ORGANIZATIONAL KNOWLEDGE ABOUT INNOVATION: LESSONS FROM INNOVATIVE SCHOOL PRACTICES

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Abstract

This paper reports on findings from a qualitative inquiry about the basis on which innovative schools have sustained changes over time. Participant schools were reported by external advisers as they had institutionalized a recognisable dynamic of changes. The focus of the inquiry includes: organizational culture, informal structures of power; leadership practices and styles and relationship patterns among internal and external educational agents. A relevant local knowledge that shapes innovation practices was also identified. This practice based knowledge allows us to discuss some common assumptions of the theory of educational change.

Keywords

Educational innovation, school improvement, sustainability, systems of practices, organizational knowledge.

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Prescriptive literature about how innovation must be implemented at schools and the leadership needed to this aim is perhaps the most abundant in the educational field. However, quite less attention has been paid to the knowledge gained by schools in the course of their innovative practices. This knowledge-in-action (Gather Thurler, 1998) or practice based knowledge is increasingly recognized as the key condition and the principal basis to build sustainable processes of improvement by literature about change in organizations

This paper is based on a research project[3] that sought to describe the organizational knowledge about innovation embedded in the practices of five primary, four secondary and one special education school from two different regions in Spain. The paper will provide an overview of the findings and will discuss some theoretical and practical implications about the *texture* of organizational knowledge and learning (Gherardi, 2006) during innovative processes.

CONCEPTUAL FRAMEWORK

The theory about educational innovation has largely shifted from the traditional, technological –based on top-down processes- perspectives to the more complex and actual ones (Fullan, 1991; Stoll and Fink, 1996; Hargreaves, 1998; Hopkins, 2001; Harris, 2002). Sustainability has been proposed in the last years as one of the key concepts of educational innovation (Hargreaves, 2002; Hargreaves and Fink, 2004, 2006). Sustainability implies that local, organizational conditions are not only influencing, but the decisive basis over which the changes are built when they happen. Furthermore, one of the most important insights about this is that such organizational conditions are not mainly referred to structural but informal issues like organizational culture, power and leadership distribution or communication networks.

Otherwise, the relationship among educational change and other organizational processes has been well documented, including: leadership in general (Hallinger and Heck, 1998; Harris and Muijs, 2003; Harris and cols, 2003; Ainscow and West, 2006); instructional leadership (Greenfield, 1987; Stoll, 1999; Southworth, 2002); distributed leadership (Spillane, 2006); organizational cultures (Fuller and Clarke, 1994; Maslowski, 2006). Moreover, the institutionalization of changes implies true learning communities implementing such changes (Wenger, 1998; Strike, 2000; Furman, 2004; Stoll and cols, 2006). Also important to this study is taking into account the particularities of innovating in schools that have to cope with disadvantaged environments (Gray, 2001; Datnow, Hubbard and Mehan, 2003; Muijs and cols, 2004; Harris, 2006; Reynolds and cols, 2006).

Besides, innovation emerges from recent theories as a complex system of practices –a *field of practices* in words of Gherardi (2006) - which can not be fully

[3] The research project entitled *Leadership and sustainable development in educational organizations* was funded by the Spanish Ministry of Education and Science (Code: SEJ2005-09056/EDUC). The work team included researchers of the Universities of Sevilla and Las Palmas de Gran Canaria: Mariana Altopiedi, Juan Santiago Arencibia-Arencibia, Unai Delgado-Betancor, Florencia Comini, José Manuel Lavié-Martínez, Luis Carlos López-Jiménez, Julián López-Yáñez (head), María Nogales, Paulino Murillo-Estepa, and Marita Sánchez-Moreno.

planned or controlled by leaders because such system is radically open to uncertainty. In fact, *practice based studies* about organizations (Gherardi, 2000, 2001; Nicolini, Gherardi and Yanow, 2003) are specially needed in the field of educational research, taking into account the gap, still open, between academics and practitioners.

When innovation succeeds and change processes are sustained over time, a rich knowledge base can be recognised in the practices and narratives by the agents involved. Such local knowledge can be conceived as a complex network of symbols, assumptions, values, cultural artefacts and patterns of influence and relationship. As Gherardi (2006: 228-229) pointed out, organizational knowledge is mediated by corporeality (embodied), social relations, the material world and past experiences (what is already known). Therefore, organizational knowledge is not conceived here as a mental or informational entity but as a specific configuration of culture-power-communication patterns and practices (Spender, 1996a, 1996b; Araujo, 1998; Cook and Yanow 1999; Gherardi, Nicolini and Odella 1998; Easterby-Smith and Araujo 1999; Tsoukas, 2002; Clegg, Kornberger and Rhodes, 2005).

