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NETWORKS, COMMUNITIES AND PARTNERSHIPS IN EDUCATION:

ACTORS, GOALS AND RESULTS

PROCEEDINGS OF THE FIRST INTERNATIONAL CONFERENCE OF THE ESCXEL PROJECT

Edited by:
Eva Gonçalves
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First ESCXEL Project International Conference
Lisbon, National Educational Council, 27th-29th November, 2014

PROGRAMME

Thursday, 27th November, 2014

10h00 - **Opening Ceremony**: David Justino (Portugal-FCSH/NOVA); José Tenedório (Portugal-FCSH/NOVA)
10h30-10h45 - Coffee break
10h45-12h30 - **Plenary Conference**: David Justino (Portugal-FCSH/NOVA); Jorge Ávila de Lima (Portugal-AU)
12h20-14h00 - Lunch
14h00-15h30 - **Work Groups**
- **School/Family Partnerships**: Ana Diogo (Portugal-AU); Deidrea Stevens (USA-); Maria Adelina Villas-Boas (Portugal-LU) – Chair: Eva Gonçalves (Portugal-FCSH/NOVA)
- **School / Local Community Partnerships and Strategic Planning**: Alda Matos (Portugal-E-BHBG); Fernando Serra (Portugal-LU); Teresa Pimentel (Portugal-FCSH/NOVA) – Chair: Rossana Estanqueiro (Portugal-FCSH/NOVA)

15h30-17h00 - **Work Groups**
- **School networks**: Luísa Moreira (Portugal-FP); Susana Batista (Portugal-FCSH/NOVA); Eva Gonçalves (Portugal-FCSH/NOVA); Rui Santos (Portugal-FCSH/NOVA); David Justino (Portugal-FCSH/NOVA); Rute Perdigão (Portugal-CNE) – Chair: Jorge Ávila de Lima (Portugal-AU)

17h20-18h30 - Cocktail

Friday, 28th November, 2014

9h00-10h30 - **School Network Meeting** (closed meeting): Joyce Epstein (USA-JHU); David Justino (Portugal-FCSH/NOVA); Rui Santos (Portugal-FCSH/NOVA); José Tenedório (Portugal-FCSH/NOVA)
10h30-10h45 - Coffee break
10h45-12h30 - **Plenary Conference**: Philippe Masson (France-LU); Joyce Epstein (USA-JHU)
12h20-14h00 - Lunch
14h00-15h30 - **Work Groups**
- **School/Family Partnerships**: Jiacheng Li (China-ECNU);Tao Yao (China-ECNU); Yucheng Guo (China-YES); Pedro Silva (Portugal-PIL) – Chair: Ana Diogo (Portugal-AU)
- **School / Local Community Partnerships and Strategic Planning**: Bettina Arnoldt (Germany-GYIM); Christine Steiner (Germany-GYIM); João Sebastião (Portugal-ISCTE/IUL); Clara Cruz (Portugal-LU) – Chair: José Tenedório (Portugal-FCSH/NOVA)

15h30-17h00 - **Work Groups**
- **School networks**: Adelino Calado (Portugal-AEC); Paulo Portugal (Portugal-AEB); Ilídio Vicente (Portugal-AEVH); José Verdasca (Portugal-EU); Pedro Marques (England-CI) – Chair: Rui Santos (Portugal-FCSH/NOVA)
- **School / Local Community Partnerships and Strategic Planning**: José Tenedório (Portugal-FCSH/NOVA); Rossana Estanqueiro (Portugal-FCSH/NOVA); Michael Evans (USA-MU); Kira Baker-Doyle (USA-AU); Ana Sofia Godinho (Portugal-CMO) – Chair: Pedro Silva (Portugal-PIL)

17h00-17h15 - Coffee break
10h00 - **Closing Ceremony**: Maria de Lurdes Rodrigues (Portugal-ISCTE/IUL); Rui Santos (Portugal-FCSH/NOVA); José Tenedório (Portugal-FCSH/NOVA)

Conference Blog: **http://firstinternationalconference.blogspot.pt**

Networks, Communities and Partnerships in Education: actors, goals, and results

For the last three decades, educational systems worldwide have known normative transformations on their organization, in a context of (de)centralization and school autonomy. The reflection about recent trends in educational policies points to a role transformation of some school and civil society actors in education, as they set their framework of constraints and possibilities.

In this context, schools have to assume certain responsibilities, namely to relate and build themselves with the surrounding community, both in identifying and sharing common goals or values and in strategically mobilizing resources to address needs or enhance opportunities offered by local contexts. Families, local community institutions and other actors interested in education are in turn called to have a more active role in education, either by informal contacts, representation in school boards or participation in specific programs and projects.

