Bridging between Action Research Communities: A Pathway to Connectivity

Patricia Canto-Farachala and Miren Estensoro

Abstract

The dialogic essence of Action Research (AR) poses a challenge of scope when attempting to achieve large-scale change. One way of addressing said challenge is through connectivity, an approach to the external validity of action research that focuses on the workability of new knowledge in other contexts. In this paper we propose bridging between different action research (AR) communities as a pathway to connectivity. We identify the conditions that facilitate connectivity in bridging spaces between different AR communities, and show that change can ripple beyond the group where AR takes place, maintaining its contextual nature. Our research method is comparative case studies based on semi-structured interviews with two AR communities: one in Europe and the other in Latin America.

Keywords: action research, connectivity, validity, bridging, action research communities

Los espacios de encuentro entre diferentes comunidades de investigación acción pueden ser un camino hacia la conectividad

Resumen

La naturaleza dialógica de la Investigación Acción (IA) supone un desafío cuando se trata de lograr un cambio a gran escala. Una forma de abordar dicho desafío es a través de la conectividad, un enfoque de la validez externa de la IA orientado a la viabilidad, en la práctica, de conocimiento nuevo en otros contextos. En este documento proponemos el concepto de espacio de encuentro entre diferentes comunidades de IA como un camino hacia la conectividad. Identificamos las condiciones que facilitan la conectividad en dichos espacios de encuentro entre diferentes comunidades de IA y mostramos que el cambio puede extenderse más allá del grupo donde tiene lugar el proceso de IA, manteniendo su naturaleza contextual. Nuestro método de investigación consiste en estudios de caso comparativos basados en entrevistas semiestructuradas a dos comunidades de IA: una en Europa y la otra en América Latina.

Palabras clave: investigación acción, conectividad, validez, espacio de encuentro, comunidades de investigación acción

1.   Introduction

In the current era of Sustainable Development Goals and Agenda 2030 lies an opportunity for transformative change that calls for relational, collaborative learning processes with experiments to provoke future learning (Bradbury, H., Waddell, S., O'Brien, K., Apgar, M., Teehankee, B., & Fazey, I., 2019). Indeed, action research is well placed to contribute to address some of the world's most pressing challenges. First, because the aim of action research is not to examine reality, but to change it (Nicholas & Hathcoat, 2014) and, second, because action research has an intrinsic transformational pedagogical dimension (Streck, 2014).

However, in order to play a transformative role at a wider scale, action research faces a challenge of scope. Said challenge is directly linked to its dialogical essence which takes place in small groups. The work carried out by Gustavsen (1992; 1996; 2003; 2014) on working life in Scandinavia and by Burns (2007; 2014) who proposes learning architectures able to involve many people in interlocking inquiry processes, are examples of approaches that try to address this challenge.

In this paper we approach the issue from a different perspective. We start with the concept of connectivity, proposed by Karlsen & Larrea (2014) as a measure of external validity of action research. Through connectivity, researchers engage with researchers and practitioners who did not participate in the context of application where the knowledge was created, in order to enhance the workability of said knowledge in other contexts. It therefore extends the learning process beyond the group in which the action research process took place.

Specifically, we propose bridging between different AR communities as a pathway to connectivity. We define bridging as a dialogue that takes place in spaces that bring together different AR communities, where connectivity can occur. We argue however, that connectivity does not occur automatically, but is dependent on several conditions. Our research question is therefore: What conditions facilitate connectivity in bridging between different AR communities?

In order to identify what those conditions are, we analyse the bridging spaces that exist between the AR communities working in two different research institutes: Orkestra-Basque Country (Spain) and Praxis-Rafaela (Argentina). In so doing, we illustrate how connectivity as a measure of external validity occurs in practice, and how it can help action research to play a transformative role at a wider scale.

The paper is divided into 6 sections. Following this introduction, the second section presents a review of the discussion in the literature on validity and connectivity in AR. The third section explains the research method followed; namely comparative case studies based on semi-structured interviews with the two different AR communities that share bridging spaces. The fourth section describes the cases and their different bridging spaces. The fifth section discusses the case, and identifies the conditions that facilitate connectivity in bridging spaces. The sixth section concludes the paper with final reflections.

2. Bridging between AR communities as a pathway to connectivity

The concept of validity, together with reliability and generalisation are the backbone of the scientific method. The three concepts – which Kvale (1995) calls the scientific holy trinity –, were developed in traditional quantitative research and fit well with physical experiments. However, social systems are characterised by greater uncertainty and unpredictability, and different repetitions of an action research study are unlikely to throw up identical results (Dick, 2014). Nonetheless, all research, irrespective of its epistemological or ontological assumptions, is expected to adequately depict what was researched, and action research (AR) has developed different approaches to doing so.

