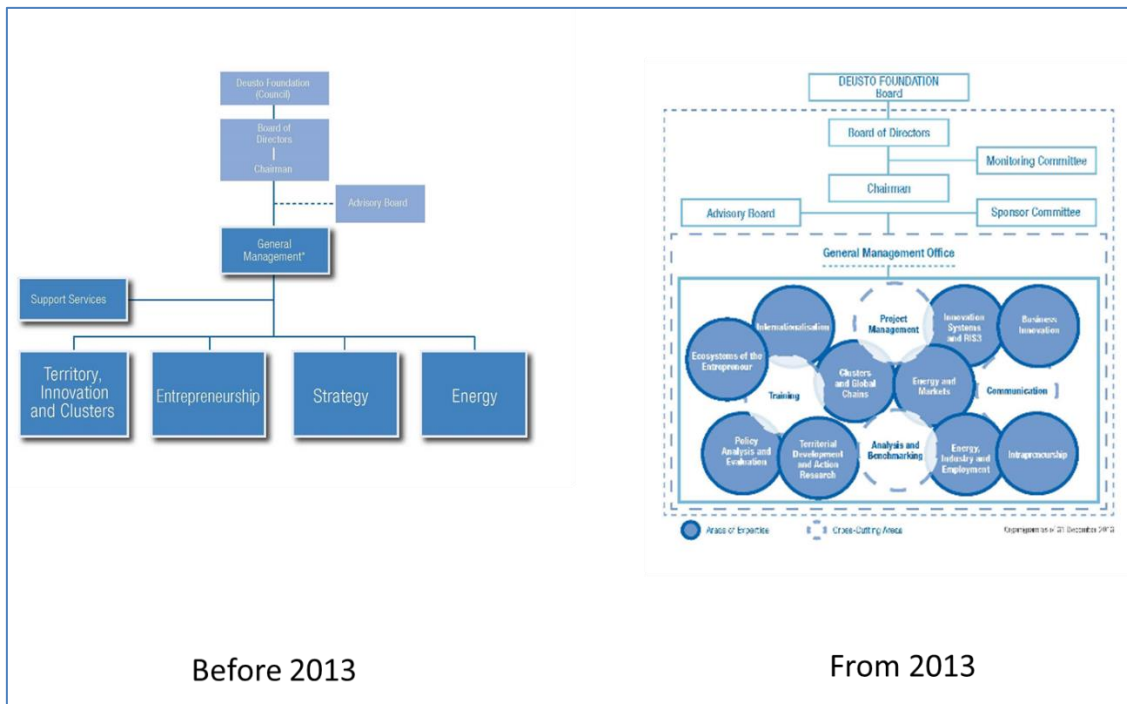
In the year in which dialogue first appeared in the “communication page” the Institute was under its third administration. Mari Jose Aranguren, who had performed as head of the Department of Territory, Innovation and Clusters, became the Institute’s third Director General in 2012 when the previous Director left to take up a post in an international organisation<sup>28</sup>. Upon taking office she implemented an organizational reform that transformed the Institute’s vertical structure, made up four Departments, to a horizontal one based on projects. Before the organizational reform, communication staff had been part of the Support Services Department, headed by Ibon Gil de San Vicente, who was promoted to Deputy General Manager in 2012. The Department had provided communication, publications, training, IT and other administrative services to the four research departments and to the general manager since 2007.

With the new organizational structure, communication was made visible for the first time as a cross cutting issue in the Institute (Figure 30). The Institute was no longer structured around departments but made up of people with different

<sup>28</sup> See Porter, Ketels and Valdaliso (2016); Romano (2017); and Larrea (2017) for accounts of the Institute’s different administrations.

capabilities that would configure teams that responded to the needs of the different projects.

**Figure 30. Orkestra: Organizational structure**



Source: Orkestra, 2013, p. 10; Orkestra, 2014, p. 10.

For communication staff, the organizational reform involved a transition from working on disseminating finished research products upon receiving them from the different departments, to participating in research projects from their inception to contribute the communication perspective. This helped communication staff to design more robust communication strategies, as illustrated in a quote cited by Romano (2017, p. 172)<sup>29</sup>:

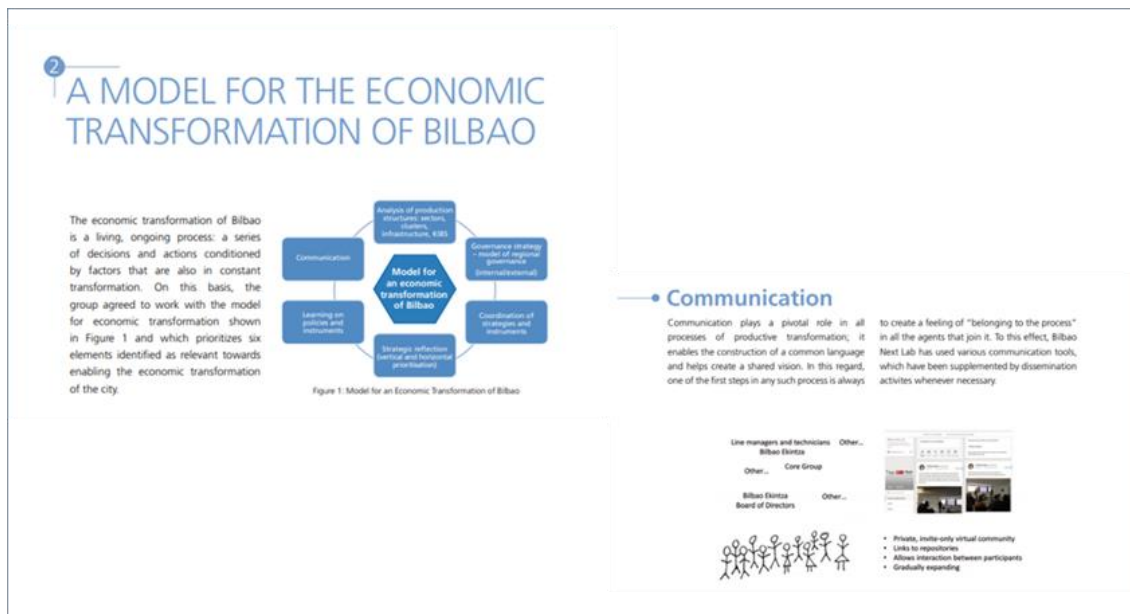
*“An example of how the communication strategy has changed is the Competitiveness Report, in 2015 all of us working in communication were aware of what to communicate, [so] presentations, the media, all was aligned to what we knew we needed to communicate, we all knew what we were talking about”.*

Other things changed as well. Apart from participating in research projects in order to have a better understanding of its outcomes and devise more suitable communication strategies, communication staff also began participating in

<sup>29</sup> The quote was translated from Spanish to English by the author of this dissertation.

projects that embedded communication as another element of the research process itself. Those projects were action research projects. Figure 31 illustrates how communication was embedded with other elements in a project on the economic transformation of Bilbao that involved working with different stakeholder groups.

Figure 31. Example of communication embedded in a research project



Source: Orkestra (2015).

In another project, a full-time communication professional was hired in 2015 specifically to articulate communication among the different stakeholder groups involved in the project. An internal document of the project reads: "For Gipuzkoa Sarean, communication goes beyond dissemination and even beyond the more traditional concept of knowledge transfer. It actually becomes a key element articulating and facilitating the whole process, helping to precipitate change (Larrea, M., 2015, p. 20).

The importance of embedding communication as a key element in the transformation capacity of research projects became an important discussion within action research projects (Larrea, 2018). Romano (2017) captures this in a quote from one of the interviews she held with Orkestra researchers and professionals to analyze the Institute's organizational reform:

“I realize that if [the Institute] truly wants to do transformative research, it is necessary to understand communication as part of such transformation, there is something that affects everything and that is communication”<sup>30</sup>.

(quote from Romano, 2017 p. 172)

In the 2017-2020 Strategic Plan, communication, under the heading “advocacy” is a core element. The advocacy agenda, understood as “...proactive and participative communication/dialogue”...aimed at “influencing society while bringing about change” is about overcoming the weaknesses identified in the SWOT analysis on which the plan is based. The words “dialogue”, “process” and “participation” are used, together with “transmission”, “forming opinion” “clear messages” “product” and “process”. The actions foreseen for the development of the advocacy agenda are meant to form opinion and influence territorial agents and other stakeholders through the knowledge generated in the Institute. Other actions envisage an open access policy and conceptualizing the role that communication plays in transformative research (Figure 32).

**Figure 32. Orkestra’s Strategic Plan 2017-2020: Advocacy**



Source: Orkestra, 2017

<sup>30</sup> Author's own translation.

### 13.4 Conclusions

Based on the different public and internal documents on which this chapter is based, it can be argued that the Institute's approach to communicating its research outputs has been based, to a large extent, on a linear dissemination approach geared to forming opinion and influencing public and private stakeholders.

The word dialogue appears associated to communication in the annual activity reports especially in reference to the Institute's social media strategy and is also present in the Institute's current Strategic Plan. The SWOT analysis on which the plan is based, identifies a critical role for communication in helping to differentiate the Institute's role from that of other agents in the territory and the plan itself identifies the need to work on communication methodologies that strengthen the Institute's transformative research approach.

Through the organizational reform communication staff have a better understanding of the different projects and can devise more robust communication strategies for the different products and activities. An alternative role for communication professionals is visible in action research projects where communication is embedded in the research process and directly associated to change.

The following chapter presents the results of the multiple case-studies through which we explored the robustness of the actionable analytical framework. The interviews were held 5 years after the organizational reform and 1 year into the 2017-2020 Strategic Plan. The interviews were held with a diversity of researchers and communicators working with different methodological perspectives within Orkestra's plural approach to transformative research.



## 14 ATTITUDES TO RESPONSIBLE RESEARCH COMMUNICATION (RRC) IN ORKESTRA

### 14.1 Introduction

The previous chapter presented Orkestra-Basque Institute of Competitiveness as the context for the embedded multiple case studies through which we explored the robustness of the actionable analytical framework on RRC. We noted that Orkestra is a case of a research institute created within a university to produce socially relevant knowledge. We examined the Institute's approach to communicating its research outputs and concluded that it has been based, to a large extent, on linear communication patterns geared to forming opinion and influencing public and private stakeholders. We also noted that in 2013 the Institute transformed its previous structure from research departments to research projects. This opened the door for communication staff to participate in research projects, until then configured with researchers only. In the case of action research projects, communication staff began experimenting with roles through which they articulated communication among different stakeholder groups.

The case studies were developed between March and April 2018 and consisted of semi-structured interviews triangulated with direct observation and secondary data. The interviews took place 5 years into the organizational reform and 1 year into the 2017-2020 Strategic Plan. As explained in Chapter 2 on research methods, they were held with a diversity of researchers and communicators likely to approach the actionable analytical framework on RRC from different standpoints.

During the first part of the interview, interviewees were presented with the RRC framework and its six features. After listening to the explanation for each feature they were asked to reflect on their research communication in terms of that feature (see interview schedules in Chapter 2, Table 3 and Table 4). To conclude the interview, they were asked to diagnose their research communication according to the RRC framework. This was done by filling in a Likert scale-

based questionnaire with six gradations from “always” to “never” (see Chapter 2, Table 5 and Table 6). The Likert scale helped to interpret the interviews.

This chapter presents the results of the case studies and is organized by feature of the analytical framework on RRC. Sections 14. 2 to 14. 7, present the summary reports of the interviews for each feature. Each section closes with a radar graph that plots the answers to the Likert scale-based questionnaire for the feature addressed in that section. It is important to note that each interviewee answered according to how he or she interpreted the different features. Therefore, low scores such as “never” or “very rarely” do not necessarily mean that people try but are unable to communicate research along the lines of that feature; it may also mean that they do not consider that their (or the Institute’s) research communication should be concerned with or address that feature.

Individual RRC diagnoses are presented in Section 14.8 in the form of radar graphs. They cannot be interpreted as a diagnosis of RRC in Orkestra because interviews were held with a selection of researchers and communicators only. As noted earlier, interviewees answered according to how each interpreted the different features of RRC so the Likert scale exercise cannot be used for measurement purposes. It does however offer a glimpse of the diversity of approaches to communicating research outputs in the Institute and it could be a valuable tool to define individual paths to RRC.

A final section on conclusions brings together the main reflections that emerge from the case studies.

## **14.2 Analysis of interviewees’ attitudes to the change-oriented feature of RRC**

This section analyzes the main reflections that emerged from the interviews when addressing RRC’s change-oriented feature.

Most interviewees placed change firmly within their research projects. It was therefore difficult at times to maintain the focus of the interview on research outputs since when discussing change, notably researchers, but also some communicators, connected with their change-oriented research projects,

sharing reflections on how change in territorial development is sought through them.

Among those who did reflect on their research outputs, attitudes were mixed. For some, it was clear that change need not be an issue when communicating research outputs. One researcher reflected in this regard: *“You do your [change-oriented] research and then you communicate it”*<sup>31</sup>; and added that researchers should try to transmit their research findings as clearly as possible *“so that whoever is in charge of communicating them is able to do so”* (R4). Others reflected that a change objective is implicit when writing books or papers, *“because you want to improve the state of the art that policy makers use to make decisions”* (R5). This view was echoed by one of the communicators for whom change is the result of decisions made by other territorial actors (C2):

*“Your aim [the Institute’s] is to place your knowledge or research-based position among the two or three elements that policy makers will consider when making decisions...you need to be good at knowledge creation, make sure it is relevant in practice, and bring it to those in charge of making decisions”.*

In this line of thought another interviewee argued that systematized research outputs in the form of books, articles or reports should always have the objective of helping other agents to make decisions that lead to change. She added that since change can only take place in the long-term *“It is important to continuously disseminate key messages that gradually generate awareness”* (R6). Another communicator reflected that it was not their role to define a change objective when communicating research outputs, but in any case, *“to help researchers make that objective more communicative”* (C3).