Projects involving networks and partnerships between schools and/or other educational actors are becoming more common nowadays, trying to address some particular issues such as the promotion of educational success, the reduction of school-leavers or draw attention to questions as environment or volunteering. A certain number of these emerge by the initiative of schools, university researchers, local actors or civil society organizations and work with relative autonomy.

Collaborative networks are being conceptualized as a new tool of school administration and organization based on horizontal relationships in order to achieve common goals, sometimes framed by social network analysis, namely in association to social capital concept, or as communities.

Within this context, some salient questions arise, such as: How are networks/ partnerships in education built, by whom, how do they work and for what purpose(s)? Do they constitute a regulatory instance in educational systems? Does the participation in networks and partnerships have positive effect on learning and results? Does it contribute to transform educational practices? What kind of networks worldwide perform for better schooling? What is the role of strategic planning in education?

This Conference aimed to share experiences and scientific studies of networks and partnerships in education, appealing to the participation of professionals and researchers in the field. Presenters were encouraged to submit papers that offer reflection on practical experiences, new research or theoretical contributions, in the three following areas:

1) School/Families partnerships;

2) School Networks;

3) School/Local Community Partnerships and Strategic Planning

With this publication, it is our aim to disseminate interesting ideas that could stimulate the debate in this area of Education, articulating research and professional expertise.

All papers included in this e-book were presented during the Conference, and were subjected to a process of peer-review before being published in these Proceedings (with the exception of papers by Susana Batista, Eva Gonçalves and Rui Santos and by Joyce Epstein).

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ACTION AND STRUCTURE IN SCHOOL NETWORKS

Jorge Ávila de Lima[15]

Abstract
Networks constitute a critical dimension of human life in contemporary societies. These entities have recently attracted the interest of a growing number of scholars from many distinct academic fields. In education, networks are increasingly being promoted as a solution for some of the most persistent and difficult-to-solve problems that educators face. Practitioners and policy makers have developed increasingly elaborate rationales for justifying the importance of teachers' and schools' involvement in networking processes. This paper critically reviews the literature and research that has been conducted on networks in education and elsewhere, with a particular focus on school networks. The critical appraisal that is performed in the paper emphasizes that, despite their clear potential for educational improvement and change, current thinking about school networks is fraught with myth and simplistic assumptions, including the idea that these networks are naturally educational communities. The paper makes a case for the need to conduct more in-depth research on these phenomena, focusing both on action issues and key structural features of school networks.

Keywords: school networks; network structure; actor agency; community

1. Introduction

All of us have experience of networks, even though we may not realize this. Even the most solitary of human beings has connections to at least a few others, be they individuals or institutions. Either in work or at school, in the family or with friends, in face-to-face interaction or over the Internet, networks are a fact of our lives – we are born, breathe, live and die within them.
Some scholars even hold that humankind has entered a new stage of its evolution, that of the networked society (Barney, 2004; Castells, 2000; Prigogine, 2000), "a society in which the formal, vertically integrated organization that has dominated the 20th century is replaced or at least complemented by (…) networks of three and more organizations" (Raab & Kenis, 2009, p. 198).
The pervasiveness and importance of networks in human life have attracted the interest of a growing number of scholars from many distinct academic fields, to the point that some have declared the coming of "the next scientific revolution: the new science of networks" (Barabási, 2003, p. 8). But scientific interest in organizational networks is not exactly new. The newness lies rather in the scale of current research efforts, in the variety of theoretical and methodological approaches and in the diversity of knowledge fields that are currently involved in the study of networks.
Importantly, interest in interorganizational networks is not growing only among researchers; government leaders are also looking at these formations as ways of addressing complex public challenges that confront contemporary societies. Over the past fifteen to twenty years, we have seen a rapid increase in the use of inter-organizational networks as a management strategy in the public sector (Milward, Kenis, & Raab, 2006), bringing together the government with nonprofit and for-profit organizations in various policy domains, such as health care, crime prevention programs, human services, transportation and education, among many others (Agranoff, 2008).
In education, networks are receiving increasing research and practical attention and being promoted as the solution to some of the most persistent and difficult-to-solve problems that educators have faced for many years. Educational practitioners and policymakers have developed increasingly elaborate rationales for justifying the importance of the involvement of teachers and schools in network processes. Collaborative networks of schools, in particular, are regarded as embodying what Justino and Batista (2013) have described as a new, voluntary mode of regulation in the educational sector.