Pragmatic AR for instance, focuses on the relevance of the research outcome for practitioners (Dick, 2014). Indeed, 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 it addressed. Second, credibility, which can be internal and external. Internal credibility needs to determine whether participants in the process connect with the story being told about the process, or the conceptual frameworks that emerge from it. This can be done in workshops where researchers share their systematised lessons from the process with participants.

External credibility, on the other hand, needs to determine whether those who did not participate in the process consider that both the process and the results are credible. In academia, this is normally done by peers in conferences and in the processes that precede the publication of papers, books and book chapters. An alternative to these moments in time interactions among researchers can be found in the concept of connectivity (See Table 1).

Table 1. Validity in AR for territorial development

	Internal (for participants in the context of application where the concept or framework was developed)	External (for others, either researchers or practitioners, who did not participate in the context of application where the concept or framework was developed)
It makes sense	Internal credibility	External credibility/transferability
It has been applied in reflection processes in concrete actions	Workability	Connectivity

Source: Adapted from Karlsen & Larrea (2014, p. 179)

Connectivity is a dialogical approach to the transferability of research results, and is concerned with the workability of new concepts and frameworks that emerge from AR processes in other contexts (Karlsen & Larrea, 2014). Transferability is, an influential concept in the social sciences developed by Lincoln & Guba (1985) that claims that due to the specific nature of qualitative research, generalisability is the responsibility of those researchers and practitioners who decide to use the concepts and frameworks that emerge in one context, in a different one.

The main difference between transferability and connectivity is that the former is based on one-way communication, and the latter on dialogue. While transferability requires very

little effort on the part of researchers to reach a larger number of readers (i.e. distributing more printed or digital copies of books and reports) connectivity requires their direct engagement with others. That is why connectivity cannot substitute transferability, only complement it (Karlsen & Larrea, 2014).

The concept of connectivity broadens AR's focus, which has mostly addressed interaction between action researchers and stakeholders, to include interaction between action researchers themselves (Canto-Farachala & Larrea, 2020). It is therefore a proposal to validate new knowledge in practice with peers, following the dialogical principles of AR. As mentioned earlier, we argue that connectivity can bring AR's transformative role beyond the group to a wider scale, and we propose bridging between different AR communities as a pathway to connectivity.

In the context of this paper, we define bridging as a dialogue that takes place in spaces that bring together different AR communities. We argue that bridging does not automatically lead to connectivity, since making the concepts and frameworks developed in one context workable in another context, depends on certain conditions. Indeed, power relations, illustrated, for instance, in the prevalence of Northern epistemologies over Southern epistemologies in academia (de Sousa Santos, 2015), or conflict and competition among AR communities may act against connectivity.

3.   Research method

The research method is what researchers do to address their research question (Coghlan & Gaya, 2014). In this paper the method used is comparative case studies. In contrast to single case studies in which interest is in the case itself, comparative case studies focus on a phenomenon of which the case is an example (Thomas, 2011). The choice of case studies should be suitable to answer the research question (Yin, 2009) and when doing comparative case studies prior knowledge by the researcher is important: "the key to this research would be to drill deeper, to find out more and undertake more searching and analysis of the culture of the two environments" (Thomas, 2011, p. 141).

In this paper the unit of analysis are two different AR communities in which bridging occurs. As explained earlier, our objective is to identify the conditions that facilitate connectivity in bridging spaces between different AR communities. One of the AR communities is based in Orkestra-Basque Institute of Competitiveness, a research institute in the Basque Country (Spain) created with the mission of doing change-oriented research in its territory. The other AR community is based in Praxis, a capacity-building research institute in Argentina, created to improve the development of its territory, Rafaela. We (the authors) are part of the AR community based in Orkestra and since bridging occurs between our community and the AR community in Praxis, we have prior knowledge of both cases. We also have a close connection to them and access to key participants, which is another criterion cited in the literature for the choice of case studies (Thomas, 2011; Yin, 2009).

As a method for data collection we triangulated semi-structured interviews, secondary data and our own experience. We held a total of 14 interviews. The interview calendar and the list of secondary data used are found in Annex I and II. The larger number of interviews

in Praxis, compared to the number of interviews in Orkestra is explained by two facts. First, the Praxis AR community is larger. Second, the Orkestra AR community was cut shorter by leaving us, the authors out.