A slightly different approach was shared by one of the communicators who argued that disseminating research outputs could be an indirect pathway to change when public and private policymakers learned about the Institute’s expertise. In this regard the communicator explained (C1):

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<sup>31</sup> Interviews were held in Spanish and in English. The quotes from the interviews that were held in Spanish are the author’s own translation. All quotes are excerpts from the interviews.

*“First, they need to know what Orkestra works on...many actors in the Basque Country still don’t know what knowledge is produced in the Institute...so a first step for them in the direction of change is to know what we know about... afterwards a dialogue can begin with them to define a change objective.”*

Another researcher reflected that research outputs can be an indirect pathway to change when they are used in new change-oriented projects (R2):

*“Writing a scientific article for a journal can be an indirect pathway to change because it helps to conceptualize new knowledge...When such conceptualizations are used in other projects they help to bring about change...however when writing a paper for a scientific journal I do not have an explicit change objective in mind, I write a paper because it counts for my academic career”.*

This view was echoed by a communicator who reflected that bringing your research outputs to new projects happens naturally, without a systematic reflection on the precise change objective being sought *“you just automatically bring what you learned in one project to the new projects you start working on”* (C1).

Regarding communication with the scientific community, an interviewee reflected that communicating research outputs in academia is different because *“academics in general do not seek change...they use that knowledge to integrate it into another paper, but not to generate change”* (C1). The same interviewee reflected that a change-oriented dialogical communication approach could make sense only for researchers working to change their own territories (C1):

*“My responsibility is with my territory here in the Basque Country...I do not think it is my responsibility to try to change something in another country. However, I may share my systematized knowledge with academics working to change their own territory”.*

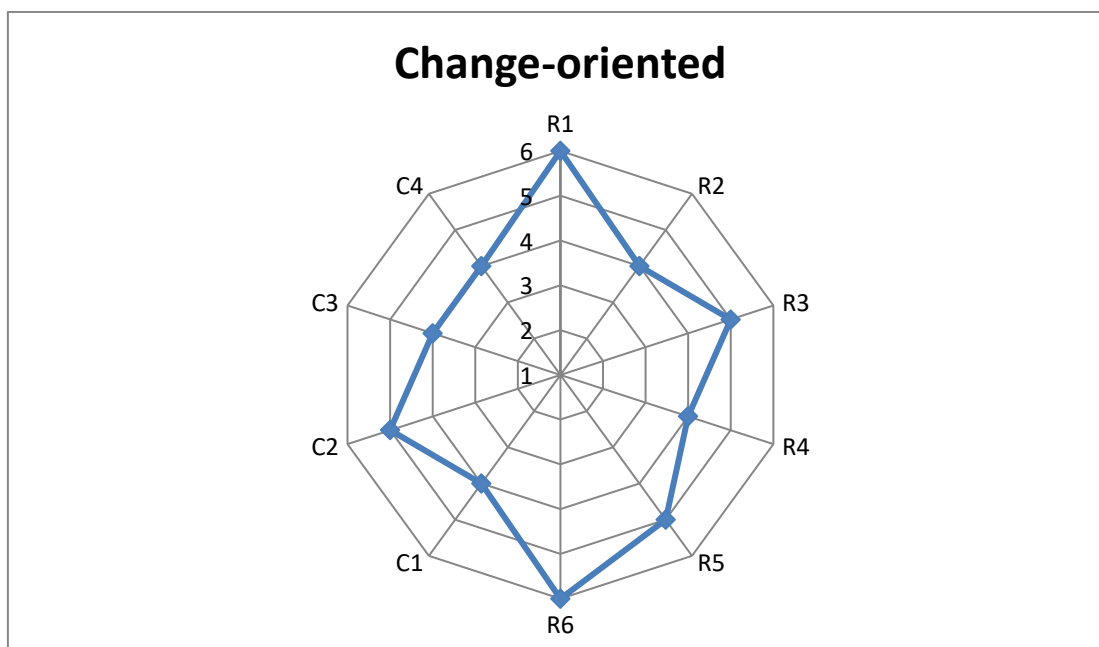
A researcher familiar with the dialogical online tool created as a result of the action research process described in Part III of this dissertation reflected (R2):

*“This idea is difficult to understand if you haven’t seen it...I would have never imagined that it was possible to communicate research outputs in a dialogical process other than by introducing that knowledge in new projects...but now I can understand that with ‘the thing’ that knowledge is going to have a wider impact in the long-run”.*

In sum, attitudes towards the change-oriented feature of RRC were mixed. Some placed change firmly within research projects and did not think that change needed to be an objective in the dissemination phase. Others argue that they communicate their research outputs for change when they integrate them in research projects in which they are working with other territorial actors. The closest reflection to connectivity was made by an interviewee reflecting from an institutional perspective. The interviewee said that the Institute’s research outputs could be useful for researchers working to change their own territories and it could therefore make sense to communicate them dialogically.

Figure 33. shows how each interviewee scored him or herself in the Likert Scale at the end of the interview regarding the change-oriented feature of RRC.

**Figure 33. Interviewees attitudes to the change-oriented feature of RRC**



Note: 1 stands for “never” and 6 for “always”. “R” stands for researchers and “C” for communicators.  
Source: Author’s own elaboration from the Likert scale-based questionnaires.

### 14.3 Analysis of interviewees' attitudes to the smart feature of RRC

This section summarizes the main reflections that emerged from the interviews when addressing RRC's smart feature.

When discussing smart, the feature of the analytical framework that by addressing its challenge of scope, facilitates connectivity, three approaches emerged. The first one from a larger group of researchers who reflected that they lack the capabilities, financial resources and the time to design smart approaches to communicating their research outputs. The second one from communicators who argue that research communication efforts should be managed at the institutional level and not so much by individual researchers. The third approach from a mix of researchers and communicators for whom a smart approach to communicating research outputs dialogically can be achieved through the social media.

Indeed, some researchers argued that if communicating research outputs was important to help the Institute achieve its mission of acting as a change agent in territorial development, then the costs of doing so should be covered through basic funding. Otherwise, researchers would need to earmark specific resources for communication staff in research projects because: *"...apart from my workload...I lack specific communication capabilities"* (R2). Another reflected: *"I have never budgeted communication hours for myself"* (R4).

In this context, a researcher argued that earmarking resources for designing smart dialogues to communicate research outputs would be problematic in projects funded by other stakeholders: *"...we would need to separate part of the budget for communication; it would need to be negotiated...and made visible in the project..."* (R2). Another researcher reflected that researchers are already experiencing difficulties in budgeting hours for academic reflection, so trying to also cover communication seemed unlikely (R4):

*"...we already have difficulties budgeting hours for academic reflection...normally research takes you until the last day of the project...how can you extend the project's resources to write a paper, send it, wait for a response, do changes, send it again...and on top of*

*that channel part of the project's resources to communicate that paper?...."*

Talking from an institutional perspective one of the communicators stated that smart is one of those concepts bound to generate frustration because "*you can always do more*" The same communicator added that "*...the Institute is not oriented to communicate, it is oriented to change, and it approaches change in a different way...its resources are not in communication...*" (C2).

Furthermore, the smart feature poses a problem. It was argued that the Institute needs to develop and communicate a corporate discourse and image from among the diversity of projects and research approaches and at the same time individual research projects should have some space to develop their own communication activities. This makes defining a clear set of guidelines or boundaries necessary. When asked if boundaries or guidelines posed the risk of stifling creativity and innovation in research communication one of them said (C2):

*"We are not saying that the Institute should micro manage how its researchers communicate because that wouldn't be smart, but it [the Institute] should foster the development of a shared vision."*

Another communicator highlighted that the Institute's communication tools, like the webpage, the newsletter and indeed its different publications, are not dialogical but they are smart because they "*help to reach a wider audience and can help to spark a dialogue with other actors*" (C1).

According to one of the researchers, well-known experts in research teams play a similar (smart) role (R6):

*"Having a very well-known expert working in the research team is a way of engaging in a smart dialogue because the expert is continuously invited to participate in seminars and conferences so he or she can regularly voice the key messages from the team's research findings among different publics".*

An interactive approach was suggested by another researcher who said that communication tools and products should serve to give societal visibility to research projects but also to interact with society (R1):

*“I am aware of the need to communicate what is being done in the different projects, not so much to the stakeholders I’m working with but to society at large... interactive things on the web...posing questions to citizens...”*

The social media were signaled as a way for researchers to engage in a realistic or possible dialogue with other practitioners and the academic community. A researcher explained in this regard (R5):

*“I went to an event recently about a book we published, we talked about the book, then that book is up on slideshare, people go there, I also saved my talk, I tell them where it is...I give them my LinkedIn address...I use a mix of social media tools to help make that dialogue more realistic or possible...”*

A different view on the social media came from one of the communicators, who expressed frustration in the following terms (C4):

*“...we have tried many times to foster dialogue in digital spaces like LinkedIn but people just don’t respond...this is not because the Institute does not know how to do it...people are not used to engaging in dialogue like that in this country...it may be different in anglo-saxon countries”.*

Blogs were seen by some researchers as interesting channels to communicate research outputs to a wider public because they offer enough space to develop an argument. One of them said that in this sense Twitter and Facebook can be dangerous (R6):

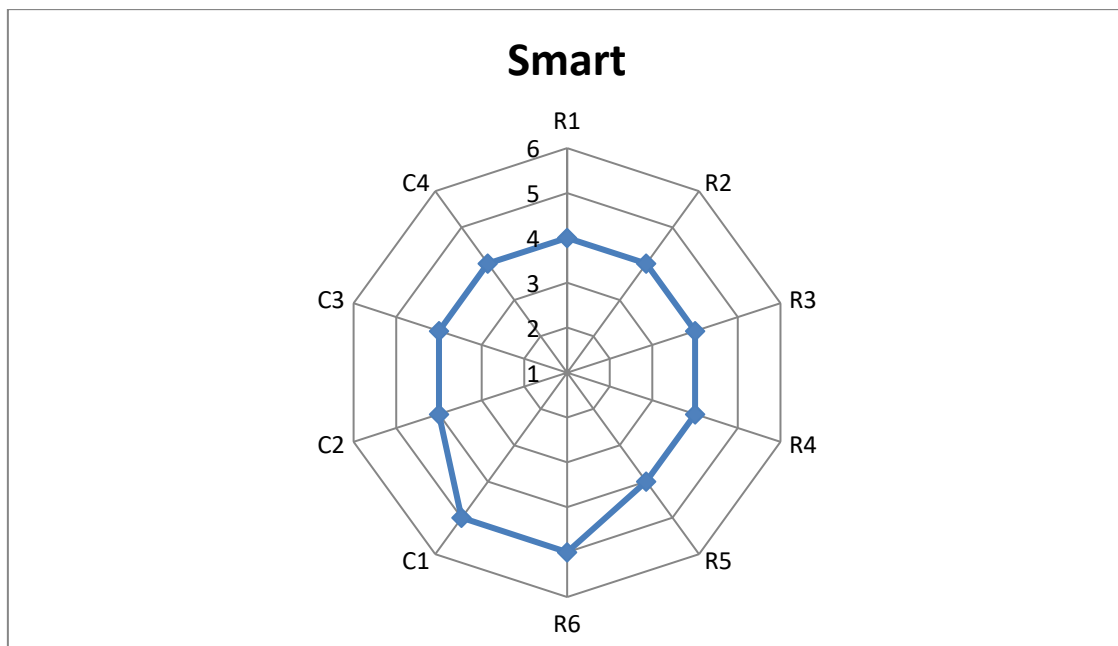
*“...we have been asked many times to come up with short messages...but the problem is that short messages are often decontextualized...and of course as researchers we need to safeguard our credibility and send messages that while simple, are complete and well argued”.*

In sum, researchers who did not see a role for themselves in communicating their research outputs argued lack of capabilities and time. They noted that they already faced difficulties finding time to conceptualize from research projects funded by and developed in interaction with stakeholders.

On the other hand, researchers who did see the importance of engaging in smart dialogues argued that this would have to be financed by the Institute since it would be very difficult to earmark resources for this in projects specifically financed by stakeholders. Somewhere in the middle of both positions a group of researchers understood that communicating their research outputs is part of their role as researchers and saw the social media as the environment in which to develop smart dialogues although they recognized that in most cases dialogue was reduced to moment in time interactions. Blog posts were identified as the most interesting tool for this because they offer space for well-developed arguments.

This is the only feature of the analytical framework in which most placed their answer in “occasionally”. Figure 34 shows how each interviewee scored him or herself in the Likert Scale at the end of the interview.

**Figure 34. Interviewees attitudes to the smart feature of RRC**



Note: 1 stands for “never” and 6 for “always”. “R” stands for researchers and “C” for communicators. Source: Author’s own elaboration from the Likert scale-based questionnaires.

## 14.4 Analysis of interviewees' attitudes to the facilitative feature of RRC

This section summarizes the main reflections that emerged from the interviews when reflecting on RRC's facilitative feature.

For most of the researchers interviewed, research communication is facilitative when work is done to make their academic language understood by other territorial actors. According to one of them, concepts like state of the art or laboratory, widely used in academia only contribute to create confusion: *"Once, when I used the word laboratory, a stakeholder was worried that we needed to build an infrastructure"* (R1). Another researcher recognized that facilitative was a feature of the analytical framework with which she could fully connect *"I am constantly working to translate conceptual frameworks to other actors...I find I am constantly reducing jargon, trying to always provide examples..."* (R2). In this regard another researcher reflected (R5):

*"There is a big difference on whether you're talking to academics or policy makers or whether they are local or regional...or if they are European Commission people...they all have different expectations of what you're going to say and they all have different knowledge starting points and different reference points so I try to take that into account when engaging"*.