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Yet, despite our embeddedness in networks and the growing amount of research and practical work that has been conducted on them, nationally and internationally, we still know surprisingly little about these social formations. This is as true for networks in social and biological life in general as it is for networks in education, in particular. And it is even truer for networks of schools, which are a relatively recent organizational form in the educational field. The research community needs to conduct more in-depth investigations of these phenomena, by combining attention to action issues with a focus on key structural features of networks.
My main purpose in this paper is to point out several conceptual issues and practical problems that network researchers and network practitioners in education need to keep in mind when thinking about, doing research on and involving themselves in these kinds of entities.
I have organized the paper into seven sections. After the introduction, I present a broad overview of two main perspectives on networks that can be identified in the literature. The next two sections discuss each of the perspectives in more detail. The following section examines school networks in the light of the structure *versus* agency dichotomy. I then present and discuss two important oversimplifications that are commonly held about school networks. The final section offers some concluding remarks.

2. Two main perspectives on networks

There are two main perspectives that cut across the literature on networks (Lima, 2013): one is developed mainly by academics who have no direct involvement in actual planned networks; the other is predominantly adopted by people who have an interest in investing in networks or who are practically involved in them. I call the first perspective the analytical/structural approach, and the second perspective the utilitarian/instrumental approach. The former prevails in fields such as sociology and social psychology and, more recently, in physics, and the latter perspective is adopted mostly by private and public management and policy researchers, as well as by practitioners from many distinct fields, including education. The main features of the two perspectives are summarized in Table 1.

Table 1. Two main perspectives on networks

	Analytical/structural	***Utilitarian/Instrumental***
Predominant focus	Structure	Agency
Concept of network	Broad	Narrow
Nature of structure	Emergent	Fabricated
Predominant fields of study	Sociology, Social Psychology, Physics	Private and Public Management, Policy Studies, Education

Let's look closely at how each of these perspectives approaches networks.

2.1. The analytical/structural perspective

For scholars working within the analytical perspective, network theory and analysis is attractive because it appears to offer "a rigorous, quantitative method to study individuals and organizations in relationships with one another" (Galaskiewicz, 2007, p. 2). This perspective is distinctive for having devoted considerable thought to developing "a networked *way of thinking* about the world" (Watts, 2003, p. 16).
In this perspective, there is a preferential focus on network structure rather than on actor agency. In other words, analysts are more interested in the way ties between actors are structured and give rise to specific structural forms than in how actors experience and manipulate these ties and their network. The focus is on structurally understanding the network, rather than on using it.

Secondly, the perspective adopts a broad, flexible concept of structure. Structural analysts tend to see networks everywhere, even in places where practitioners and lay people see none. To use Barabási's (2003) words, "networks are present everywhere. All we need is an eye for them" (p. 7). For analytically minded scholars, a network is a network, regardless of whether you call it as such or not.
Thirdly, and importantly, in the analytical perspective, structure is conceived as emergent. Structures are regarded as resulting from interactions between actors, whether these actors actually intended to build those structures or not – intentionally or not, any kind of relatively regular interaction between three or more actors is seen as giving rise to a network.

2.2. The utilitarian/instrumental approach

The utilitarian approach has a quite different nature: it seeks primarily not to understand networks as objects of scientific inquiry, but, above all, to create and manage them. Utilitarian's' preferential focus is on agency. They conceive networks predominantly as instruments of action. This gives way to a narrower definition of the network concept. A network is understood simply as a specific, formally constituted organizational arrangement intentionally designed to achieve a particular set of outcomes.
Utilitarians are interested mostly in building ideal network structures that are most effective in producing particular desired outcomes. Here, similarly to the analytic perspective, there is a valuation of network structure, but with an important qualification: structure matters to utilitarians only insofar as a reflection on structure helps them improve the utilitarian function of the network; every other question about structure, however academically or theoretically interesting, is ignored or left in brackets.
Until now, in the literature on networks in education, there have been far fewer formal analytical assessments of networks than utilitarian approaches to them.
I will now turn to the major contributions that each perspective has made to our knowledge of networks. This will be followed by a discussion of how both perspectives can be brought together theoretically, in such a way that helps us achieve a more satisfactory, complete conceptualization of school networks.