Before holding the interviews, we identified the conditions that facilitate connectivity in bridging spaces between different AR communities. This exercise was based on our experience as part of the AR community in Orkestra and interacting with the AR community in Praxis. Said conditions were shared during the interviews. We later adjusted them to incorporate the views of the interviewees.

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). The semi-structured interviews developed along a list of issues prepared beforehand (Thomas, 2011) and they 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. We went back to audios and the notes taken when we analysed the interviews.

The interviews developed along the following sequence. First, we explained the objective of the interview and the research question. We then introduced the concept of connectivity in terms of the validity discussion in AR and then the concept of bridging between different AR communities as a pathway to connectivity. We then asked interviewees: (1) to identify bridging spaces in which they had participated; (2) to think of evidence of connectivity in said spaces, and (3) to reflect on the conditions that facilitate or inhibit connectivity in spaces in which bridging occurs. Before ending the interview, we shared the conditions that we had identified based on our own experience in bridging spaces between both communities. We asked interviewees if they made sense, and if there was anything they would add, eliminate or change.

As a way of analysing the interviews we followed a thematic content analysis (Vaismoradi, Turunen and Bondas, 2013). In our case, the analysis involved 4 main steps: (i) reading the whole interview to get a sense of the whole; (ii) searching for themes with broader patterns of meaning; (iii) defining and naming themes; and (iv) the write-up, creating a coherent narrative with includes quotes from the interviewees.

4.   The cases: Orkestra and Praxis

4.1.   AR communities in Orkestra and Praxis

Orkestra-Basque Institute of Competitiveness is a research institute based in the University of Deusto, which is rooted in the Basque Country (Spain). The University was founded by the Jesuits in 1886 and has two campuses, one in Bilbao and the other in San Sebastian. Orkestra was created as a university development unit in 2006, so its status is different from traditional university departments. Its board of directors is made up of university authorities, but also public (city, provincial and regional governments) and private (firms) actors.

At the time of writing this paper (2019), the Institute was made up of 38 professionals, 19 of them PhDs.

Orkestra 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. This change-oriented research approach that includes interaction with other territorial agents was conceptualised as "transformative research".

The process of defining a shared meaning of what the Institute would understand by transformative research, was not free from tensions (Larrea, 2019; Canto-Farachala, 2019). 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; Larrea, 2019). Gradually, action research settled in as one more among the different approaches to transformative research in Orkestra, linked to specific projects (Karlsen & Larrea, 2014; Larrea, 2019).

At the time of writing, the AR community in Orkestra was composed of 6 researchers (1 PhD student, 5 PhD researchers) and one communication professional working as a research assistant. All work in AR projects financed mainly by public authorities (regional, provincial or city governments). Said AR projects co-generate new knowledge that addresses specific challenges related to policy making.

The Institute of Social and Technological Research for Territorial Development (Praxis) was founded in 2014. Its roots can be found in the Masters' Degree in Territorial Development (MDTD), created by the Universidad Tecnológica Nacional (UTN), Facultad Regional Rafaela (Argentina) in alliance with the local government. The MDTD was launched in 2010 and since then has trained more than 120 students. Most of them work in different institutions and organisations in Rafaela and its surrounding region. Through case studies that involved other territorial actors, research for policy analysis, and participation in spaces for strategic reflection, the Masters' degree fostered a closer relation between university and territory (Praxis, 2019).

Praxis was created four years after the MDTD, in order to reap the knowledge that was being produced through case studies, dissertations and participation in reflection spaces with other territorial actors in the benefit of territorial development in Rafaela. Its main objective is to build a space to develop academic reflection jointly with other territorial actors, more specifically: to reflect on complexity and territories and to generate knowledge for change based on interaction with the territory and its institutions.

Praxis celebrated its 5th anniversary in 2019, and has since built a growing network of like-minded institutions: Red de Desarrollo Territorial para América Latina (Red DETE), ConectaDEL (Programa FOMIN para la Formación en DT en América Latina) and Orkestra-Basque Institute of Competitiveness.

The AR community in Praxis is composed, in 2019, by 17 researchers (2 PhD researchers, 1 PhD student and 14 MPhils in Territorial Development) and 1 staff member. Two researchers (a PhD and an MPhil) and the person working as staff are financed 100% by the UTN-Rafaela. The three of them are involved in managing both the MDTD and Praxis. The rest are financed through specific projects with the City Council, Development Agencies and other territorial actors.

In 2010, Orkestra organised a seminar on innovative and competitive territories in the Basque Country. The researcher that leads Praxis today participated in that seminar and met 3 of the researchers working in Orkestra's AR community. This seminar turned out to be the first bridging space between both AR communities.