Another researcher said that it was important to come up with an appealing framework or a metaphor that raises interest: *"Of course you have to work the concepts, you can't just arrive with a cute framework, there has to be substance"* (R3). Another researcher elaborated on the danger of oversimplifying: *"You need to have a full document that justifies three cute figures"* (R4). One of the communicators reflected in this regard that *"If you want to generate technical and rigorous knowledge you can't 'lower' the language level...because your report will be read by people who know about the issue..."* (C2) and elaborated:

*"...In a world that is increasingly about things being right or wrong a research institute should work to make nuances visible when necessary... language can't be so simple because it has to be"*

*understood by the person who understands such nuances...someone lacking specialized capabilities will simply not understand”.*

Visual elements like infographics were offered as examples that can help to make academic findings more understandable for non-specialists. This was linked again by one of the researchers to a matter of capabilities: *“...but I don’t see that as something I should be expected to do as a researcher”* (R4). Another researcher reflected that investing too much time in producing reports that can *“give back what other actors gave you for your research”* (R3), in a language they can relate to and in an attractive format, poses the danger of not leaving time for writing the papers needed for career progression. The researcher elaborated:

*“The most important thing for us was to get something back in a language that was easier, with pictures, bullet points... of course it was backed with number crunching, rigorous thinking...The negative bit was that we were left with no time to transform some parts of it in more elaborate papers for journals”.*

A different interpretation connected facilitative to the danger of having to be flexible to the demands of stakeholders when findings are not what they expected. A researcher reflected (R4):

*“We can’t say yes to everything and we can’t say what other actors want to hear...we may reflect on what a better time to communicate research findings might be but when we do so we have to communicate facts”.*

In this line of thought another researcher highlighted the importance of researchers’ independence for trust in them by other stakeholders (R6):

*“Our independence is very important...we can only facilitate if we are independent...our research outcomes often end up in long reports because we have to give a very complete picture and integrate the view of many different agents in a given problem...in doing so we generate trust”.*

Reflecting on the barriers to the facilitative feature of RRC some researchers argued that these barriers may also come from stakeholders themselves, when they espouse a short-term view and may not see the value of engaging in a dialogue in the first place. Barriers for researchers may also emerge when researchers find it difficult to engage in a dialogical process because the language and culture of the other actors are completely different from his or her own.

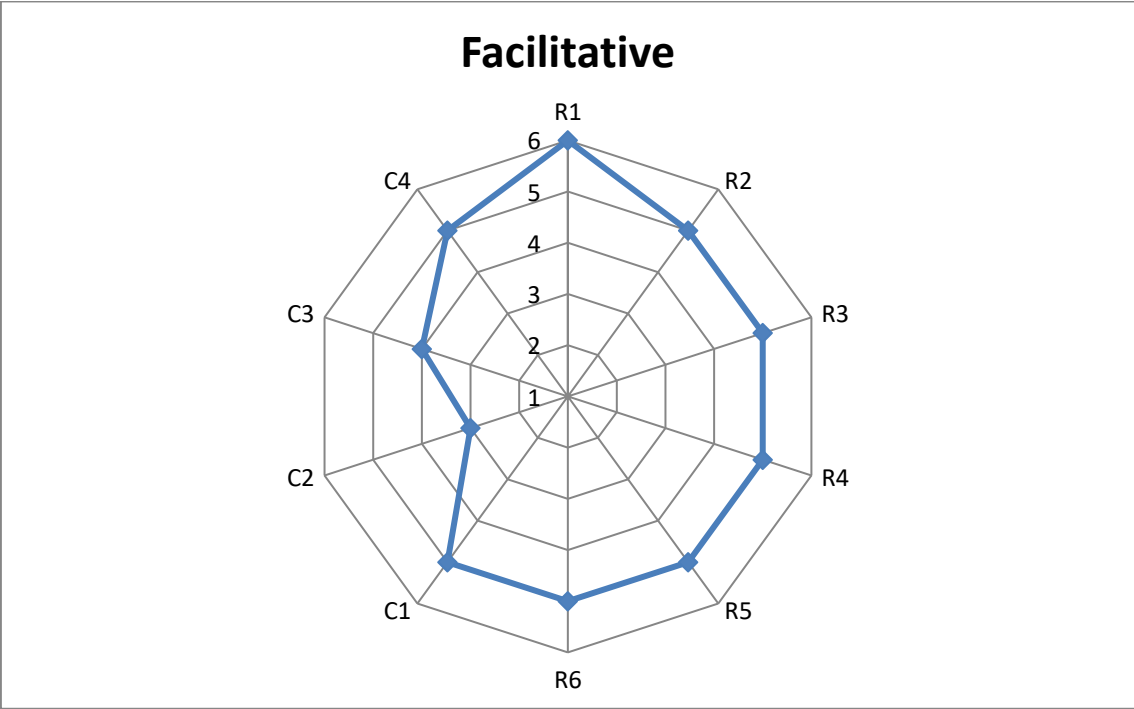
One of the communicators offered a different interpretation of the facilitative feature of RRC, linking it to knowledge management inside the Institute. In his view researchers will be better equipped to facilitate change in territorial development if they know what knowledge is being generated in the Institute by other researchers and research teams. This will allow them to integrate that knowledge in their own research projects because these projects normally need to draw from different disciplines or areas of knowledge. *“This can help researchers to generate new projects or to enrich the projects that they are working on”* (C1).

In sum most researchers reflected on the need to facilitate communication among actors with different types of knowledge in terms of language and were keen on reducing jargon but stressed the importance adapting their language to different publics. Others warned of the dangers posed by oversimplification, stressing the importance of nuances. Still other researchers reflected on facilitative in terms of being responsive to demands made by the stakeholders funding the projects in relation to publishing research findings. They warned that facilitative should not compromise researchers' independence.

A different interpretation of facilitative was made in relation to internal communication or knowledge management. It was argued that researchers' role facilitating change in territorial development required their being aware of the knowledge being produced in the Institute by other projects and research teams in order to be able to draw from different disciplines.

Figure 35 shows how each interviewee scored him or herself in the Likert Scale at the end of the interview.

Figure 35. Interviewees attitudes to the facilitative feature of RRC



Note: 1 stands for "never" and 6 for "always". "R" stands for researchers and "C" for communicators. Source: Author's own elaboration from the Likert scale-based questionnaires.

## 14.5 Analysis of interviewees' attitudes to the inclusive feature of RRC

This section summarizes the main reflections that emerged from the interviews when reflecting on RRC's inclusive feature.

Like with the change-oriented feature of RRC described in Section 14. 2 above, interviewees in general found it difficult to relate "inclusive" to communicating research outputs. One of the researchers explained that while she understood inclusion within the research process, she found it very difficult to picture how research communication could be inclusive. In what follows we have only summarized the reflections of those who did reflect on inclusive communication of research outputs and left out other reflections that have to do with research processes.

One of the communicators said that inclusive is the most difficult feature in the framework because while *"you can control the other ones, this one depends on whether other actors want to participate..."* (C3). The same communicator reflected that an inclusive approach to communicating research outputs is related to its resonance with society (C3):

*"We did a video in which a researcher is explaining an academic finding...it has been downloaded many times and has been widely shared and that is because it addresses a societal concern...it had resonance in society".*

A similar view was shared by a researcher who reflected that inclusive in any case *"comes back to the way you communicate your research trying to create a debate around it"* (R5). The same researcher shared an example of a process of writing a book for a seminar (R5):

*"When we designed it, we had a workshop with a group of policy experts to set the basis and then we had another feedback session with them, and then we published it and had a webinar and new feedback session...it was worth the effort because the research is going to have more impact".*

The researcher pointed out that inclusive is connected with thinking about who you want to communicate your research to “...which would make you write different things: if you write an academic article out of a research process then you are communicating it to one academic audience...but if you then write a blog on that academic article you are communicating it to a different audience...and so on” (R5).

A different perspective came from a researcher who linked inclusive to sharing power and said that the most complete expression of inclusion when systematizing research outcomes was to write with non-academic territorial actors (R2):

*“In my view that is what it means to share power...and of course there are challenges in conceptualizing with a policymaker...who might not have much time and when we finally meet to write will be thinking in more urgent upcoming matters...so first you have to be willing to share power but then those with whom you share power with, have to take on the responsibility that comes with sharing that power”.*

In contrast to this perspective another researcher reflected on inclusive as incorporating all the different views and perspectives when writing and connected it to conflict in the following terms (R6):

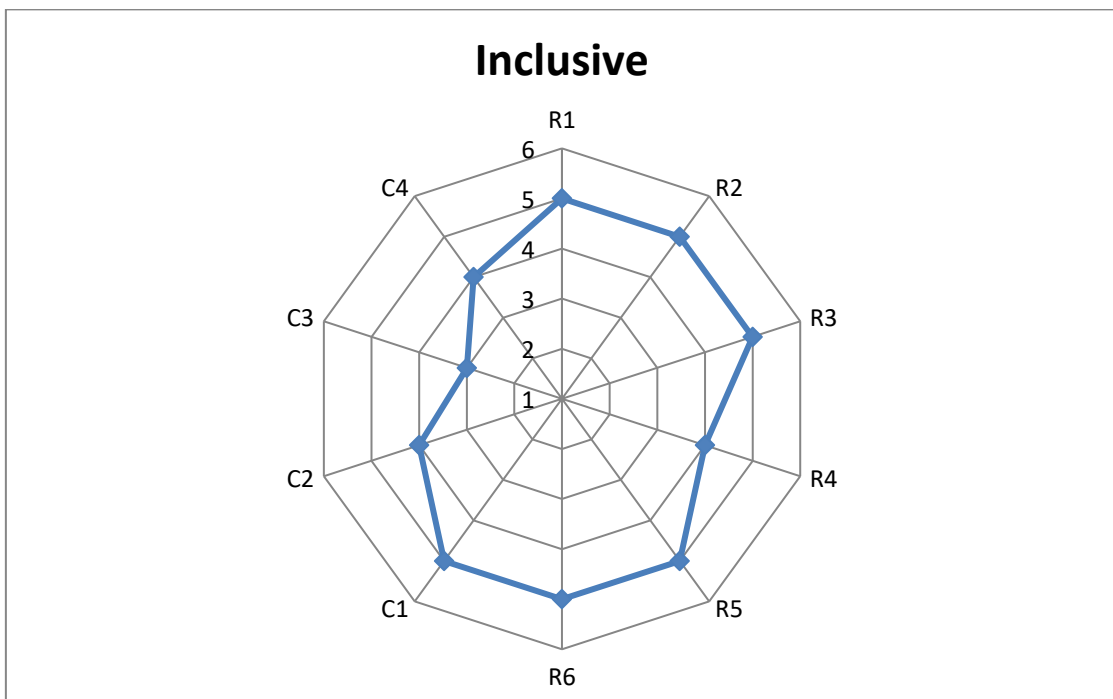
*“We always try to include all the different perspectives, but when conflict arises we have the last word...in a very complex case we position ourselves but always as researchers...I have to be able to send an objective message...I might allow myself a bit of subjectivity in a blog post but my research should always transmit independence and objectivity”.*

As mentioned above, inclusive was discussed in relation to communicating research outputs by only a few researchers and communicators. The rest pictured inclusion only in their research processes and answered the Likert scale-based questionnaire accordingly. This explains why in Figure 36 most researchers scored their research communication as being “very often” inclusive since it develops in interaction with other territorial actors.

For those who did reflect on the inclusive feature of the RRC framework in relation to their research outputs, attitudes ranged from an action researcher who reflected on this feature in terms of redistributing power away from researchers and another researchers who reflected on the importance of giving voice to the different stakeholders when writing but keeping the power of the last word. Both extremes reflect the different research paradigms under the Institute’s pluralistic approach to transformative research. In between both, some researchers and communicators interpreted inclusive as communicating research outputs in a way that connected with society’s concerns, that is, in a way that made it socially relevant.

Figure 36 shows how each interviewee scored him or herself in the Likert Scale at the end of the interview.

**Figure 36. Interviewees attitudes to the inclusive feature of RRC**



Note: 1 stands for “never” and 6 for “always”. “R” stands for researchers and “C” for communicators.  
 Source: Author’s own elaboration from the Likert scale-based questionnaires.

## 14.6 Analysis of interviewees' attitudes to the emergent feature of RRC

This section summarizes the main reflections that emerged from the interviews when reflecting on RRC's emergent dimension.

This is another feature of the analytical framework which most researchers could clearly connect with their research processes but not with their research communication. Indeed, most researchers described their research processes as emergent. Interpretations however varied. One researcher argued that when research develops with other actors *"you do not know what the result will be"* (R1) while another lamented that the emergent nature of research is being lost due to *"stakeholder requirements to produce short-term results (R6)*.

However, some researchers and mostly communicators did specifically reflect on emergent in the context of communicating research outputs. Reflections in this regard among communicators were mixed. For one of them, the organizational reform had encouraged an emergent communication strategy based on projects, fragmenting the Institute's overall communication strategy. Another communicator echoed this view and elaborated that the Institute now faced the challenge of developing a shared communication strategy while allowing for some flexibility within projects. This connects with the reflections made when discussing the smart feature of the RRC framework.

One of the researchers reflected that emergence is a way of working when research develops with other actors so if responsible research communication is about including other actors, emergence must be present but could not picture how. Another researcher reflected that when communicating research outputs using the social media *"I definitely don't plan...I see what happens and adjust things along the way"* (R5). Another one described her research communication as an organic process which does not imply *"that it can go in all kinds of directions...the way that things evolve change but not in a wild fashion...it stays well within set margins"* (R3).