3. The analytical/ structural point of view

For analysts of networks, "network" is a too generic word. In their view, the key issue is exactly what *form* (or *structure*) a network takes – the assumption being that not all networks are the same and that different network forms, or structures, have different implications for actors and systems and potentially produce different outcomes.
Sewell (1992) referred to structure as "one of the most important and most elusive terms in the vocabulary of current social science" (p. 1). For scholars working in the context of the analytical approach, network structure has a precise, unambiguous meaning. A widely agreed-upon definition states that "network structure consists of the nodes that comprise the network; the ties that connect the nodes; and the patterns, structures and nature of the relationships that result from these connections" (Popp et al., 2014, p. 12).
The idea of giving epistemological primacy to actors' ties over their individual characteristics is a foundational premise of the analytical field. In order to dispute an approach to social interaction that rests on the primacy of the acting social agent, structurally minded network researchers have sought to establish what they view as the central principles of the network approach. Among these principles is the notion that actor behavior must be interpreted "in terms of structural constraints on activity, rather than in terms of inner forces within units (e.g., 'socialization to norms') that impel behavior in a voluntaristic, sometimes teleological, push toward a desired goal" (Wellman, 1988, p. 20).
Within the analytical approach, relevant network structure issues can be classified into two broad categories: whole-system structural properties and ones related to individual members' structural locations in the network (Lima, 2010; for applications, see Lima, 2008). Whole-system structural properties refer to configurational characteristics of a network as a whole, while information about actors' structural locations enables researchers to

understand how actors' positions within the network help understand their behaviors, perceptions, attitudes, opportunities and constraints.
Working within this tradition, I have argued elsewhere that there are three main aspects of whole-system network structure that analysts may focus on when studying networks: density, centralization and connectedness/fragmentation (Lima, 2010).

DENSITY
Density has a precise technical meaning in social network research. It is computed as the proportion of the actual number of ties in a network in relation to the maximum number of ties that are possible in that network (Scott, 1991; Wasserman & Faust, 1994). Density can be viewed as a measure of network cohesion, which is useful both for understanding the relational profile of a network and also for comparing different networks of approximately the same size. In denser networks, behavioral norms are usually "clearer, more firmly held and easier to enforce" (Granovetter, 2005, p. 34).

CENTRALIZATION
Network centralization indicates the tendency of a single member of a network to be significantly more central than all other actors in the network (Freeman, 1979). High centralization values indicate that one or a few actors are highly central in the network and the rest much less so, while low centralization values mean that actors' levels of interaction in the network do not differ significantly. This network structural property is an excellent indicator of power, popularity and influence patterns in intra- and inter-organizational networks (Brass & Burkhardt, 1992), a much-neglected theme in educational research.

CONNECTEDNESS
Connectedness alludes to the extent to which the different regions of a network form an inter-related whole. Sometimes connectedness is low and the network is "partitioned into sub-sets of actors where internal cohesion is much greater than their members' links to the wider network" (Lima, 2010, p. 7). Extreme levels of fragmentation can lead to the breaking up of the network into totally disconnected segments.
Contrary to what most people who use the network term believe, many networks are highly fragmented. Even the Internet – the supposedly most highly connected network on the face of the planet – is fragmented into several continents and islands (Lawrence & Giles, 1998, 1999), so much that even powerful search engines like Google aren't able to capture significant portions of information in it (Barabási, 2003). This simple example suggests that we should view networks as ranging among several possible levels of connectedness, rather than as systems consistently characterized by a high degree of inter-relatedness.

3.1. The contribution of social network analysis

Social network analysis offers a set of concepts and analytical tools that can be used to study the structure of whole networks and the connections between actors or specific groups of actors (Borgatti, Everett & Johnson, 2013). These tools enable analysts to determine and quantify density, centralization and connectedness levels, to compute information on actors' structural network locations, to better understand communication lines, to identify the key players in the network, to map information flows and to spot possible threats to connectivity (Cross & Thomas, 2009; Provan, Veazie, Staten, & Teufel-Shone, 2005). Software programs such as UCINEt, Pajek, Netdraw, SIENA and Visone perform computations and generate sociograms that reveal "the relationships, the actors in the relationships, and the nature of the relationships" and allow the researcher to derive diagnostic results from this information (Kapucu & Demiroz, 2011, p. 555).
Social network analysis programs can depict the connections among actors within a network along a single dimension or on multiple dimensions of activity. These programs also allow us to visualize how a network progresses over time.
In short, the contributions of the analytical/structural approach to networks are relevant and far-reaching. It has helped us to better understand networks, but also to keep in mind that structure is not just some elegant abstract quality that academics love to speculate about: in real-life networks, *structure matters*.

4. The utilitarian point of view

As we have seen previously, utilitarian have an instrumental view of networks: they are interested in them because they believe that they are useful for achieving a given purpose. If school networks have increasingly attracted the interest of practitioners and policymakers (e.g., Veugelers & O'Hair, 2005; Katz, Earl & Jaafar, 2009), it is mostly because these individuals and entities regard these formations as instrumental for accomplishing their educational goals.