4.2.   Bridging spaces between Orkestra and Praxis

This section describes the main bridging spaces between Orkestra and Praxis, and provides data from the interviews that show some of the results of bridging in those spaces and evidence of connectivity. Out of the different spaces in which bridging between the two AR communities has taken place, we chose the four most relevant ones to analyse in detail: (i) shared publications; (ii) research stays; (iii) participation in AR agoras; and (iv) virtual spaces. Other bridging spaces that also exist such as emails, one-to-one skype meetings, meetings in workshops or conferences or informal interactions are not considered. Annex 3 presents a summary of the main bridging spaces described below.

4.2.1.   Shared publications

Shared publications are spaces that bring together academic results from the AR processes developed by the two communities, though not exclusively since they are also open to contributions from other action researchers. The first joint publication was a book chapter (Costamagna & Larrea, 2015) that brought into one single approach, the one followed by Orkestra (Action Research) and the one followed by Praxis (The Pedagogical Approach).

This was followed by a joint book collection on Territorial Development developed by the two institutes. The book collection was born as an open access collection. Its objective is to make knowledge on international experiences of AR processes that develop with territorial actors, available to as wide an array of practitioners and researchers as possible. At the time of writing, 5 volumes of the series had been published (see Annex III).

During the interview, one of the authors reflected on the book *Facilitative Actors for Territorial Development* (Costamagna & Larrea, 2019) which is part of the book collection Territorial Development in the following terms:

> *"The book on facilitative actors helped us to articulate a shared discourse; we do not think exactly the same, we have differences, it is the result of a dialogue between us but each of us has a different way of looking at things…it was a negotiation between the two of us"[1]*

Evidence of connectivity from this bridging space can be found in the use of the facilitative actor concept (Costamagna & Larrea, 2019) in AR processes facilitated by researchers belonging to both communities. One of the interviewees mentioned in this regard:

> *"I took the book and started to train facilitators…in San Vicente [Argentina] I bring different concepts from the book to the workshops and the actors reflect on those concepts in terms of their practice"*

Another influential publication in both communities is the book *Territorial Development and Action Research. Innovation through Dialogue* (Karlsen & Larrea 2014), published in

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[1]   Quotes are excerpts from the interviews. When this is not the case, it is noted. Some interviews took place in Spanish and others in Basque. All quotes are our own translations from Spanish or Basque to English.

Spanish in 2015, as part of the book collection Territorial Development. A researcher from Praxis who is currently undergoing his PhD process, reflected that reading the book changed the way he understood research:

> *"I've never been a Mode 1 researcher…I don't even want to be one…but reading the book I discovered that I could be a researcher in a different way…a role for academia to 'develop' the territory, not just to 'tell' the territory".*

4.2.2. Research visits

The objective of research visits is for visiting researchers to deepen their knowledge on issues that the other community is working on. Research visits are financed by both institutes. Between 2012 and 2019 there have been a total of 6 research stays: 3 for each community. The main topics that the visiting researchers have addressed are the following: Analysis of the Argentinian training offer in territorial development; systematization of AR processes; communication within AR processes; facilitation of AR processes; virtual learning spaces; and communicating research outputs from AR processes.

Research visits function as a training space, and they are also where face-to-face interaction among researchers from both communities takes place. Some of the interviewees said that research visits have been one of the most important spaces for connectivity. This occurs not only for the researcher who is visiting the other community, but also for those who interact with the visiting researcher.

Evidences of connectivity are found in changes in how researchers systematise or communicate AR processes. In the words of one of the interviewees:

> *"From my visit to Orkestra I brought two concepts that transformed my own practice: systematisation and facilitators. I changed the way I systematise my processes because I understood that doing it on an ongoing basis, and not at the end, like I used to, helped to bring about transformation…"*

Moreover, through dialogue, visiting researchers increase their awareness of their specific approach to how they work: One of the interviewees explained:

> *"My visit to Rafaela transformed how I was understanding my own approach to systematisation…it helped me to conceptualise my own approach and to build my own discourse"*

4.2.3. Participation in AR agoras

The two AR communities develop research processes with local stakeholders. In this paper we refer to them as agoras, which can take the form of workshops or training. They are bridging spaces because researchers from one AR community can participate in agoras of the other AR community. Participation in agoras involves *in situ* connectivity because researchers share their own concepts and frameworks dialogically with the local stakeholders and other participating researchers.