A different view was shared by another researcher who explained that emergence in research communication is not something he should worry about

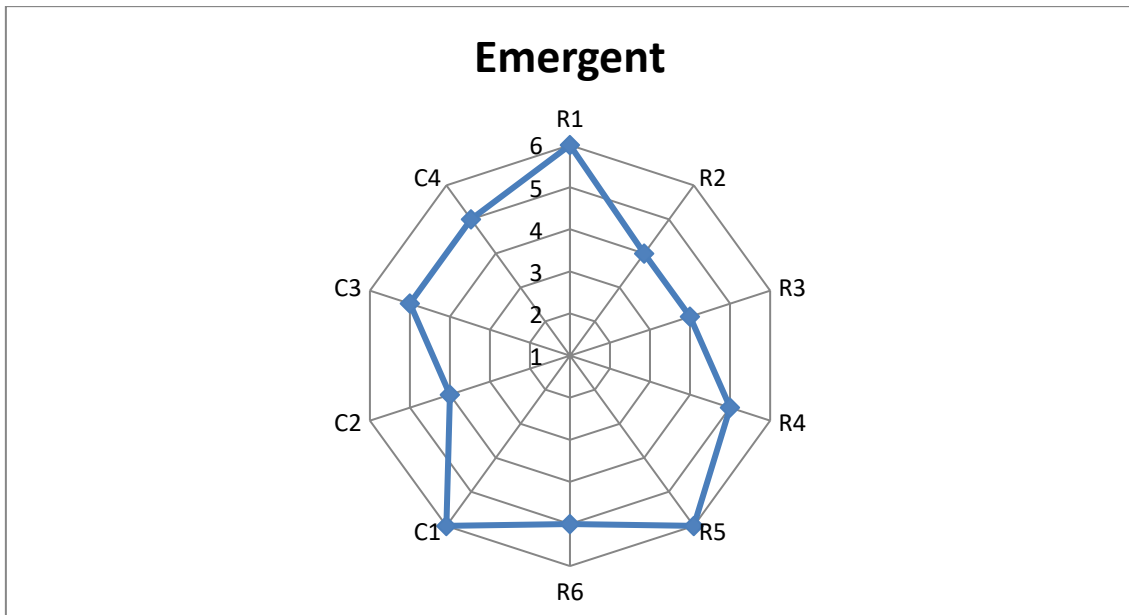
since it is not his ultimate responsibility but the responsibility of the member of the team in charge of communication (R4):

*“As the [research] process transforms itself, other members of the team might have to participate...I normally don’t have a sense of ownership of research outputs and in that sense, communication is not an issue for me”.*

In sum, while both researchers and communicators could relate their research and in the case of communicators, their communication activities to emergence, few of them reflected on this in relation to communicating research outputs. Those who did reflect on this interpreted emergent as whether they planned or not plan their research communication but did not link it explicitly to a dialogical process.

Figure 37 shows how each interviewee scored him or herself in the Likert Scale at the end of the interview.

**Figure 37. Interviewees attitudes to the emergent feature of RRC**



Note: 1 stands for “never” and 6 for “always”. “R” stands for researchers and “C” for communicators. Source: Author’s own elaboration from the Likert scale-based questionnaires.

## 14.7 Analysis of interviewees' attitudes to the collective feature of RRC

This section summarizes the main reflections that emerged from the interviews when reflecting on RRC's collective feature.

This last dimension of the analytical framework that refers to what is collectively made by dialogue seemed initially abstract for most of the interviewees. A researcher reflected (R2):

*“When you are writing a paper, you are not thinking about what comes next...of course if you write with a stakeholder it's a different story, in that case you would think about the future...”*

Another researcher interpreted this feature as a collective communication effort of a project's research output and said that she had so far not been in a project in which a decision was made to communicate research outputs collectively.

For another researcher, doing the effort of communicating research outputs in the form of reports for practitioners or blog posts did have a community building objective. Still another researcher reflected that if dialogue creates a community, even if it creates value for other territorial actors, it is a tricky concept because *“how do you limit interaction [with community] so that it doesn't consume all your time and energy...even one hour a week means 50 hours a year”* (R4).

In contrast, most communicators agreed that the Institute's structure makes it very aware of what is being made through dialogue collectively because it is linked to its mission of acting as a change agent in the territory *“If you don't take this into account you don't have anything”* (C2). One of the communicators highlighted that the quality of the dialogue they can have with the communication staff of other institutions depends on the dialogue developing between researchers and their counterparts in those institutions. One of the communicators added that although he agreed that the Institute needs to be aware of what is being made through dialogue, he found it culturally difficult to picture someone communicating *“for others to develop a collective sense of ownership and not just an idea being transferred by the Institute”* (C4).

Another communicator reflected that the analytical framework on RRC is interesting because it walks you through the different steps that can lead to a collective dialogical process and helps to reflect on how you are addressing each step in that direction.

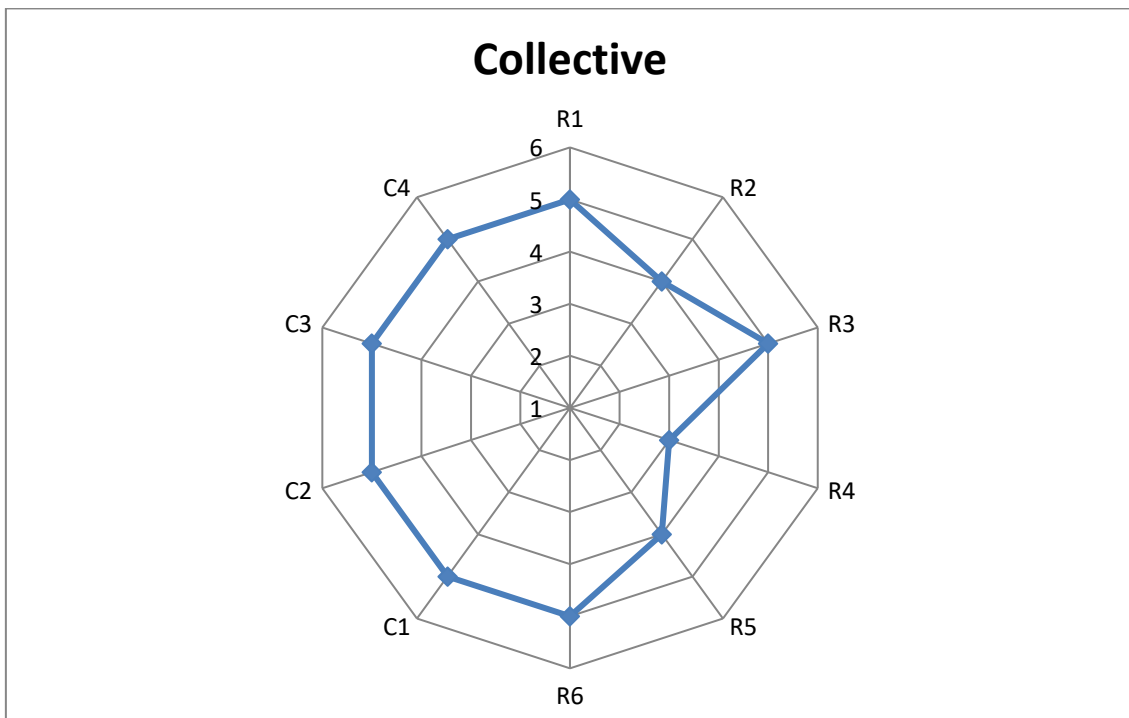
One of the researches reflected that in his experience, when working with a homogenous group of actors that belong to the same sector, it is more likely for one of them to step forward to continue to drive a process forward. However, when a group includes different sectors, levels of government or countries, researchers might have to perform the role of nodes that continue driving the collective process forward.

Finally, another researcher shared an experience that started off some years ago with researchers sharing conceptual knowledge on an issue with others who had practical knowledge on the same issue and forming a group that has gradually grown to include people from all over the world around a common research question (R5):

*“We’ve been meeting twice for the past 6 years because we have created an environment that people want to be part of around a challenge that nobody knows the answer to but lots of people have different pieces of knowledge that can contribute to the answer...it is definitely collective...it started off with someone leading it but now different people step forward at different moments...”*

In sum, the collective dimension of RRC was an abstract concept for researchers but easy to grasp by communicators. This may explain Figure 38 where communicators scored their research communication higher in the collective feature of RRC than researchers.

Figure 38. Interviewees attitudes to the collective feature of RRC

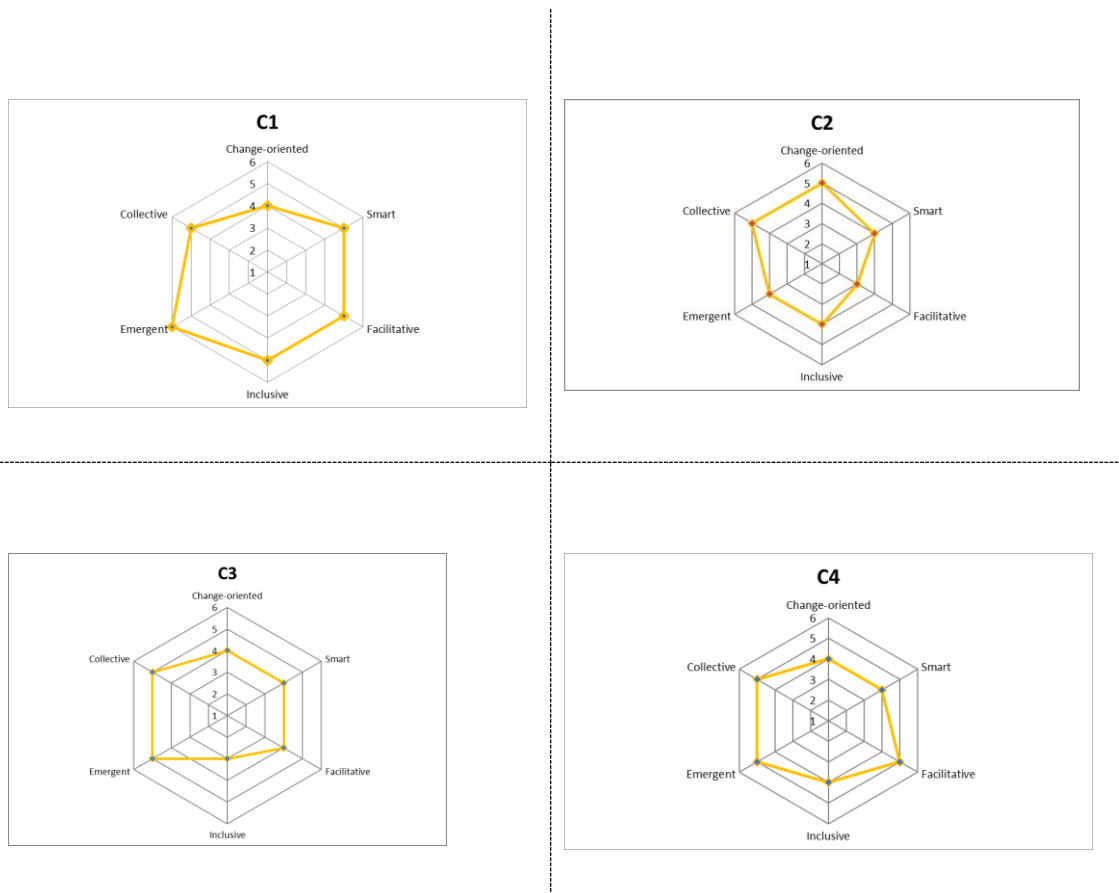


Note: 1 stands for “never” and 6 for “always”. “R” stands for researchers and “C” for communicators.  
Source: Author’s own elaboration from the Likert scale-based questionnaires.

## 14.8 Individual diagnoses on RRC by researchers and communicators

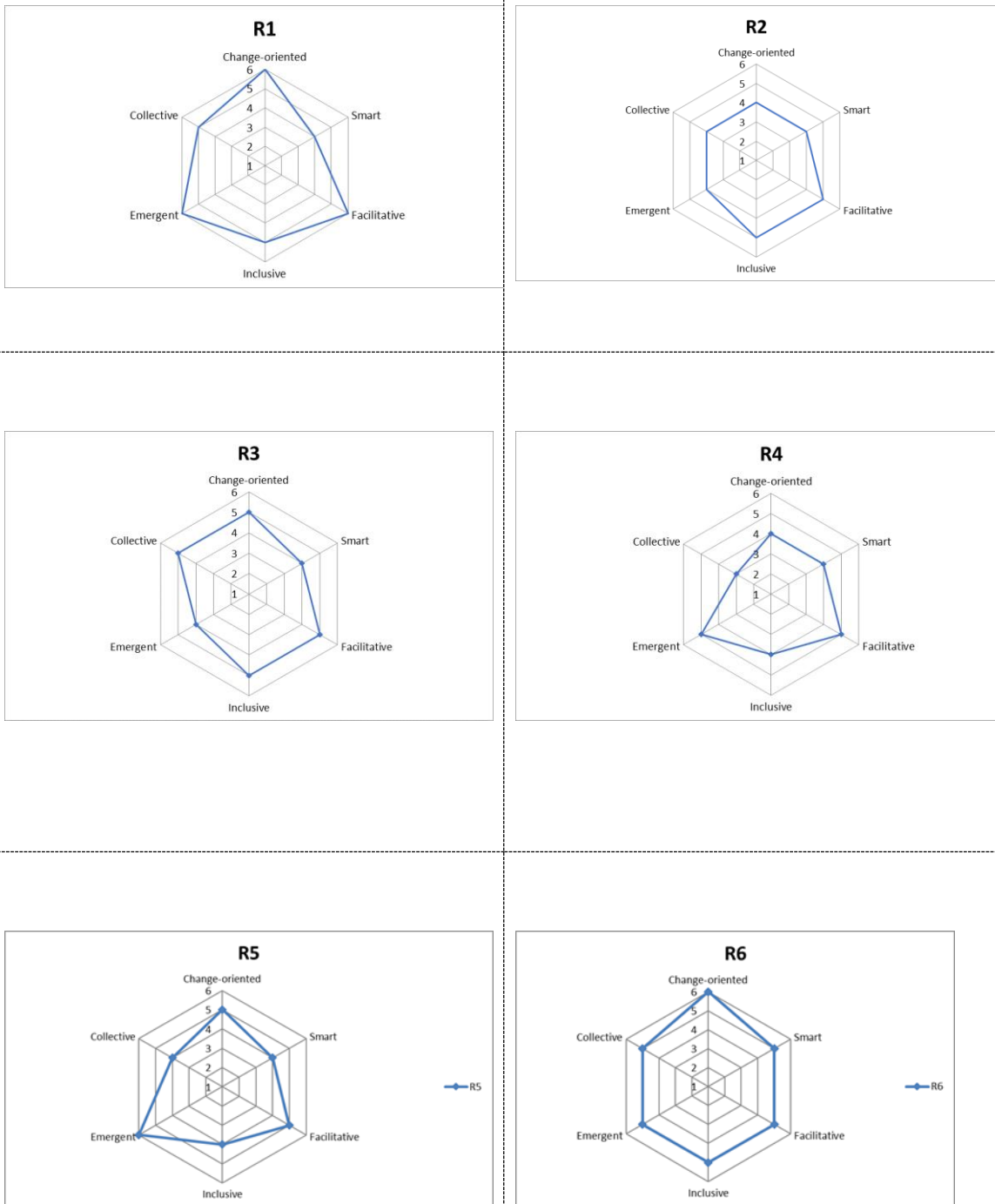
This section presents the radar graphs with the results of the self-diagnosis performed by each interviewee after reflecting on the analytical framework on RRC. Each interviewee answered the Likert scale-based questionnaire according to how he or she interpreted each feature after having listened to its explanation and reflected on it during the first part of the interview. The questionnaires were helpful to interpret the individual interviews and offer a glimpse of the diversity of approaches to research communication in Orkestra. They cannot be interpreted as a diagnosis of RRC in the Institute (interviews were held with only a selection of researchers and communicators) but could be used as a tool to define individual paths to RRC. The individual summary reports that correspond to each graph are presented in Appendix B.