4.1. Potential benefits of school networks

Schools and teachers can have many reasons for joining or forming a collaborative alliance with several partners. Networks in education can potentially function as effective forums for sharing knowledge about "best practices" and for offering teachers professional development opportunities across organizational boundaries. They can work as an appropriate model for making available swift, flexible ways of diffusing up-to-date knowledge and practices across organizational borders. These potential benefits are well documented in a small number of studies on networks in education (Lima, 2013).
In order to make concrete these potential benefits, utilitarians have reflected on the best ways to structure their networks. This debate has not yet developed significantly in the educational field, but elsewhere there have been proposals for the best, most effective network arrangements.

4.2. Classifications of networks based on the utilitarian perspective

Based on the notion that some network forms are more useful than others, utilitarians have come up with their own typologies or classifications of networks. A particularly interesting typology, which has had a strong impact on the public administration and management literature, was proposed by Provan and Kenis (2008), who laid out three alternative "network governance modes": shared governance, governance by a lead organization, and governance by a network administrative organization (NAO). In the shared governance model, there is no formal administrative entity – all members ensure the management and leadership of the network. In the lead organization mode, a leading member ensures network management and administration. Finally, in the network administrative organization mode, the management of the network is accomplished by a separate administrative entity that is hired by the network or externally designated to manage it (Provan & Lemaire, 2012). According to the authors, each of these three models can be an appropriate option under different conditions (Provan & Kenis, 2008). In their view, shared governance seems to be preferable for small networks (with no more than 6 to 8 members) where trust is widely distributed, goal consensus is high and decision-making is decentralized. In contexts where trust is narrowly distributed, the network has a moderate size, consensus is moderately low and decision-making is centralized, a lead organization model is preferred. Finally, when trust is moderately distributed, the size of the network is medium to high, consensus is moderately high and decision-making represents a mix of centralized and decentralized procedures, the network administrative organization solution (monitored by network members) is recommended.
It is not clear, however, if and when these models are adequate for networks implemented specifically in an educational context, as opposed to a policy, public administration, private management or public-private partnership context. Also, even in more general contexts such as these, the evidence for the desirability of the models seems to be mixed, although the Network Administrative Organization (NAO) option seems to have received the most support so far from scholars publishing in the public management and administration field (e.g., Raab et al., 2013).
However, in education, a study by Schulz and Geithner (2010) advocates the adoption of a network structure organized as a "learning platform" (Ciborra, 1996), where representatives of the network meet to exchange views and develop joint work. This model closely resembles the shared governance structure conceptualized by Provan and Kenis (2008). This example suggests that it is important that education practitioners and policymakers avoid uncritically importing into education organizational models that seem to have produced good

results elsewhere. Yet, the bottom line is that there is still insufficient research and evidence to test the effectiveness of any of these organizational structures, either in education or elsewhere.

5. Structure and agency in networks

The analytical/utilitarian dichotomy that I have sketched out previously can be related to an important standing debate that has dominated the social sciences for quite some time, referring to the relation between social structures and social actors' agency.

Structuralists emphasize how structures have primacy over agency in shaping human behavior. However, this view has been increasingly challenged by advocates of a greater recognition of human agency in explanations of the constitution and evolution of social networks (Emirbayer & Goodwin, 1994; Galaskiewicz, 2007; Salancik, 1995). The critics underline that social actors are not pre-programmed and totally constrained by social structures – that they are capable of acting independently and of freely making their own choices. It is no surprise that such a position would be much more attractive to holders of the utilitarian perspective, given, as we have seen, their focus on actors' deliberate planning and management of network structures.

Proponents of a more theoretical recognition of the importance of agency in social networks emphasize what they regard as the limitations of the concept of structure in most social science writing. These limitations have been the object of severe critiques by some key social science theorists. Sewell (1992), a prominent critic of the ordinary use of the concept of structure in the social sciences, pointed out several key problems in the common use of the term. For him,

> the most fundamental problem is that structural or structuralist arguments tend to assume a far too rigid causal determinism in social life. Those features of social existence denominated as structures tend to be reified and treated as primary, hard, and immutable, like the girders of a building, while the events or social processes they structure tend to be seen as secondary and superficial, like the outer "skin" of a skyscraper, or as mutable within "hard" structural constraints, like the layout of offices on floors defined by a skeleton of girders. What tends to get lost in the language of structure is the efficacy of human action – or "agency" (…). A social science trapped in an unexamined metaphor of structure tends to reduce actors to cleverly programmed automatons. (Sewell, 1992, p. 2)

In fact, even when clearly formalized and measurable, the dominant notion of network structure prevalent in the network literature still allows little place for actor agency. So a way to bring actors into network research is clearly called for.

5.1. The duality of structure and agency in social networks

There have been important attempts in contemporary social theory to reconcile the concepts of structure and agency. The most complete and satisfactory of these is probably Anthony Giddens' (1976, 1979, 1981, 1984) "structuration theory", in which the author tries to move beyond the dualism of structure and agency.