An interviewee from Orkestra teaching in the MDTD in Praxis explained in this regard:

> *"The Masters' degree is a strategy for transformation…a territorial development strategy…a strategy to form cadres for the City Council and other institutions and not a mere product offered by a university"*

An interviewee from Praxis who is also a policymaker in the City Council in Rafaela reflected in terms of his dissertation for the MDTD:

> *"I was not a researcher, I come from practice. Listening to Miren Larrea in the Masters' courses I learned that we could also generate knowledge from our practice, and I thought: This is for me! My dissertation became an action research process in the university, where I became a facilitator bridging the University and the City Council"*

In the words of a policymaker from the Provincial Council of Gipuzkoa (Basque Country):

> *"Pablo Costamagna has contributed a systemic approach to co-operation among territorial agents and among different administrative levels; he integrates macro and micro approaches, which are often presented as opposed..."* [2]

These examples evidence how connectivity occurs *in situ* when researchers from one AR communities participate in AR agoras of the other AR community, directly interacting with territorial actors.

4.2.4. Virtual spaces

Virtual spaces are meant to foster learning and knowledge sharing between both communities, although they are also open to other researchers and practitioners who do not necessarily participate in any of the two AR communities.

At the time of writing, two virtual spaces had been created. The first one was available online during 2015 and was based on the book chapter by Costamagna & Larrea (2015) mentioned earlier, that bridged the two different approaches followed by Praxis and Orkestra. The other one was made available online in 2018 and is ongoing. It is based on the book by Costamagna & Larrea (2018) on facilitative actors for territorial development, also previously discussed.

In both cases, dialogue develops in written threads and has facilitated connectivity, because participants have been able to bring the concepts and frameworks from the two publications on which the virtual spaces were built, to their own practice.

One of the interviewees from Orkestra reflected on this issue as follows:

> *"The discussion on researchers' invisibility made me reflect on my own invisibility in the processes in which I was working"*

Another expressed the following when addressing the virtual space based on the book on facilitative actors during the interview:

> *"I get the impression that there are many things in the debates that could become a new version of the book that was originally written by Miren and Pablo...but this time by members of the two communities"*

Many of the interviewees agreed, however, that virtual spaces were not the best bridging spaces for connectivity, because they can never replace the power or face-to-face dialogue. Moreover, written communication inhibits dialogue. According to one of the interviewees:

> *"Written dialogue does not foster debate; everybody tends to agree and conflict is never made explicit"*

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2   Orkestra has developed a long-term AR process (10 years) with the Provincial Council of Gipuzkoa. The quote is from the policymaker who has participated in the process since the beginning. He is not a researcher in Orkestra but is very familiar with Praxis and the bridging spaces between Orkestra and Praxis. He was specifically asked to reflect on the contribution by researchers from Praxis to the AR process.

This section described the main bridging spaces between Orkestra and Praxis, providing data from the interviews that show some of the results of bridging in those spaces as well as evidence of connectivity. The following section answers the research question by identifying the conditions that facilitate connectivity in bridging spaces, based on the case described in this section.

5.   Discussion: What conditions facilitate connectivity in bridging spaces between AR communities?

This section answers our research question: What conditions facilitate connectivity in bridging spaces between different AR communities? Figure 1 shows an analytical framework that presents the conditions that facilitate connectivity in bridging spaces between AR communities. The Figure is followed by a description of each condition. It should be noted that the framework is not a check-list, and some conditions may overlap since the borders between them are not clear-cut. Moreover, the absence of these conditions, for instance, not having shared challenges or a facilitative researcher in would hamper connectivity.

Figure 1: Conditions that facilitate connectivity in bridging spaces between different AR communities

Source. Authors'own elaboration

5.1.   Epistemological approach and conceptual frameworks

When analysing bridging between different AR communities, we first need to remember that AR communities work with approaches aligned with interpretivist, constructivist epistemological paradigms (Coghlan & Brannick, 2010). Without a shared understanding of how knowledge is produced, the challenge of making concepts and frameworks that emerge from AR processes workable in other contexts would not make sense. That is why the basis of the analytical framework is having a shared epistemological approach. One of the interviewees reflected in this regard:

> *"Sharing a conceptual framework based on building with others...we have that in the Pedagogical Approach, in Action Research and in the idea of networks...they are all about dialogue and co-construction"*

Overall, AR challenges the claim prevalent in positivistic approaches to knowledge production that assert that research must remain objective and value-free and favors instead, an explicitly political, socially engaged and democratic practice (Brydon-Miller, Greenwood & Maguire, 2003). So, for other interviewees having shared methodologies and conceptual frameworks was equally important. One of them reflected on this as follows:

> *"When I heard Miren talk about Paulo Freire in the AR context I felt very happy... the first step to connectivity is having a shared conceptual framework...because notwithstanding the contextual distance between countries like my own and the Basque Country...discovering that we work with the same authors and approaches to territorial development is a very important bond...it is a common identity that helps us find each other"*

Furthermore, action researchers do not aspire to examine reality, but to change it (Nicholas & Hathcoat, 2014; Brydon-Miller et al. 2003) and they test the validity of their research in action as explained in section 2 of this paper. One of the interviewees reflected:

> *"It is more about wanting to change things and how you understand research...if your objective is to change things, and you understand that in order to do so you have to change as well, then you facilitate connectivity"*

One of the lead researchers also argued:

> *"We wanted to change the world through research...AR's explicitly political approach is something that we both share...someone who shares your way of thinking and does not try to take you anywhere else but helps you to deepen your understanding..."*

5.2.   Facilitative researchers

Facilitative researchers are those who, within bridging spaces in which they interact with other action researchers (workshops, conferences, meetings), proactively work to extend the relationship and what they are learning to their own action research community. Through their role, connectivity reaches the rest of the community. One of the interviewees said:

> *"In our case it has been the cornerstone of our connection...if their relationship [the lead action researchers of both communities] did not exist, ours with the other community wouldn't exist either"*

The relationship between facilitative researchers, rests on a personal connection but serendipity also plays its part. The lead researcher of one of the communities explained:

> *"We met by chance in that seminar...we talked for a few minutes... there was a personal connection...when I later received an email I responded and realised that our connection had potential...but there was no previous analysis of such potential"*

However, it is important to note that their commitment to bridge both communities, rests also on their capability to build AR communities in their respective institutes. Bridging is understood by facilitative researchers as a strategy for transformation and development on their corresponding AR communities.

One of the lead researchers stated:

"We have used this connection to build the team…it is about being proactive in the connection so that it becomes a strategy for the change sought by AR…something that contributes to that change"

The potential that bridging carries for the future can lead facilitative researchers to proactively identify other researchers that can benefit from the relationship to build a team that strengthens the capacity of their work when changing their own territories. The selection of topics and researchers participating in research visits in Praxis and Orkestra are examples of this. This case also shows that facilitative researchers are usually either senior researchers, or have a certain hierarchical position that allows them to harness resources in this regard.

5.3.   Shared challenges

Another important condition in the analytical framework is the existence of shared challenges. Connectivity can happen in bridging spaces when shared challenges are identified, and researchers feel that they can find a solution to these challenges. Indeed, researchers feel stimulated when they meet other researchers who have experiences and knowledge on areas in which they are facing specific challenges in their own AR processes. One of the interviewees expressed the following:

"We find in them what we need… it is about finding complementary knowledge to shared problems even if the context is different"

Another interviewee reflected in this regard:

"Having shared challenges is very important [to make the most of the research visit] because it speaks to something that we seldom mention: the political horizon…and I don't mean political parties, I mean the political horizon in terms of transformation…to improve people's wellbeing...to make the world a better place"

Having shared challenges is also about reciprocity. Reciprocity suggests that connectivity can happen in bridging spaces when each community recognizes each other as a significant community, providing each other legitimacy and respect. We interpret reciprocity as based on complementarity. One interviewee expressed the following:

"The connection adds value to what we are doing…you need to feel comfortable and recognised in the relationship"

In contrast, one of the interviewees from Rafaela reflected that connectivity had not happened with her, because the person with whom she shared a bridging space as a visiting researcher in Orkestra played different role:

"Connectivity is enhanced when those engaged in a bridging space share similar roles"

And, in reference to the virtual spaces another interviewee said:

"I feel free to participate…it has to do with trust as well…I am not afraid to make mistakes…"

5.4.   Institutional conditions

The institutional environment of the different AR communities is another condition that can facilitate or inhibit connectivity within bridging contexts. Bridging can facilitate connectivity when both AR communities work with an agreement that offers a formal framework or the availability of resources (time and money). These resources can foster the creation of bridging spaces and activities within them that can in turn lead to connectivity.

Indeed, having a formal agreement and resources can be a major boost for connectivity, because dependence on external resources or on the motivation of individual researchers only, is reduced. The latter, although necessary, is not always enough. Moreover, the need for economic resources is even more critical when there is an important physical distance between the AR communities, as is the case of the two communities analysed in this paper.