**Figure 39. Individual diagnoses on RRC by Communicators**



Note: 1 stands for “never” and 6 for “always”. “R” stands for researchers and “C” for communicators.  
Source: Author’s own elaboration from the Likert scale-based questionnaires.

**Figure 40. Individual diagnoses on RRC by Researchers**



Note: 1 stands for “never” and 6 for “always”. “R” stands for researchers and “C” for communicators.  
 Source: Author’s own elaboration from the Likert scale-based questionnaires.

## 14.9 Conclusions

The objective of the 10 case-studies presented in the previous sections was to explore the extent to which the actionable analytical framework on RRC can help a diversity of researchers and communicators, irrespective of their methodological approaches, to reflect on their research outputs' communication. The interviews also served to test the actionable analytical framework as a tool to diagnose individual RRC practices. The theoretical analytical framework on RRC, that draws from the literature on RRI and CDSC (Chapter 6) was made actionable by testing it with two action researchers who experimented with communicating a research output (a book) following the dialogical approach proposed by the RRC framework.

Chapter 13 presented the context of the case studies: Orkestra, a research institute that exemplifies what we identified in Chapter 4, section 4.1.3, as research centers created within universities to produce socially relevant knowledge (Aranguren et al., 2016; Astigarraga & Eizagirre, 2017; Goddard & Vallance, 2013). Indeed, Orkestra is one of three university development units through which the University of Deusto seeks to reinforce its third mission (Aranguren et al., 2016). The term "transformative research" was coined early on to capture the Institute's change-oriented approach to research (Orkestra, 2007). Developing a shared meaning of what was to be understood by transformative research led to a pluralistic research environment in which action research settled in among other research paradigms (Karlsen & Larrea, 2014; Larrea, 2018).

The interviews were held with a diversity of researchers and communicators likely to approach RRC from different standpoints. The interviews took place 5 years after the Institute's organizational reform from research departments to research projects and 1 year into its 2017-2020 Strategic Plan, which has the stated aim of consolidating Orkestra as an active actor of change in the Basque Country.

The main finding from the case studies is that researchers' approaches to communicating their research outputs are determined by their research paradigms.

The analytical framework on RRC was described by most interviewees as a helpful tool to reflect on their research communication practice. To a larger or lesser extent, all could relate to the different elements of the framework although not all of them interpreted them in the same way. Moreover, while all could relate to the different elements of the analytical framework when reflecting on their research communication practices, what most of them had in mind when sharing their reflections, was their research projects and not the systematized outputs of their research projects.

This made it difficult, as previously stated, to focus the interview on the mezzo space situated between the micro space where researchers and practitioners co-generate new knowledge, and the macro one, in which research outputs are communicated in linear ways that reach a larger number of researchers and practitioners through the distribution of printed or digital editions.

In one case an interviewee reflected that it could make sense to communicate research outputs dialogically to other academic communities. The interviewee was answering from an institutional perspective and referred to the Institute's internationalization strategy. He said that communicating research outputs dialogically to other academics could make sense when helping them bring the Institute's context-specific academic production to their own context in order to pursue change in their own territories. This was the closest approach to connectivity that emerged from the interviews.

Similarly, when discussing the other features of the actionable analytical framework like facilitative, inclusive, emergent or collective, interviewees mostly reflected on their research processes. The smart feature was the one in which some interviewees reflected on communicating their research outputs to communities different from the territorial actors with whom they engage in transformative research processes, mostly through the social media. They agreed, however, that in general terms dialogue was reduced to moment in time interactions.

We argue, that the bias to research processes when reflecting on the RRC framework is explained by the different research paradigms from which

interviewees approached the analytical framework. Indeed, as explained in Chapter 13, transformative research in Orkestra encompasses research approaches with different levels of interaction with actors outside academia. The level of interaction can range from presenting diagnoses and findings with conclusions and recommendations to public and private policy makers (with the objective of influencing change), to engaging in dialogical research processes in which academic knowledge and practitioners' knowledge co-generate actionable solutions to specific territorial challenges.

What this means in terms of the analytical framework on RRC, is that researchers who work with positivist research methodologies first produce knowledge and once this knowledge has been systematized, the priority is to make that knowledge available to public and private policy makers so that their recommendations and conclusions can influence decision making. This was their starting point when reflecting on RRC during the interviews.

In the case of action researchers, the mezzo space was more easily identified, Indeed, through their research methodology action researchers are engaged in dialogical micro change processes in which they co-generate actionable solutions to specific territorial challenges with public and/or private stakeholders themselves. Once this knowledge is systematized they do not see the need to go back to those stakeholders with whom they generated workable solutions to jointly identified challenges. Action researchers and communicators working with or familiar with AR therefore connected more easily with the idea of exploring dialogical approaches to share their research outputs with other research and practitioner communities who might want to make it workable in their own contexts.

The case studies in this chapter therefore unveil that the philosophical underpinnings that explain the different approaches to how knowledge is produced, also explain the different approaches to how knowledge is communicated. While action research and other participatory methodologies that draw from constructivist paradigms embed science communication in knowledge co-generation processes, other research paradigms place science communication after knowledge has been produced. This main finding sheds

light on the reflection by Horst et al. (2016) in Chapter 5, on the need for more research on whether science communication should be understood as separate from, or as part of producing knowledge. As these case studies show, answers will vary depending on the research paradigm from which the question is addressed.

The analytical framework on RRC was made actionable with action researchers and therefore made sense for researchers and communicators working with or familiar with action research. It did not make sense for researchers working with other research paradigms. The main finding of the explorative case studies presented in this chapter therefore provides leads for future research: reframing responsible research communication for other research paradigms.

## 15 CONCLUSIONS AND FUTURE RESEARCH

The main objective of this dissertation was to build an analytical framework on research communication for research institutes acting as agents of change in territorial development that facilitates connectivity. Research institutes that play the role of agents of change are created within universities to help them develop their third mission by producing socially relevant knowledge. Their research therefore develops in close interaction with other territorial actors, where communication, particularly dialogical communication, plays an important role. Indeed, research has shown that changing communication patterns from linear to dialogical patterns leads to change in territorial development (Karlsen & Larrea, 2014).

While the literature has discussed dialogical communication within research processes, considerably less attention is paid to how the research outputs of such processes are communicated. Indeed, once the research process is over, outcomes are normally systematized and packed into different products like papers, books or reports that follow a linear path to readers. Moment in time interaction happens in meetings, conferences or book presentations but dialogue, and its potential to transform is no longer present. An opportunity to extend the learning process beyond the publication of results is therefore lost.

This dissertation addressed the gap in the literature on the dialogical communication of research outputs, thereby complementing what the literature already says about dialogical communication within research processes. In order to address this gap, we built on the concept of connectivity, defined by Karlsen & Larrea (2014) as a dialogical approach to the transferability of results. Their concept departs from Lincoln & Guba (1985) who argue that the responsibility of researchers in the transferability of their research results ends with the written text and that transferability can be enhanced by how well the text is formulated. Karlsen & Larrea (2014) argue that this may not necessarily be so, and suggest that researchers can choose to extend their responsibility beyond the publication of results by connecting in a dialogue with other researchers and practitioners. This would enhance the workability of their

frameworks and concepts in new contexts. The authors recognize however, that connectivity, in requiring the direct engagement of researchers has a limited scope and can only complement transferability.

This dissertation addressed the challenge of scope of connectivity in order to facilitate it. In so doing, it opened a pathway to explore dialogue's transformation potential in a mezzo space situated between the micro one, in which academic knowledge is communicated dialogically to a small number of territorial actors with whom researchers co-generate new knowledge, and the macro one, in which academic knowledge is communicated to a larger number of researchers and practitioners through the distribution of printed and digital copies of books, papers or reports.

We approached connectivity from the concept of responsible research, defined by Bardone & Lind (2016) as a form of taking care that points to a relational aspect implicit in researchers' work; inextricably linked to how researchers understand their own praxis and agency. We argued that this definition of responsible research connects with the principles that stand behind connectivity in terms of it being a choice that researchers may make to extend their responsibility in the transferability of their research outputs beyond the written text.

The research process followed to build the analytical framework on responsible research communication was structured around three main research questions: a theoretical one and two empirical ones. The two empirical research questions were explored in Orkestra-Basque Institute of Competitiveness, a research institute that epitomizes the type of research centres created within universities to help them develop their third mission by producing socially relevant knowledge.

The first question *What are the features of responsible research communication?* was the basis for building the theoretical analytical framework. This question is dealt with in Chapters 4, 5 and 6. The second research question *How did researchers in Orkestra-Basque Institute of Competitiveness use the responsible research communication framework to communicate their*

*research output?* involved testing the theoretical analytical framework in practice with two action researchers who had just finished writing a book. The lessons learnt from testing the theoretical analytical framework in practice, transformed it into an actionable analytical framework. This question was dealt with in Chapters 7 to 12. The third and final research question *What attitudes to RRC can be found in Orkestra Basque Institute of Competitiveness?* entailed testing the robustness of the actionable analytical framework among a diversity of researchers working with different methodological approaches. This question was dealt with in Chapters 13 and 14.

## **15.1 Synthesis of the answers to the research questions**

The following sections synthesize the answers given to each of the three research questions

### **15.1.1 Theoretical features of Responsible Research Communication**

This section synthesizes the answer to the first research question: *What are the features of responsible research communication?*

The first step taken to build the theoretical analytical framework on RRC was to find a framework that helped to understand research processes that develop in close relation between academics and other territorial actors in order to produce socially relevant knowledge. In the literature review carried out in Chapter 4, we framed the role of research institutes as change agents in territorial development within the debate around universities' third mission. We identified RRI, a framework that emerged within the literature on scientific and technological innovation in which universities and research institutes, in their knowledge production capacity, play a key role.

We concluded that RRI helps to understand research institutes as change agents in territorial development because it stresses the critical importance of the research process to produce socially relevant or acceptable outcomes. Among its four process dimensions we highlighted inclusion and responsiveness. Inclusion recognizes the limits of academic knowledge alone in finding solutions to complex societal challenges. Responsiveness, in turn, links inclusion to change. We noted that RRI and action research are based on a Mode 2 knowledge production approach. Finally we highlighted RRI's relevance

because it illustrates the profound structural changes taking place in the relation between science and society and points to the future context in which universities and research institutes are likely to develop and communicate their work in the future.

We endorsed the definition by Bardone & Lind (2016) of responsible research as a form of taking care. Responsible research as a form of taking care points to a relational aspect intrinsic in researchers' work, inextricably linked to how they understand their own praxis and agency. Moreover, its indirect approach to reach high-level objectives connects with our focus on micro change processes. In the context of the discussion on RRI which is largely taking place in the realm of science and technology, we noted this understanding of responsible research makes it relevant for all disciplines, including the social sciences, the focus of this dissertation.

Having defined responsible research, we turned in Chapter 5 to communication studies in order to find a compatible school that could bring in the communication dimension. We first reviewed the literature on science communication, a natural starting point due to its proximity to the field of scientific and technological innovation. We noted that science communication is in the process of reframing itself in face of the profound changes taking place in the relation between science and society that led to the emergence of the RRI framework.

We therefore turned to the field of Communication for Development and Social Change, that has a long track record of discussing product and process approaches to communication when seeking social change. In the context of this dissertation it has the added advantage of its specific focus on development. We examined the field's different theoretical paradigms and identified participatory communication, based on the work of Paulo Freire (1996) as the most suitable approach to complement responsible research.

Having identified participatory communication as a field from which to draw from in order to bring in the communication dimension to responsible research, we built a theoretical analytical framework on responsible research communication

made up of four features, thereby answering the first research question (Table 18).

**Table 18. Synthetic answer to research question 1**

What are the features of responsible research communication?

RRC has four features that draw from the literature on participatory communication, particularly from the work of Paulo Freire (Freire, 1996), to complement RRI. Two of them (inclusive and responsive) maintain the RRI language to make the connection between both literatures visible in the analytical framework.

RRC is **process-oriented**, placing emphasis on the *how* of communication instead of on *what* is being communicated. Understood in this way this approach “rejects communiqués and embodies communication” (Freire, 1996, p 60).

RRC is **knowledge-based**, meaning that dialogue takes place among territorial actors with different types of knowledge. It draws from what Freire describes as the solution of the teacher-student contradiction where the teacher is not only the one who teaches but is also taught in dialogue with the students.