Giddens (1984) proposed his "structuration theory" on the basis of the idea that social structures both *constrain* and *enable* social action and choice. In his concept of the "duality of structure", social structure is viewed as *both* the genesis and the product of social action (Giddens, 1981). Giddens emphasizes social actors' agency by introducing the term "reflexivity", which refers to actors' capacity to purposefully adjust their place in social structures. Social actors are thus conceived as knowledgeable, enabled agents and agency is thought of both as depending on structure and as simultaneously constituting it. As Sewell (1992) observes, commenting on Giddens' theory, "structures shape people's practices, but it is also people's practices that constitute (and reproduce) structures" (p. 4).

Giddens' conception of actors as "knowledgeable" and "enabled" implies that they have the capacity to deal with the structures that constrain them in innovative, imaginative ways. Importantly, if we regard this capacity as a collective process, then actors may be able to transform the very structures that empower them with the

ability to act. As Sewell (1992) argues, "agency is collective as well as individual. (…) [It is] profoundly social or collective. (…) Agency entails an ability to coordinate one's actions with others and against others, to form collective projects, to persuade, to coerce, and to monitor the simultaneous effects of one's own and others' activities" (p. 21).
The implications of this conception for a vision of networks as both structured and agentic are profound. Sewell's (1992) emphasis on the collective nature of agency is key to a better understanding of the relation between structure and agency in social networks in general and in school networks, in particular. Gidden's (1984) work on the duality of structure and Sewell's (1992) rethinking of the notions of structure and agency in the social sciences provide fruitful conceptual avenues for looking at networks in a way that gives special attention to the ways that actors "create, perpetuate, and modify structure through their actions" (Gulati & Srivastava, 2014, p. 76).

5.2. Agency processes within networks

A theoretical consideration of agentic processes in networks needs to be based on a clear definition of the concept of "network action". I understand this concept here in the sense proposed by Gulati and Srivastava (2014), who define network action as the choices that actors make with respect to one or more social ties. The authors highlight four primary network actions that network actors can take with regard to a social tie:

_ acquiring – forming a new tie where none existed previously exist;
_ activating – converting pre-existing dormant or latent ties into active ones;
_ altering – changing the content that flows through a pre-existing tie;
_ adjusting – deactivating a tie (by shifting it from an active to a dormant or latent state) or purposely severing it.

It is possible to recognize some of these actions, for example, in Christakis and Fowler's (2009) elaboration on what they call the "rules of life in social networks". While recognizing the impact of structure on actors' behavior and opportunities, Christakis and Fowler also emphasize that actors shape their networks in important ways. They do so:

_ firstly, by choosing who they interact with;
_ secondly, by deciding how many actors they want to be connected to;
_ thirdly, by influencing how densely interconnected their network is (that is, by promoting *versus* not promoting ties between other actors in their network);
_ and finally, by controlling how central they are in the network (through actively nurturing and seeking new ties *versus* actively staying on the sidelines).

If we multiply these individual behaviors and micro-decisions by every actor in a network, we obtain a dynamic multitude of structural possibilities. Network structures are not static: they evolve as result of these micro-level, multi-actor behaviors. Through the aggregation and differential combination of micro-level interactions, actor agency gives rise to network architectures (Ahuja, Soda & Zaheer, 2012), which subsequently frame actors' agency. Recent work on the role and relational activity of network orchestrators (Paquin & Howard-Grenville, 2013) is a good example of how network members actively make use of their agentic possibilities to purposefully shape network processes and structures.
Still, most of the work that I have referred to so far relates almost exclusively to actor agency *within* networks. However, a comprehensive focus on network actor agency needs to take into consideration not only action *in* networks but also action *through* networks. Both are necessary in a complete theory of the duality of structure in networks. To understand action *in* networks, one needs to analyze how individual members or groups of members dynamically interact with one another within the network and how this eventually brings about transformations in their structural positions and in the very processes that characterize the networks' operation. To understand action *through* networks, one needs to focus on *the network itself as a collective actor* and

to examine how it behaves, operates and performs in different fields of social life. This latter aspect has been even less researched than action within networks.

6. Myths and oversimplifications about school networks

The recognition that there is agency in networks doesn't imply that networks will necessarily enable actors to materialize everything that they desire or dream of. To illustrate this idea, let's take a simple example from ordinary, social life. We all know of people who have decided to lose weight, so they bought a nice treadmill to have at home and to do daily exercise, but days have passed, and then weeks, and then months, and they still haven't lost any weight.