One of the researchers stated the following when reflecting on this condition for connectivity in bridging spaces:

> *"If we were not so far away there would be a greater connection and we would be able to organise more research stays…if there are no specific resources for this then connectivity may not occur so readily"*

Beyond these tangible conditions, softer elements such as team or networking culture are also important. The team culture is closely related to the existence of the AR community. Likewise, the networking culture of the institutes that these researchers belong to and their mission and motivation to share knowledge in order to facilitate transformation in their territories facilitate bridging spaces:

> *"The organisational culture is important in opening up to a new connection and that any new connection does not remain only as an event between two researchers"*

Another important element here is having the support of the university in which each institute is situated and in the territory itself:

> *"Having the university's endorsement, the territory's endorsement [policymakers] is critical, because it determines what you can do and what you can't do…"*

5.5.   Cultural and social values

Institutional conditions are framed within the context of the territory where they are located. The networking culture of AR communities is often pushed by what Lorentzen (2009) defines as societal proximity, and refers to the social systems and common institutional spaces that facilitate knowledge exchange and linkages among actors. Language is another cultural element included in these institutional spaces that facilitate connectivity through bridging between different AR communities.

One of the interviewees said:

> *"The institutional culture of our institutes affect how we function as an AR community and our institutional culture is affected by culture on our own society"*

The Basque Country and Basque people have been described as a community characterised by a collective way of doing, related to their rooted sense of self-government (Porter, Ketels and Valdaliso, 2012). In the case of Rafaela, it is also characterised by a strong drive to public-private collaboration (Costamagna, 2017). Both share an economic structure

based on industry and an endogenous and systemic approach within their corresponding industrial development processes. These are evidences of shared elements in both social systems that facilitate, their own networking culture and also bridging between the two and their different contexts.

One of the interviewees explained:

"The 'asado' culture or knowing that if a policymaker is late for a meeting it does not mean that he or she is not giving priority to the project…these are elements that we share and even if they might seem anecdotic, they facilitate connectivity"

6.   Final reflections

This paper focused on a specific type of bridging: bridging between different AR communities. Its contribution is that it proposes bridging between different AR communities as a pathway to connectivity in AR. Connectivity is a measure of external validity of AR that validates new knowledge in practice with peers, following the dialogical essence of AR. It is therefore an opportunity to extend the learning process and AR's transformation potential beyond the group in which action research took place. We propose an analytical framework that brings together the conditions that need to be present for connectivity to occur in bridging spaces between different AR communities.

In what follows we discuss three issues that emerge from our analysis of the interviews, that invite further reflection.

(I)   The backbone of connectivity is having a shared epistemological approach and common conceptual frameworks. However, sharing the will to change the world through research is not only about one methodology or the other, it is also about shared personal values: a political position in the world. The personal relationship between action researchers is therefore very important and it can normally develop at its fullest through face-to-face dialogue. Bridging spaces that privilege face-to-face dialogue are more likely to facilitate connectivity than virtual spaces.

(II) A question that emerges is whether connectivity is after all a question of serendipity. It could be the case if bridging between different AR communities started from serendipity. The cases analysed in this paper show that bridging two communities can start by meeting by chance in an academic space. There was no previous analysis regarding the potential for connectivity between both communities. However, for bridging to lead to connectivity, other conditions need to be present: having a shared understanding of how knowledge is produced and shared conceptual frameworks; shared challenges; cultural and social values; facilitative researchers; and the institutional conditions that can back up the development of bridging spaces.

(III) The two AR communities analysed in this paper are located in different continents and this brings to the surface the debate on transborder and interregional connectivity. Since AR processes are custom made to the reality of the territories in which they develop, bridging spaces that encourage connectivity need to also consider context. The conditions identified in this paper are precisely conditions that contextualise bridging. Bridging on its own, without considering context, is unlikely to facilitate connectivity.

We began this paper by reflecting on ARs transformation potential in the era of the Sustainable Development Goals, and on its challenge of scope when attempting to foster large scale change. Writing this paper confirmed our hunch that connectivity, through bridging spaces between different AR communities can make change ripple beyond the groups were action research takes place, maintaining its contextual nature. So, one step in the way of maximizing AR's potential to address the complex global challenges of our time is to strengthen ties among different AR research communities. We need to work more, collaborate more in available bridging spaces, change them if they do not work and create new ones where they do not exist.