RRC is **inclusive**, attaching great importance to teachers/researchers first discovering the issues that are relevant for participants, codifying them and representing them so that participants connect them with their own reality and possible need to transform it.

RRC is **responsive**, meaning that dialogue is praxis: reflection and action that lead to change.

Source: Author’s own elaboration.

### 15.1.2 Testing Responsible Research Communication in practice

This section synthesizes the answer to the second research question: *How did researchers in Orkestra-Basque Institute of Competitiveness use the responsible research communication framework to communicate their research output?*

This step involved testing the theoretical analytical framework in practice in order to make it actionable. This was done through an action research process with two action researchers from Orkestra-Basque Institute of Competitiveness, a research institute with the stated mission of acting as an agent of change in territorial development. The institute is an example of a research institute

created within a university to produce socially relevant knowledge, thereby contributing to develop the latter's third mission.

The objective of the action research process was to help the two researchers to change the communication pattern of a book that they had finished writing but had not yet communicated from a linear pattern to a dialogical pattern. Testing the different features of the theoretical analytical framework in practice transformed them into actionable features. This transformation was not radical, nor did it negate or contradict the original features of the analytical framework. Changes are nuanced adaptations that make the original features actionable by making the taken for granted assumptions explicit. They therefore help to adjust expectations. Table 19 shows this transformation, answering the second research question.

**Table 19. Synthetic answer to research question 2**

How did researchers in Orkestra-Basque Institute of Competitiveness use the responsible research communication framework to communicate their research output?

**Process-oriented** was transformed into **change-oriented** and **smart**. Testing it in practice unveiled that change is intrinsic to dialogue and therefore needs to be explicit from the outset of the process. It also unveiled that dialogue's time-consuming nature needs to be addressed for it to be feasible, so it needs to be smart.

**Knowledge-based** was transformed into **facilitative** because testing it in practice unveiled the difficulties that arise when actors with different types of knowledge try to communicate with each other.

**Inclusive** was the only feature of the analytical framework that was **not made actionable** because testing it practice showed that it is a high goal that needs to generate the conditions for conflicting ideas to emerge and interact. It is a feature that needs to be approximated on a case-by-case basis being transparent about what it means.

**Responsive** became **emergent**. The action research process unveiled that dialogical processes cannot be planned because they are dynamic, ongoing and changing, unfolding step by step. It also unveiled that keeping the dialogue alive is a **collective** responsibility. Without it, it would not be actionable because it would be difficult to keep dialogue alive.

### 15.1.3 Attitudes to Responsible Research Communication in Orkestra

This section synthesizes the answer to the third research question: *What attitudes to responsible research communication can be found in Orkestra-Basque Institute of Competitiveness?*

The final step in the research process of this dissertation was to test the robustness of the analytical framework by developing case studies with a diversity of researchers working in Orkestra. The interviews were held with researchers and communicators likely to approach RRC from different standpoints. During the interviews it became clear that researchers and communicators working with or familiar with action research methodologies were able to think of their research communication in terms of the features of RRC more easily than interviewees working with other research approaches.

The main finding is that the philosophical underpinnings that explain different approaches to producing knowledge also explain different approaches to communicating research outputs. While action research and other participatory methodologies that draw from constructivist paradigms embed science communication in knowledge co-generation processes, other research paradigms place it after knowledge has been produced. These findings shed light on the reflection by Horst et al. (2016) in Chapter 5 on the need for more research on whether science communication should be understood as separate from, or as part of producing knowledge. As these case studies show, answers will vary depending on the research paradigm from which the question is addressed. The synthetic answer to the research question is shown in Table 20 below.

**Table 20. Synthetic answer to research question 3**

What attitudes to RRC can be found in Orkestra-Basque Institute of Competitiveness?

The main finding from testing the robustness of the actionable analytical framework with a diversity of researchers and communicators working with different methodological approaches are the following:

- The philosophical underpinnings that explain different approaches to knowledge production also explain different approaches to communicating research outputs.
- The analytical framework on RRC made sense for researchers and communicators working with or familiar with constructivist methodologies and did not make sense for researchers working with other methodological approaches.

Source: author's own elaboration.

## **15.2 Final conclusions**

After reading my last draft, one of my supervisors suggested that I include a section in the conclusions sharing what I had learned: Where was I when I decided to pursue this research process and where was I now. This section is written in my direct voice because, following Marshall (2008), it is how I was able to write what is mine to write.

A few years before deciding to do my PhD, working in the Communication and Publication's department of a research institute, I helped two action researchers to negotiate with a major international publishing company the translation rights of their book. Publishing their book in English, with a prestigious editorial was important for their academic career. However, they were worried not only about the elevated price of the book in English (its price was more than 100 pounds when it was first published...their research had been financed with public money) but about the language being a barrier for practitioners and other researchers with whom they wanted to share their book with.

The negotiation was successful. I felt empowered and wanted to continue being part of the experience. I offered to translate the book to Spanish. A year or so later we published an open access edition of the book, which conceptualizes on dialogue. It became the first volume of a collection that aims to connect the experiences of action researchers working in territorial development in different

parts of the world. When the third volume of the collection arrived, we were ready to take a step beyond open access and experiment with a different approach to communicating the book: a dialogical approach. This experiment became part of my PhD process.

Through my PhD process I learned that my idea of dialogical communication and its implications was quite naïve. I guess that translating the book was like riding a car as a co-pilot, you never realise how bumpy the road was, or how sharp the curves. My presentations were long and I was told a couple of times that more time for discussion would be appreciated. I over prepared, wanting to have answers to everything because I did not like feeling vulnerable. I expected the workshops to develop as planned and in my role of stakeholder through the project with the provincial government I made sure we did not fall out of track and met the deadline. So much for emergence.

It was also hard for me to settle with softer or decaffeinated versions of the different concepts that I brought to the workshops, more so, when most of them were based on participatory communication, which is not exactly knowledge produced in the ivory tower. Of course I can now see that the researchers were aware that the action research process was one of the empirical chapters of my PhD dissertation and so they were never disruptive in terms of leaving the room or hindering the process which I'm sure happens to action researchers all the time. In any case I still found it difficult to cope with the turns and twists of the process, to adapt to it and exhibit the right amount of flexibility.

So my most important lesson from the process is that dialogical communication is easily said, but in practice it is very hard. I think I can fully understand Cornwall's (2007) reflection on buzzwords, particularly when they sound like a good thing. This finding has made my admiration for action researchers grow, but it has also cast a shadow on the possibilities I see for myself as a future action researcher. I learned that I lack a wide range of skills and capabilities which I am not sure I am ever going to be able to develop as fully as action research requires.

I am nevertheless aware that in order to help others change I had to change as well. I am therefore determined to continue learning because one of the most fulfilling and empowering experiences of my PhD process was working to solve a real challenge. I feel that I contributed to change something (how a book was communicated), and that through *La Cosa*, because people use it, my research has had some impact.

### **15.3 Recommendations: RRC is a shared responsibility**

Considering our conclusions from Chapter 14, in terms of RRC making sense for researchers working with action research and other methodologies that draw from constructivist approaches, these recommendations focus on researchers and communicators working with those research paradigms.

The main recommendation is to consider RRC a shared responsibility. This assertion does not contradict what we have been saying all along in terms of RRC being inextricably linked to how researchers understand their own practice and agency. It means that those who choose to communicate their research outputs with an RRC approach need to do so in a supportive environment.

Indeed, if RRC is able to create dialogical spaces where researchers and practitioners engage in the production of new knowledge; that is, if through RRC the learning process extends beyond the publication of results, the first question that emerges is how to legitimize that new knowledge in academia. This is important because otherwise, researchers who cannot bring back that knowledge to the academic debate will be penalized in their career progression indicators.

Likewise, research institutes should provide researchers with space and basic funding to experiment and innovate when communicating their research outputs. These efforts should be understood as part of the dissemination stage of the research cycle and independent of their institutional or corporate communication activities, which are also necessary but have a different rationale. They should also encourage communication staff to develop facilitation capabilities, since, as discussed in Chapter 5, their role is changing from that of transferring information to bridging between academics and

stakeholders and articulating different stakeholder groups. Even professionals focused solely on dissemination activities need to consider that the future of scholarly communication is about reducing barriers to the active participation of other societal actors (Guédon-Jean Claude et al., 2019).

Considering the difficulties shared by researchers (Chapter 14) regarding the possibility of obtaining funding from projects with stakeholders for communication purposes, work needs to be done to break this barrier. We argue that stakeholders are territorial agents with a stake in the development of their territories that should also take on the responsibility of facilitating the dissemination and uptake of the research they are funding. The development of one of the empirical chapters of this dissertation was possible because funding was made available by a public administration for experimental purposes.

In the case of individual researchers, while it is true that not all researchers have communication capabilities, we argue that they should be encouraged to develop them. As discussed in Chapter 4 and in Chapter 5, the structural changes taking place in the relation between science and society are moving the boundaries of what we understand by knowledge production and by science communication and in any case there is a trend towards stakeholder and citizen engagement in both.

A pathway to this end for researchers could be to use the analytical framework on RRC as a tool to reflect on communication practices and design individual paths to RRC. A more structural recommendation is to include a course on the meaning of RRC and why it is important in PhD programs. Early career researchers would then have made the reflection by the time they start sharing their first research outputs.

Finally, while researchers may be convinced of the virtues of engaging in dialogical communication processes when communicating their research outputs, they need someone on the other side willing to engage in a dialogue as well. For this to happen it necessary to go beyond the division of functions in which universities or research institutes produce knowledge and society receives it and applies it. Territorial actors and other practitioners must make

the transition from passive receptors to active actors with the attendant fears, lack of practice, and time devoted to reflection.

#### **15.4 Future Research**

We reached the end of the process with many open doors. Considering the main finding of the case studies, it will be necessary to adapt the RRC framework to research approaches that do not work with constructivist and action research paradigms. This, because as we pointed out in different parts of the dissertation, the scholarly communication system is experiencing a trend towards the active participation of stakeholders and citizens. Not everyone has to be an action researcher, but all researchers are likely to be affected by this trend which is the result of profound structural changes in the relation between science and society affecting knowledge production and dissemination.

Further testing of the analytical framework on RRC in other action research projects will need to identify the relation between its different features. Some of them have already been traced (like the deferred and asynchronous features incorporated in smart dialogue and the emergent and collective features related to the asynchronous feature of smart dialogue) but more robust connections will need to be traced in future projects.

Future research will also have to identify if new knowledge is being co-generated in the space designed “to keep writing the book”. If so, what happens with that new knowledge, who systematizes it and how, for what end; how is the new knowledge appropriated by participants. A related line of future research will need to look into how participation develops in a context of diversity: who feels included and who doesn't; what hinders and what encourages participation.

## **APPENDIX A. CASE STUDIES' INDIVIDUAL SUMMARY REPORTS**

This Appendix presents the summary report of the individual case studies. The reports include the reflections that were relevant for the analytical framework on RRC and acknowledges when the interviewee was reflecting on the research process. Considering that Orkestra is a small organization and in order to guarantee confidentiality for the interviewees once this dissertation is published, the individual summary reports are not presented in the same order in which the interviews were held. To further guarantee confidentiality the pronouns “she” and “he” are used arbitrarily and do not necessarily correspond to the person that participated in the interview.

## **1. RESEARCHER 1**

### **1.1. Approach to RRC's change-oriented feature**

R1 describes her research processes as entirely driven by a social challenge but points out that not everyone will understand the challenge in the same way *“nor the role you think they can play in helping to solve that challenge”*. Moreover, even when the challenge is shared, *“some actors just expect you to provide a solution to their problem without having to take part in a dialogue”*. Her reflection was related to her research processes.

### **1.2. Attitude to RRC's smart feature**

Communication tools and products are needed not so much for communicating with stakeholders within a research process but with society at large. There is however a challenge of capabilities for researchers and therefore the need to budget communication in research projects.

### **1.3. Attitude to RRC's facilitative feature**

R1 shares the importance of working on language when communicating research. In her view, concepts like state of the art or words like laboratory, create confusion *“a stakeholder asked if we needed to build an infrastructure”*. Facilitative in a dialogical process means flexibility on the part of researchers and is a way of building trust especially during the early stages of the process. The three most important barriers are language, the research approach (when stakeholders do not see the value of engaging in a dialogue) and the short-term view of many stakeholders.

### **1.4. Inclusive**

For R1 *“this type of research makes you more vulnerable and you become more dependent on others”*. She underscored the importance of diversity within the research team and not only with other stakeholders. In this feature the researcher reflected on her research processes.

### **1.5. Emergent**

For R1 her research processes are emergent because when working with other actors *“you do not know what the result will be...I do try to present stakeholders with milestones or phases in order to reduce uncertainty for them”*. However, *“the more collective, the more emergent...”*

### **1.6. Collective**

R1 interprets this concept in terms of a collective communication effort, which does not happen in her case. Regarding roles, they are always laid out at the start of the process, but the emergent characteristic of the dialogic research makes it important to make them clear every time a new person or actor joins the process.

## **Conclusions**

R1 connected the three features of change-oriented, facilitative and emergent to her research processes. In this context the interviewee interpreted the facilitative feature as an effort expected from researchers in their relationship with stakeholders funding the projects. Emergent, on the other hand was seen by this researcher as something the researchers can handle but not so much stakeholders. The smart feature as something that needs capabilities that researchers do not have and requires resources from the Institute. The collective feature seemed abstract. This served as a pilot interview that helped to improve the following ones.

## **2. RESEARCHER 2**

### **2.1. Attitude to RRC's change-oriented feature**

For R2, writing a scientific article for a journal can be an indirect pathway to change because it helps to conceptualize new knowledge. When such conceptualizations are used in other projects they help to bring about change...*“But when I publish a scientific article in a journal I do not have an explicit change objective in mind, I do it because it counts in my academic career”*. While R2 agrees that it is important to reflect on the potential for change that communicating research findings might have, *“the potential for transformation is faster when such findings are taken to new projects...but in the short-run”*.