Taking such assumptions into account, the purpose of the study reported here was to know more about the components –and the outcomes at the same time- of educational innovation as a social constructed praxis: shared meanings and beliefs, patterns of influence and relationships, discourses and strategies deployed, organizational dynamics, etc.

CASE SELECTION AND METHODOLOGY

The case-selection of the study proceeded by asking to the advisers of three Teachers Centres[4] in two Spanish regions to identify some schools in their circumscription in which innovation had been sustained over time to the point in which it was perceived as part of its own identity. At the end of the process, five primary, three secondary and one special education school which were recognized as innovative by their communities, were selected in the academic year 2007-2008. All of them accepted explicitly to get involved in the research project by means of formal commitments adopted by the respective school councils. A population with considerable social, cultural and economic disadvantages attends nine of the ten schools –one rural, nine urban- involved in the study.

Research methodology was based on ethnographic strategies as in-deep interviews, participant observation, photography, story-telling from participants, biographical accounts and informal records. The field work tried to disturb the dynamic of the schools as little as possible. So, additional tasks were not required to the teachers, with the exception of the participation in some interviews and, eventually, the discussion of the research reports.

A researcher of the team was assigned to each school and worked on it exclusively, with the exception of just one of the researches, who worked on two schools at the same time. The researcher assigned to each school assumed the field work and the relationship with the school community and was responsible of the research reports that were presented to discussion. Anyway researchers received collaboration of

[4] Teachers Centres in Spain provide both advising and in-service education to the schools included in a district.

other members of the team when needed and their reports were supervised by the coordinator of the project. Furthermore, some teachers of each school participated in informal teams that collaborated more closely with the researchers in data analysis and conclusions. The advisers of three Teachers Centres that had participated in case-selection were also involved in the elaboration of conclusions in the last phase of the study.

Data were analysed throughout a constructive and dialogic process. To do this, three stages were performed in each school, with their correspondent labelled reports #1, #2 and #3. These reports were discussed with the participants before going on to the next stage. At that time the whole provisional conclusions were discussed and, as a consequence of that discussion, new data were collected. While Report #1 was descriptive in essence, Reports #2 and #3 were mainly interpretative. Report #1 included information about the school characteristics and the way innovation worked, among other relevant issues. Report #2 included an analysis about the organizational issues that were supposed to be related to sustainable practices of change in schools: organizational culture; informal structures of power; leadership practices and styles; and relationship patterns among internal and external educational agents. More precisely, the following paths of inquiry were adopted:

<table>
<tr><th colspan="3">PATHS OF INQUIRY</th></tr>
<tr><td>CULTURE

- The meaning of physical and spatial traits.
- Institutional ceremonies and rituals
- Aesthetics
- Implicit norms, values and beliefs
- Social networks sustaining culture and micro-cultures.</td><td>POWER AND LEADERSHIP

- Shape and circulation of power
- The balance of internal and external power
- Social structures of power
- Diachronic analysis: the evolution of power structures and trends
- Conflict analysis and micropolitics
- Leadership</td><td>ORGANIZATIONAL DEVELOPMENT AND INNOVATION

- Innovation trajectory (planned change)
- Cycles of development (unplanned change)
- Management of unforeseen events
- Innovative practices</td></tr>
<tr><td colspan="3">- Definition of organizational identity, reality and innovation practice
- Access and socialization of newcomers</td></tr>
</table>

Emergent issues were additionally identified by the research team by means of transversal analysis of the ten cases. While these issues were not very different from the paths of inquiry suggested before, they bring some significant novelties. The emergent issues included: the context and origins of innovation, leadership, the practice of innovation, school climate, organizational culture, external relationships and politics of resources. Some of these themes match those outlined by Muijs and cols (2004) as relevant in literature about school improvement in difficult and challenging circumstances. Themes emerging from such literature included: a focus on teaching and

learning, leadership, creating an information-rich environment, creating a positive school culture, building a learning community, continuous professional development, involving parents, external support and resources.

Finally, the ten Reports #3 are being elaborated right now. They include a deeper regard on the conclusions of Reports #2, apart from new data and assertions established from the discussion of such reports. While the final Memory of the inquiry is still being elaborated, some provisional but well rooted conclusions will be exposed in the next sections according to the emergent issues stated in the above paragraph.