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Annex I.   Interview Calendar

Name	AR Community	Position	Date of interview
Pablo Costamagna	Praxis	PhD Senior researcher	11-11-2019
Laura Lencioni	Praxis	Researcher	11-11-2019
Eva Menardi	Praxis	Communication staff	11-11-2019
Eleonora Spinelli	Praxis	Researcher	12-11-2019
Diego Peiretti	Praxis	Researcher/City Council	12-11-2019
Mauricio Menardi	Praxis	Researcher	13-11-2019
Cecilia Gutiérrez	Praxis	Researcher	13-11-2019
Marcelo Ortenzi	Praxis	Researcher	13-11-2019
Samuel Delbon	Praxis	Researcher/City Council	14-11-2019
Ainhoa Arrona	Orkestra	PhD researcher	14-11-2019
Miren Larrea	Orkestra	PhD Senior researcher	14-11-2019
Maite Reizabal	Orkestra	Communication staff	15-11-2019
Romina Rébola	Praxis	Researcher	15-11-2019
Mijal Saz	Praxis	Researcher	15-11-2019

Annex II. List of secondary data

- ConectaDEL (2015). Memoria del Foro Virtual Enfoque Pedagógico e Investigación Acción para el Desarrollo Territorial (EPIA) (mimeo).
- Costamagna, P. (2019). Construcción de capacidades individuales en la investigación acción para el desarrollo territorial desde el enfoque pedagógico (mimeo).
- Personas Facilitadoras del Desarrollo Territorial (virtual platform that communicates the book Facilitative Actors of Territorial Development): https://dgroups.org/groups/perfadt

Annex III: Bridging spaces between Orkestra and Praxis

Spaces	Number	Date
Shared Publications		
– Book chapters	1	Book chapter:
		– Costamagna, P. Larrea, M. (2015). El enfoque pedagógico y la Investigación Acción para el Desarrollo Territorial. En. Costamagna, P., Pérez-Rozzi, S. *Enfoque, estrategias e información para el desarrollo territorial. ConectaDEL.*
– Series on Territorial Development	5	Joint Series on Territorial Development:
		– Karlsen J. Larrea, M. (2015). Desarrollo Territorial e Investigación Acción. Innovación a través del Diálogo. Bilbao: Publicaciones Deusto
		– Costamagna, P. (2015). *Política y formación en el desarrollo territorial.* Bilbao: Publicaciones Universidad de Deusto
		– Costamagna, P., Larrea, M. (2017). *Actores facilitadores del desarrollo territorial.* Bilbao: Publicaciones Deusto
		– (2018) Atores facilitadores do desenvolvimento territorial Uma aproximação a partir da construção social
		– (2018) Facilitative Actors of Territorial Development. A Social Construction-Based Approach
		Alburquerque, F. (2018). *Conceptos básicos de economía. En busca de un enfoque ético, social y ambiental.* Bilbao: Publicaciones Deusto
		Andretich, G. (coord.) (2019). *Transitar el territorio. Reflexiones desde el proceso de formación en Desarrollo Territorial:* Bilbao: Publicaciones Deusto
Research Stays	6	– February-October 2012
		– October 2015
		– September 2016
		– March 2017
		– April 2017
		– November 2019
Participation in AR agoras:		2010-Ongoing
– Session in the MDTD	8	
– Participation in meetings with policymakers	1-2 during 34 visits	
Virtual spaces:		
– Virtual EPIA Forum	-1	– 31 August-6 October 2015
– Virtual Platform for Facilitative Actors for Territorial Development	-1	– October 2017-Ongoing

About the authors

*Patricia Canto-Farachala (*Corresponding author): Her research explores transdisciplinary approaches to academic publishing and communication and its implications for the role that universities play in territorial development. Most of her experience as an action researcher has involved facilitating learning processes among action researchers in physical and virtual environments.

Miren Estensoro: Her work focuses mainly on the facilitation of action research processes with policy makers in research area such as local economic development**,** territorial governance and multi-level coordination of territorial development policies. Some of the main actors with whom she works are the Bilbao City Council, the Provincial Council of Gipuzkoa and the European Commission.

Authors' addresses:
Patricia Canto-Farachala
Orkestra-Basque Institute of Competitiveness, University of Deusto, Mundaiz, 50, 20012 San Sebastian, Spain
ORCID: https://orcid.org/0000-0001-9194-1583
Linkedin: https://www.linkedin.com/in/patricia-canto-farachala-a9b4a74/
Email address: pcanto@orkestra.deusto.es
Twitter: @PatriCanto

Miren Estensoro
Orkestra-Basque Institute of Competitiveness, University of Deusto, Mundaiz, 50, 20012 San Sebastián, Spain
ORCID: https://orcid.org/0000-0002-4464-3118
LinkedIn: https://es.linkedin.com/in/miren-estensoro-garcia-55840468
Email address: mestenso@orkestra.deusto.es
Twitter: @MirenEstensoro