### **2.2. Attitude to RRC's smart-oriented feature**

For R2, barriers to designing a smart dialogical process are researchers own capabilities *“Apart from the workload... I lack specific capabilities”* also the actors with whom the project is being developed: *“we would need to separate part of the budget for communication, it would need to be negotiated...and made visible in the project...”*. *“When writing a book chapter for practitioners I am never in charge of thinking how to disseminate it...it is in the hands of the institution that invited me to write the chapter”*...before “the thing” I would have never imagined that it was possible to communicate academic knowledge in a dialogical process other than by bringing it to new projects”...but now I see that with “the thing” that knowledge is going to have a larger impact”.

#### **Facilitative**

*“This is the element of the framework with which I feel more identified...because I am constantly working to translate conceptual frameworks to other actors...I find I am constantly reducing jargon, trying to always give examples...”*.

#### **Inclusive**

For R2 the most complete expression of inclusive is writing with other actors. *“In my view that is really sharing power...and then of course authorship in publications...that is what it means to share power”*. And there is a challenge to conceptualizing with a policymaker...*“who might not dedicate much time and will be thinking in more urgent matters”*. *“So first you have to share power but then those with whom you share power with have to take on the responsibility of sharing that power”*.

#### **Emergent**

For R2 emergent is inherent in working with other actors.

#### **Collective**

For R2, this concept was confusing initially but when it was explained he said *“When you are writing a paper you do not think about what comes next. If you*

*write with a policymaker its different”... “In any case this question does not concern researchers but those in charge of communication.”*

### **General or closing comments**

Before ending the interview, the researcher reflected how it had helped her to understand the role she could play in communicating her research: *“After the organizational change took place in Orkestra most of us understood that including a person in charge of communication in a research project meant that your project would have more external visibility...it was a resource that would help you to “sell” your project better. This framework can serve to alter that view. It helps me to understand the role that communication can play in helping me as a researcher to achieve the transformation objectives of my research projects. It is not about having a person telling you if facebook or the webpage are better channels for your project...however it can also easily get confused with the research process.”*

### **Conclusions**

R2 sees his research communication represented in two main elements of the analytical framework: facilitative and inclusive. Smart is seen as something that needs capabilities that researchers do not have and resources that need to be negotiated with stakeholders. This in turn calls for making communication visible in projects and demonstrating the value of communication. Collective is not fully understood initially and had to be clarified by the author of this dissertation.

### 3. RESEARCHER 3

#### 3.1. Attitude to RRC's change-oriented feature

R3 explains that when he communicates his research, he does not aim to change something instantly but to build towards change in the long run. In any case he always works on topics where there is a space to change mindsets *“where you can have an impact on people's way of thinking”*.

#### 3.2. Attitude to RRC's smart feature

For R3, a way of developing a smart dialogue is continuity in research projects since it allows him to gain a deeper understanding of who the actors that he is working with are, and expand the scope by working in a steady way. R3 sees a mismatch between the different stages of the research process and the way that communication is done in the Institute that only helps when there is a finished product and a decent budget ... *“but most of the time my products are moving targets, if we don't have a finished product we can't go and sell it, we can't offer it”*.

#### 3.3. Attitude to RRC's facilitative feature

A way to bridge language barriers is to have an appealing framework or a metaphor that raises interest *“Of course you have to work the concepts, you can't just come with a cute framework, there has to be substance”*. In R3's view, it is important to build up a relationship and minimize *“the times you bother them”*. Regarding different work cultures R3 finds working with firms easier since policy makers tend to change their priorities more often. Writing reports is a way of giving back what the other actors gave you of their time and knowledge... *“The most important thing was to get something back in a language that was easier, with pictures, bullet points... of course it was backed with number crunching, rigorous thinking...The negative bit was that we dedicated less to transforming some parts in more elaborate papers for journals”*.

#### 3.4. Attitude to RRC's inclusive feature

R3 explains that in his research he includes other actors in the process to some extent... *“but not in a collective way...as I said, continuity and not bothering them so as not to build up resistance to future contact...I prefer personal contact instead of bringing them together and having group dynamics which might not be the kind of procedure for my type of research”*. R3 has also felt that his research interests or knowledge have been excluded in processes when the research project is commissioned by a stakeholder that has already thought it out in their head... *“When you are the executer of something in somebody else's head, no matter how hard you try to sell the thing you sense that it is not yours...it can happen that you wonder...Do we really have to look into this?”* In this latter comment he was referring to research processes, not research communication.

### **3.5. Attitude to RRC's emergent feature**

R3 describes his research communication as an organic process which does not imply that it can go in all kinds of directions... *“the way that things evolve change but not in a wild fashion...it stays well within set margins or boundaries...”*.

### **3.6. Attitude to RRC's collective feature**

R3 sees his research communication as a way of community building *“Communication and trying to maintain these relationships is a way of community building”*. For R3 this helps when other actors may shift their interest.

### **Conclusions**

The elements of the analytical framework with which R3 identifies more clearly are change-oriented, facilitative, inclusive and collective. Smart is understood as adapting to the Institute's tools and products and demand of finished products for communication purposes. Inclusive was initially identified with group dynamics but when clarified, R3 shared an interesting view regarding how researchers can feel not included. R3's understanding of collective is that dialogue leads to community building but the responsibility is on the researcher because they need to be able to access this community for research purposes.

## **4. RESEARCHER 4**

### **4.1. Attitude to RRC's change-oriented feature**

For R4 change is not reached through communication but through the research project *"You do your research and then you communicate it"*. R4 adds that *"we have different capabilities and the person who does the research does not have to be the same one who communicates"* In that context R4 sees an important role for the communication team to help design and disseminate research outcomes *"and sometimes to communicate them directly"*. For that to be possible, researchers should try to transmit their research findings as clearly as possible *"so that whoever is in charge of communicating them is able to do so"*.

### **4.2. Attitude to RRC's smart feature**

R4 normally tries to channel part of her resources to communicate her research processes and outputs in academic conferences and to include communication staff in research projects, *"but I've never budgeted communication hours for myself"*...For R4 a challenge already exists when budgeting hours for academic reflection *"Normally research takes you until the last day of the project...how can you extend the project's resources to write a paper, send it, wait for a response, do changes, send it again...if on top of that I have to channel part of my resources to communication?...."*

### **4.3. Attitude to RRC's facilitative feature**

In R4's view, the use of infographics would help to communicate research better *"but I don't see myself as having to do so, the Institute should provide that"*. R4 does point out a danger in making research seem too simple *"Somebody might say: how pretty but what real content does it have?...You need to have a full document behind that to justify three cute figures"*. Regarding the different work cultures of researchers and territorial actors R4 sees a challenge in the different communication priorities of the actors involved in the process: *"We can't say yes to everything and we can't say what other actors want to hear...we can reflect on what a better time to communicate research findings might be but when we do so we have to communicate what is true"*.

### **4.4. Attitude to RRC's inclusive feature**

For R4 this is the one element of the analytical framework in which it is difficult to distinguish the research process from research communication. However, it did make her reflect that it could be possible to design games that invite other actors to interact with data tools through questions that allow them to participate contributing their own knowledge.

### **4.5. Attitude to RRC's emergent feature**

R4 understands this element as completely separate from the research process and in that context it is not something to worry about since it is not her ultimate responsibility...*"Moreover, as the process transforms itself other members of*

*the team might have to participate...I normally do not have a sense of ownership of research outcomes and in that sense communication is not an issue for me”.*

#### **4.6. Attitude to RRC’s collective feature**

For R4 this bit is tricky because “*Once value has been created, how do you limit interaction so that it doesn’t demand all your time and energy?....One hour a week means 50 hours a year”.*

#### **Conclusions**

R4 sees communication detached, to a great extent, from the research process. The features of the analytical framework with which she most identifies are facilitative and emergent but she does not feel it is her responsibility to work on language translation or experiencing emergent research communication processes. The low scores in the Likert scale may not necessarily mean that the researcher tries but can’t, but rather that the researcher does not see that she should be concerned about those features of the framework.

## 5. RESEARCHER 5

### 5.1. Attitude to RRC's change-oriented feature

R5's research is from the outset change-oriented *"because you want to improve the state of the art that policy makers use...but I don't explicitly think about communicating it for change"*. R5's research communication is however dialogical at three levels. First, in engagement processes with policy makers at the local and international level: *"meeting with them enables their experiences to influence our research so it's not a one-way process it's very much a two-way process"*. Second, through more standard written publications *"and I would say that that is also dialogical in a sense that I do try to write blogs and tweets around my research so I don't just publish the article and that's that...I always try to generate some sort of dialogue although it doesn't always happen ...but there is a scope for dialogue once you start writing blogs and tweeting because people do respond"*. Third, communication through talks and events mostly with policymakers *"I gave a talk the other day and was bombarded over coffee breaks and lunch...there you definitely create a dialogue but its limited because it's a moment in time thing...sometimes it continues...but not systematically."*

### 5.2. Attitude to RRC's smart feature

R5 uses standard social media to develop smart dialogues around her research outcomes. *"I went to an event recently about a book we published, and then that book is up on slideshare , people go there, I saved my talk, I tell them where it is...I give them my linkedin address...I use a mix of social media tools to help make that dialogue more realistic or possible..."* For R5 time is the most important barrier to the use of the social media as tools to develop a sustainable dialogical process around research outcomes. However for R5, time spent in academic conferences and other events provides space to engage: *"Those are the times in which I spend more time in social media because I like to comment on other people's...of what I hear and what I'm learning about..."*

### 5.3. Attitude to RRC's facilitative feature

For R5 this element of the analytical framework is clearly related to the actors you are engaging with and with your topic *"There is a big difference on whether you're talking to academics or policy makers or whether they are local or regional...or if they are European Commission people...they all have different expectations of what you're going to say and they all have different knowledge starting points and different reference points so I try to take that into account when engaging"*. R5 highlights that the barriers to engagement can also work the other way around, that is, there are situations in which an academic might find it difficult to engage in a dialogical process because the language and culture of the other actors are completely different from their own.

#### **5.4. Attitude to RRC's inclusive feature**

R5 reflected that *"I've never written an open publication that people automatically add to like Wikipedia...so it comes back to the way you communicate your research trying to create a debate around it."* In this context R5 commented on an example of a book designed to be a focal point for a seminar: *"When we designed it we had a workshop with a group of policy experts to set the basis and then we had another feedback session with them, and then we published it and had a webinar and new feedback session"*. When asked if it was worth the effort R5 answered that *"in this case it is worth it because the research is going to have more impact... and the way that report was written makes a big difference as well, we tried to write it in a very accessible language...then the editors turned it around..."* For R5 inclusiveness is connected with thinking about who you want to communicate your research to *"...which would make you write different things: if you write an academic article out of a research process then you are communicating it to one academic audience...but if you then write a blog on that academic article you are communicating it to a different audience...and so on"*.

#### **5.5. Attitude to RRC's emergent feature**

This element of the analytical framework was interpreted by R5 as planning for research communication and not as a feature inextricably linked to dialogue. *"I definitely don't plan...I see what happens and adjust things as happens"*.

#### **5.6. Attitude to RRC's collective feature**

R5 shared an example of a dialogical research process that has become a collective responsibility. It is an international transdisciplinary group working around a specific research question. *"We've been meeting twice for the past 6 years because we have created an environment that people want to be part of around a challenge that nobody knows the answer to but lots of people have different pieces of knowledge that can contribute to the answer...but people keep wanting to come even from the United States and from Korea, so there must be some value there..."* R5 added that *"It is definitely collective...it started off with someone leading it but now different people step forward at different moments..."* For R5 this element is more difficult to relate to social media *"because you are kind of like using the environment as opposed to creating an environment...you create an environment within an environment, but they tend to be a moment in time..."*

### **Conclusions**

R5 understand her research as change-oriented but thinking about communicating it for change was something new. He however very easily connected to the notion of dialogical communication and provided interesting examples of how this can be done within research projects, through the social media and when participating in talks and events. Regarding the use of communication tools to develop a sustainable dialogical process, R5 referred to

the social media and identified time as the most important barrier. Facilitative is clearly related to the actors you are trying to engage and in transdisciplinary processes it also works the other way around: researchers can sometimes find it hard to engage due to different languages and especially work cultures. For R5 inclusive relates to thinking very clearly about who you want to communicate your research to. Emergent is understood as planning or not planning but not explicitly related to dialogue. Although R5 is not normally concerned or aware of what is being made through dialogue she did share an example of a dialogical process initially driven by academics that has now become a collective responsibility because of the value that is there for all participants.

## **6. RESEARCHER 6**

### **6.1. Attitude to RRC's change-oriented feature**

For R6, his research is always aimed at helping other agents make decisions that lead to change. *"Stakeholders ask us to conduct research for two main reasons: either to legitimate their view on a given issue or because they are indeed looking to change something...problems emerge when research results are not what they were expecting...in any case it is not our role to change things...change needs to be made by other agents"*. Since change can only take place over the long term R6 believes that it is important to continuously disseminate key messages since *"it gradually generates a sort of awareness"*.

### **6.2. Attitude to RRC's smart -oriented feature**

In R6's view having a very well-known expert working in the research team is a way of engaging in a smart dialogue because since the expert is continuously invited to participate in seminars and conferences, he/she can regularly voice the key messages from their research among different publics. When other researchers from the team participate in such seminars and conferences they do not just sit and listen to others, they do networking and identify whom they can target their messages to... *"...a sort of evangelization"*. When asked how to overcome the challenge of scope of face-to-face dialogues R6 said that blogging is an interesting channel for message transmission because it allows for context. Other social media can be dangerous *"..we have been asked many times to come up with short messages...but the problem is that short messages are often decontextualized...and of course as researchers we need to safeguard our credibility and send messages that while simple, are complete and well argued"*.