Well, having or being in a network can be a little like having a treadmill at home: it's not worth owning if you don't use it. No question, owning your treadmill will probably may make you feel better about yourself, as you feel you've invested in something worthwhile, but the fact is that objectively your condition may not improve at all. In fact, it can even become worse: your financial status may worsen as a result of having spent so much money on this piece of equipment and, in terms of weight, you can still be right where you were before you bought it. So you cannot simply assume that having a treadmill is necessarily better than not having it at all. The same can be said about networks.

Indeed, networks have the potential to be faddish (Bate, 2000) and they can be adopted only superficially. While networks often represent adequate organizational solutions to complex problems, they also face operational, performance and even legal roadblocks that compromise their effectiveness (McGuire & Agranoff, 2011). In the utilitarian, instrumentalist approach to networks, there is insufficient recognition of these limitations.

In a recent reflection on the problems and tensions inherent in school networks (Lima, 2013), I have listed numerous important, recurrent difficulties that many networks of schools experience. I will not go in detail into each of these potential problems here. Instead, I will highlight two relevant issues, related to the limitations of networks, which are worth discussing in more depth. More specifically, I will elaborate on the possibility that networks face two important, interrelated problems, both of which point to a superficial adoption of the network model: (1) the emergence of core/periphery patterns within the network and (2) delusive community.

6.1. The emergence of core/periphery patterns within the network

In order to understand how a network of schools is actually structured and evolves, it is relevant that we look not only at what organizations are members of the network, but also at which members of these organizations are actually representing their institution in the network. It is often the case that representatives of schools who regularly participate in most networks are school managers or representatives of school management. As I have warned elsewhere, "the generally held but largely untested assumption is that these individuals serve as bridges between the network and actors affiliated with the participant organizations, but not directly involved in the network's activities" (Lima, 2010, p. 12). However, we know very little about how well connected these individuals are in their home organizations. There is a risk that they are the only people benefiting from network participation, while their school colleagues remain unaffected by what goes on at the "network" level. The literature does portray situations in which these individuals are poorly connected within their own organization. For example, Lieberman and McLaughlin (1992) allude to "the sometimes chilly reception that network teachers encounter in their schools or departments" (p. 675) and Rusch (2005) mentions that "network members report hostility, ruptured relationships, and marginalization when they attempt to share their learning in their home school district" (p. 87). We should keep in mind that the potential benefits of a schools' participation in a network strongly depend on the strength of connection of the schools' representatives within their own organizations. When this level of connection is poor or inexistent, some schools and teachers can remain in the periphery of the school network to which their organization formally belongs.

This process can give rise to core-periphery structures within the network – an entity that is supposedly a flat, highly interactive organization with multiple, dense links between most members. A good empirical illustration of this phenomenon can be found in a recent study of school networks conducted by Paquin and Howard-Grenville (2013). The authors' results show that participation in the network can have a clear impact

on school representatives in the network's platform, at least at the subjective, attitudinal level, but impact on the home schools may be much more problematic. Findings reported in another study, conducted by Schulz and Geithner (2010), point in the same direction. The authors report that "within the network, ideas and concepts were shared (95 percent), problems from school practice were discussed (93 percent) and experiences were exchanged (92 percent). (…) [However], the implementation of network ideas in the schools got the lowest positive ranking (59 percent)" (p. 75). As the authors themselves put it, "it can be observed that development processes of single persons at the platform level do not necessarily bring about development processes on the organizational level" (Schulz & Geithner, 2010, pp. 82-83).

6.2. Delusive community

Another common oversimplification present in current utilitarian discourses on networks in education is that school networks are naturally educational communities. The implicit theory behind this idea is that networks will naturally generate professional learning communities where, through extended interaction with colleagues, educators will produce new knowledge and design novel practices that will subsequently be transferred into the schools that are members of the network (Earl & Katz, 2005). My previous emphasis on core/periphery patterns in networks suggests that this is not necessarily the case.
Utilitarians expect that the use of networks will lead to the development of "communities of practice" (Wenger, 2000). However, "before knowledge and learning can start to be transferred, the community must exist" (Addicott, McGivern & Ferlie, 2007, p. 96).
In face of the widespread confusion between the concepts of network and community, I have systematized elsewhere (Lima, 2012) some of the conditions that are necessary for communities to exist in networks. I have done this by sketching out some fundamental pre-requisites for a network to be considered as a community. A network is not necessarily a community when it is merely:

_ *a self-proclaimed community* – having a set of teachers or of educational organizations that self-entitle themselves as a "community" does not automatically turn them into one;
_ *an officially or administratively declared community* – officially labeling a set of teachers or of schools with some designation that includes the term "community" does not mean that we have to interpret it as such;
_ *a mere community of affection* – a professional community should not be confused with an array of mere emotional affiliations (e.g., a set of colleagues who join together and frequently communicate solely for emotional reasons and for purposes of mere personal support, without explicit and expanded professional involvement) (Lima, 2001);
_ *a communication network with a high level of centralization* – a group of teachers or school organizations in which the overwhelming majority of relational activities are focused on a single actor or on a small set of actors can hardly be understood as a community, since most of its members remain alienated from what most of the others think, say or do.

Therefore, we need independent criteria for the empirical identification of professional communities in networks, criteria that allow us to distinguish these communities from mere clusters of teachers or school organizations.
From a technical point of view, a community is simply a set of actors that have something in common. The problem with many network community analyses is that this "something" that actors have in common, and which is adopted as a criterion for defining membership in a community, is often too trivial, too superficial – a mere minimum common denominator between actors, rather than something that connects them strongly through intense interaction and collective identification.
So it is important that we pay close attention to what it is that actors have in common in a so-called network "community". If it is simply a similarity in some superficial feature, like being in the same geographical area or having formal membership in the same organization, or even being acquainted with most of the other actors in the network, then, from a conceptual point of view, this is clearly insufficient. The technical dimension of the concept, which focuses exclusively on ties or similarities between actors, is important, but it runs the risk

of overlooking a key aspect – the *cultural* dimension of communities. Many network analyses of communities apply a merely technical definition of the term and this is the main reason why they are so limited.

The cultural dimension, understood here in its deepest anthropological sense, is key to a comprehensive conception of community in networks. To be communities, the members of the organizations involved in a network will need to display the following cultural features, both *within* and *across* schools (Lima, 2013):

_ *to be together* – a community necessarily implies the occurrence of regular encounters among its members, preferably face to face, but not necessarily, given the increasing availability of means that technologically mediate interpersonal interaction. No significant community exists without communication. But this communication must be of a special kind. On the one hand, it cannot be too centralized or unidirectional. So a group of professionals who interact almost exclusively with a single colleague (or a small group of colleagues) or who only receive unilaterally communication from that colleague or small group of colleagues cannot be considered a community. Furthermore, this interaction needs to be *frequent* (involving numerous, regular communication episodes), *intense* (developed at significant levels of professional depth) and *comprehensive* (i.e., addressing various areas of work life and not only one or two very specific issues) (Lima, 2002);
_ *to act together* – in schools, no matter how important communication is, it will always be limited if the interaction is only conversational (Lima, 2002). While speech can and should be understood as a fundamental social practice, it needs to be associated with more concrete behavioral components: the development of joint practices, such as the design and production of teaching materials, the definition of collective action plans, the joint production of strategic documents, the exchange of materials, the regular assessment of work, the organization and implementation of mentoring initiatives, etc., etc.
_ *to be in common* – a professional community is more than a purely objective entity that exists independently of the consciousness of its members. In this respect, professional identity and the sense of belonging that goes with it are key. There is no professional community in a network without an ontological and phenomenological dimension, reflected mainly in the sense that its members have of being part of a larger whole with which they identify;
_ *to feel in common* – being in common is associated with feeling in common, that is, with a coherent set of perceptions and evaluations of common phenomena by the various members of the network. When group identification is strong, members share a deeply collective culture, they collectively produce it and reproduce it, and they look at the world through the eyes of the group rather than merely through their individual points of view;
_ *to endure together* – finally, a community is durable: it lasts in time (Noddings, 1996) and survives the entry or exit of any specific member, including its main leader. This criterion emphasizes the primacy of continuity over the ephemeral. Only this enduring over time will allow for the production of culture and the consolidation of a collective identity.

7. Conclusion

In this paper I have argued that two main, very different perspectives dominate the network literature: the analytical/structural approach and the utilitarian/instrumental approach. Each has strengths and weaknesses, which on the one hand help us better understand networks but on the other hand place limits on this understanding. Structural analysts have made important contributions to our knowledge of networks. They have offered us concepts, a vocabulary and methodological strategies and tools for characterizing and assessing these entities. Unfortunately, they have often held a static view of networks and overly deterministic notions of actors' structural locations and destinations. However, this is gradually changing and the network analysis field is increasingly acknowledging and recognizing the role of agency in network genesis, operation and evolution.
Utilitarians, on the other hand, dream of networks and fantasize about them. They often hold simplistic assumptions about networks and what they can deliver. They have excessively optimistic views of what networks can achieve and difficulty in recognizing the limitations of these organizational formats. But they are also the people who get things done in the real world – many of them don't just talk networks, they do networks. So they have an experiential notion of agency that can be useful for enriching our view of how networks are formed, evolve and operate. Although the dialectics between both of these modes of understanding are far from linear, each side has definitely got something significant to contribute to a more comprehensive conceptualization of networks in general and of networks of schools, in particular.

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