### **6.3. Attitude to RRC's facilitative feature**

R6 sees trust as a key ingredient in researchers' capacity to engage in a facilitative dialogue and trust as linked to independence. This is so because when many different interests are at stake if any one actor thinks that researchers are sending messages in support of one of such interest then all credibility is lost. *"Our independence is very important...we can only facilitate if we are independent...our research outcomes often end up in long reports because we have to give a very complete view and integrate the view of many different agents in a given problem...in doing so we create trust."*

### **6.4. Attitude to RRC's inclusive feature**

According to R6, giving voice to other agents is important: *"we always try to include all the different perspectives, but when conflict arises, we have the last word"*. *"In a very complex case we position ourselves but always as researchers...I have to be able to send an objective message...I might allow myself a bit of subjectivity in a blog post but my research should always transmit independence and objectivity"*. R6 is very interested in how the different actors

or agents interpret their reality *“When I approach them for an interview I want them to know that I am interested in how they interpret their reality...but I always contrast their comments with data...I go back to my desk and search for evidence so that no one can tell me that I reported an opinion”*.

#### **6.5. Attitude to RRC’s emergent feature**

In R6’s view over the past years flexibility is being lost due to stakeholder requirements. In this context R6 believes it is important to provide stakeholders with short-term results that but time for the long-term ones

#### **6.6. Attitude to RRC’s collective feature**

R6 said that it was the first time that he reflected on the collective feature of dialogue but that indeed *“something collective comes out of dialogue...some agents say...we heard you the other day and we would like you to come and tell what you said to this other audience”*. This measure of the collective feature can also be seen when agents approach researchers after participating in a research process that they had not commissioned to ask them to work with them on a different project. R6 added that when working with a more homogenous group of actors like in a particular sector, it is more likely for one of them to step forward to drive the process, but when a group is needed that includes different sectors, levels of government or countries researchers might be the ones able to act as the node that continues driving the process forward.

### **Conclusions**

R6 understands his role as communicating objective research findings in order to help other agents make decisions. A smart dialogue can take the form of participating in many seminars and conferences in which key messages from their research reports can be repeated and targeted to new audiences. The social media particularly twitter are not useful tools to overcome the challenge of scope that such an approach entails because it calls for short messages that are often taken out of context. Researchers’ capacity to facilitate processes in which many different actors and interests are present is based on trust that is linked to their independence and credibility. For R6 inclusion is important because researchers should be able to present a complete and clear picture of the different interests but always backed by evidence and data. In sum R6 views his research communication as an objective product that must be transmitted with precision and repeated as much as possible to create awareness.

## **7. COMMUNICATOR 1**

### **7.1. Attitude to RRC's change-oriented feature**

For C1, research communication is an indirect pathway to change because other territorial actors may want to begin a change process when they learn what the Institute knows about, or the knowledge it has generated. *“First, they need to know what Orkestra works on...many actors in the Basque Country still don't know what knowledge is produced in the Institute...so a first step for them to want to change is to know what we know about...and afterwards a dialogue can begin: we think that Basque firms face the following challenges...what do you think? Do you share these challenges?”* Dialogical research communication happens when systematized knowledge that emerges from change-oriented research projects is used in other change-oriented projects, but this happens naturally, without a systematic reflection on the precise change objective being sought. When systematizing such knowledge and writing a paper change is not an issue because normally researchers are not interested in change. However, such systematized knowledge can be shared with academics working in other territories. *“My responsibility is with my territory here in the Basque Country...I do not think it is my responsibility to try to change something in Uruguay, but I can share my systematized knowledge with academics working in Uruguay to help them change their own territory”.*

### **7.2. Attitude to RRC's smart feature**

According to C1 the Institute has many communication tools and products (newsletter, webpage...) which are not dialogical but help to let other actors know what the Institute works on and they can help spur dialogue because after reading our Newsletter or after visiting our webpage someone will send you an email or call you to arrange a meeting.

### **7.3. Attitude to RRC's facilitative feature**

For C1, the capacity of the Institute to facilitate change in the territory becomes stronger to the extent that the members of the Institute share a common vision of what the Institute is working on and what new knowledge is being developed. *“A shared vision helps you to integrate the knowledge available in the Institute better ...It can help you to generate new projects or to enrich the projects you are working on”.*

### **7.4. Attitude to RRC's inclusive feature**

C1 links inclusive with conflict. In her view the Institute is inclusive because it acknowledges that conflict will emerge when bringing the interests of the different territorial actors together and handles it instead of avoiding it in order to generate sustainable solutions.

### **7.5. Attitude to RRC's emergent feature**

For C1, when working with other territorial actors you can plan to a certain extent but you also have to be able to adapt and be flexible... *"It might sometimes give the sensation of a bit of chaos but I think it is important to work with an emergent view"*.

### **7.6. Attitude to RRC's collective feature**

In C1's view the Institute is very much aware of what is being created through dialogue collectively *"But we are not writing about it...we are not systematizing anything"..."In any case the analytical framework is very interesting because it walks you through different stages of the process, it helps you to reflect on how you are doing it"*.

## **Conclusions**

This interview focused almost entirely on academic outcomes. Focus was sharper when going through the first two elements and a bit looser in the subsequent ones, where nevertheless the idea of conflict (in inclusive) was linked to the different positions of stakeholders regarding an institutional academic report. Two interesting points were the idea that the Institute could play a stronger role facilitating change to the extent that its members developed a shared vision of what the Institute knows about. A second one was the idea that the Institute's responsibility is to act as a change agent in its own territory but it can help other academics working to change their own territories by communicating research findings to them.

## 8. COMMUNICATOR 2

### 8.1. Attitude to RRC's change-oriented feature

For C2 defining an explicit change objective when communicating each academic finding implies a very strong strategic orientation that is difficult to sustain in practice. However *“your aim is to place your knowledge or research-based position among the two or three elements that policy makers will consider when making decisions...the role of an independent research Institute is not to make them decide for one over the other... you need to be good at knowledge creation, make sure that it is relevant in practice and bring it to those in charge of making decisions”*. For C2 it is important as well to connect with the main debates on territorial development taking place in society at large and to try to define *“a number of minimum parameters that can help to develop a shared vision”*.

### 8.2. Attitude to RRC's smart feature

From C2's perspective smart is an element with *“dissatisfaction ingrained and bound to generate frustration because you can always do more*. In C2's view most people will focus here more on the negative than on the positive side of things. This is a problem because the Institute *“is not oriented to communicate it is oriented to change and it approaches change in a different way...its resources are not in communication...”* C2 adds that *“if communication is understood as an interaction with a strategy behind, (not any interaction is communication) our resources are limited”*. For C2 the challenge from an institutional perspective is to strike a balance between the need to develop a common discourse based on the diversity of projects and research approaches while establishing a set of guidelines or boundaries in which the different projects can develop their communication activities. *“This does not mean that the Institute should micro manage how its researchers communicate because that wouldn't be smart, but it should aim to have a shared vision emerge in a natural way.”*

### 8.3. Attitude to RRC's facilitative feature

For C2, this element depends on the first element of the framework because the real difficulty is defining a clear objective and the people you are going to interact with. In that context *“If you want to generate technical and rigorous knowledge you can't lower the language level...because your report will be read by people who know about the issue...”* In C2's view, simplifying makes you lose many nuances... *“In a world that is increasingly about things being right or wrong a research Institute should work to make nuances visible when necessary... language can't be so simple because it has to be understood by the person who understands such nuances...someone lacking specialized capabilities will not understand you”*. For C2 research communication should not necessarily aim at being facilitative.

#### **8.4. Attitude to RRC's inclusive feature**

For C2 all knowledge is valuable depending on the context. *"A research Institute can aspire to have its knowledge among the main elements considered by a policy maker when making a decision but the Institute has to be aware that other types of knowledge need to be considered"*. In that context a different issue is if all knowledge is complete *"We are a research Institute that tries to identify the connections in the system"*. C2 adds that she is quite critical with assembly-type processes...which can be O.K. sometimes but are also very complicated... *"You need to ask yourself what this person is here for."*

#### **8.5. Attitude to RRC's emergent feature**

In C2's view it is important to keep in mind the initial change objective in emergent processes...*"One thing is to be flexible in how you reach a change objective and another is to forget your initial objective and if you change it... you need to make it explicit and start over again, go back to your change objective and start the whole process again"*....C2 adds that in a truly emergent process *"you need to keep your change objective in sight but you need to be ready to change it, because otherwise you had no intention to develop a participative process, but to legitimize a preconceived plan"*.

#### **8.6. Attitude to RRC's collective feature**

For C2 the Institute has always been aware of what is being made through dialogue. It has always tried to identify sensors that say what is happening and this is linked to its mission of acting as being a change agent in the territory *"If you don't take this into account you don't have anything"*

### **Conclusions**

Although C2 initially said that the first element called for a very strategic orientation that was difficult to maintain, she kept coming back to it to make sense of her reflections in each element. For C2, smart is the most difficult element from an institutional perspective and facilitative may lead to lowering the language level which the Institute should not do. Inclusive is understood as all knowledges being equally valid depending on the context. One of the most significant reflections was that change is not achieved through communication.

## **9. COMMUNICATOR 3**

### **9.1. Attitude to RRC's change-oriented feature**

For C3, researchers are the ones who set a change objective and communication staff can then help them to make their research findings more “communicative”. In her view, research communication does not normally have an explicit change objective *“you sense that there is something out there but maybe we need to do the exercise of defining what we want to change”*. In C3's view, the fact the Institute is organized around projects had led to a fragmented communication strategy. *“In my view, this framework should help us to develop a shared vision on the Institute's research communication.”*

### **9.2. Attitude to RRC's smart feature**

In C3's view, digitalization (of data, publications...) provides an opportunity to design smart dialogical processes. The extent to which dialogue can take place through such tools will depend on the actors to which the tools are aimed at. For C3 information overload is an important challenge in this regard. Such tools can also support face to face dialogue because they can *“complete what I, as a person, bring with me”*.

### **9.3. Attitude to RRC's facilitative feature**

For C3 the most important barrier for being facilitative is language *“When you become used to the language we use in the Institute you don't realize that you might be using terms that are not easily understood in other contexts so you need someone from outside to tell you if you are being understood”* In any case in C3's view this element is determined by the actors you want to engage in a dialogue with.

### **9.4. Attitude to RRC's inclusive feature**

In C3's view this is the most difficult feature in the framework because while *“you can control the other elements, this one depends on whether other actors want to become part of your process...”* For C3 it is important to be aware of society's concerns. *“We did a video in which a researcher is explaining an academic finding...it has been downloaded many times and has been widely shared because it addresses a societal concern, so it had resonance in society”*.

### **9.5. Attitude to RRC's emergent feature**

For C3 the Institute's organizational design, based on research projects, has led to a fragmented research communication strategy and in that sense, it has been an emergent strategy. In C3's view, there is a clear change objective there: to develop a shared research communication strategy that allows for some flexibility. Regarding other actors C3 feels that the communication strategy is truly emergent... *“Sometimes I would want us to be able to have a firm position*

*and not think only in terms of what the other organization wants...What is important for the Institute?"*

#### **9.6. Attitude to RRC's collective feature**

In C3's view the Institute because of how it works is very aware of what is made through dialogue. For communication staff, the quality of dialogue they can have with the communication staff of other institutions depends on the dialogue developing between the researcher and the actor. It can either open or close doors.

#### **Conclusions**

In general C3 is concerned with the fragmentation of the Institute's communication efforts but could connect very easily to the different features of the analytical framework, posing examples of how they happen in practice or imagining ways of doing so. C3 sees the analytical framework as a tool that can help to develop a shared vision in the Institute regarding research communication.

## **10. COMMUNICATOR 4**

### **10.1. Attitude to RRC's change-oriented feature**

C4 made a distinction between communication in research processes, which she labelled as *how* and communication of research outcomes, which she labelled as *what*. In her view the former are more likely to have a change objective than the latter "in which a change objective is less clear".

### **10.2. Attitude to RRC's smart feature**

For C4 smart means being strategic "*you need to reach key people in a given institution...the leader, the one that will act as Wi-Fi...in my view, there are no tools, it is about sharing a space...you establish contact with 10 people, you motivate them and they see what they will gain...the tool comes later*". In C4's view, culture plays an important role when trying to engage in non-face-to-face dialogue. "*We have tried many times to foster dialogue in digital spaces such as LinkedIn but people just don't respond...its not because the Institute does not know how to do it, people just don't see the point...it may be different in Anglo-Saxon countries*".

### **10.3. Attitude to RRC's facilitative feature**

In C4's view, the use of language depends on who you are talking to...who your public is...In her view, honesty and sincerity also play an important role in facilitative research communication.

### **10.4. Attitude to RRC's inclusive feature**

For C4, research projects in Orkestra that work with an action research methodology are more inclusive than other type of projects. Other projects might not be inclusive "*due to lack of resources, because inclusiveness is not an objective or because the stakeholder funding the project just wants a report.*"

### **10.5. Attitude to RRC's emergent feature**

For C4 emergence can be associated to research communication in the context of research projects and not when communicating research outcomes "*there are no milestones...rather a dialogue develops...that needs to be facilitated...I can see emergence there....but the outcomes or products that result from such processes need to be communicated with a linear approach*".

### **10.6. Attitude to RRC's collective feature**

In C4's view, collective is a culturally specific concept, easier in the anglo-saxon world and more difficult in the context in which Orkestra works: "*We are a reactive society...used to just receiving...it is Orkestra's job to give us their report or whatever*"...."*Communicating something for people to develop a collective responsibility and feel this is something that belongs to all of us and not just an idea transferred by Orkestra would be very difficult currently*"

## **Conclusions**

For C4 there is an important difference between communicating research findings and communication within research projects. C4 found the features of the analytical framework relevant to help facilitate communication within research projects but not significant when communicating research outcomes. For C4 research outputs are milestones or products of research projects that do not require a process approach to communication.



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