THE CONTEXT AND ORIGINS OF INNOVATION

In the last years some relevant literature has focused on the specific characteristics of improvement processes in schools in socioeconomic disadvantaged areas (Gray, 2001; Datnow, Hubbard and Mehan, 2003; Muijs and cols, 2004; Harris, 2006; Reynolds and cols, 2006). The complexity of the innovation process has been well documented by such literature. Complex means that it can be considered as a social, dialogically constructed practice, open to uncertainty, which cannot be fully controlled by any of the agents involved. The consequence is that such complexity avoids any possibility of addressing the process by means of recipes or quick solutions (Myers and Stoll, 1998). But school improvement is much more complex in deprived environments and it requires special conditions of staff and organizations (Harris and cols, 2006).

It is not sheer coincidence that the great majority of the schools that were identified by the Teachers Centres as schools that had sustained changes over time were placed in difficult contexts. We finally selected ten schools. Nine of which were *schools in the border* –attending populations in the border between exclusion and integration- which have to cope with permanent sources of problems and tensions that have powerfully stimulated innovation. In fact, innovation appeared in the narratives collected not as an election but as a mandate. The important issue is that this shared belief seems to have promoted a vocational sense of teaching in the great majority of the staff. Abundant epic narratives were reported emphasizing the historical and current difficulties the innovation processes had and have to overcome. Teachers' commitment to help their communities to leave behind their inherited difficult circumstances was also emphasised.

In many cases the implicit guarantee of innovation was a historically rooted team of teachers, considered by the school community as founders or pioneers of a saga of innovation, whose spirit has to be preserved. At the same time, the steady presence of such teachers in the informal power network –not necessarily in formal positions- seems to have contributed to promote the institutionalization of changes. Therefore, it can be suggested that while socio-economical difficulties may obstruct the road to improvement in many schools, some others have found, precisely in such difficulties, an appropriate tool to make changes possible and sustainable. Perhaps an important element that makes the difference is the organizational capability to install some legends and sagas in the school culture putting in value the efforts of change made by the institution and adopting the history of both the school fighting against difficulties and innovation as a part of its identity. Another key element present in some schools of the study was the pressure of certain environmental changes. As similarly reported by Ainscow and West (2006: 75) some of our informants mentioned that a dramatic fall of

the students' rate –that made the continuity of the school be in peril - was an important tool of changes.

LEADERSHIP

Undoubtedly, leadership plays a key role in school renewal processes (Hallinger and Heck, 1998; Harris and Muijs, 2003; Harris and cols, 2003) and the school leaders of this study played it as well. However, there is not such consensus on what kind of leadership helps to install and sustain changes better. In our inquiry, principals performed leadership using a great variety of sources of power. The use of power sources by leaders was examined, following Mintzberg (1983), under a frame that included: authority, bureaucracy, meritocracy, organizational culture and its implicit norms, as well as micropolitics and the social skills needed to play a wide range of politic games. None of these power sources could be identified in this study as clearly preferred by school leaders over the other sources. Similarly, on the basis of a research and a development project in schools that undergo special measures, Ainscow and West (2006) suggested that no leadership style worked better than others. They concluded that in these contexts school leaders have to be flexible adapting their style to changing circumstances. In other words, they have to be directive, facilitative, transformational and transactional at the same time. Maden and Hillman (1993) did not find either one particular leadership style in schools which were improving in disadvantaged circumstances, but they noticed that decision-making and collegiality was shared in many of them. We also came to this conclusion, which will be commented in a section below. So, as Harris and Chapman (2001) reported as well, leaders seem to adapt their style to particular circumstances and external pressures. In sum, although democratic practices as dialog, deliberative decision-making and collaboration, have been found as sustaining innovation, other sources of power were used both in alternative and complementary ways. In conclusion, the best leadership style seemed not to have a defined leadership style, but –like good actors have- a wide range of patterns that can be adapted to different and complex contexts.

On the other hand, instructional, the opposite to administrative leadership (Greenfield, 1987; Stoll, 1999; Southworth, 2002), was also recognised in the studied schools, which means that the principals focused on teaching and learning issues more than on other (administrative) aspects.

Otherwise, while evidences show that principals were decisive to promote sustainable changes, their leadership was less 'visionary' than literature suggests leadership should be, and much more *distributed* (Spillane, 2006). Inside the headship team, indeed, but among the staff in general, a strong collaboration, mutual confidence, and flexible and complementary distribution of roles and responsibilities were found. Leaders showed a clear vision (Louis and Miles, 1990) about where their organizations should head for, as well as, in some important extent, charisma and inspiration. However, it is nothing to do with heroic, *great-men*, authority-based leadership. As Muijs and cols (2004) reported in their literature review, we did not find such a profile either. We rather found principals who had become leaders of leaders due to their supporting to teacher's involvement, collaboration and leadership (see also Harris and Muijs, 2003). So schools seem to have learnt that many of their agents have to assume leadership at different levels to sustain changes. As Harris (2006) concluded from other research project: "Here leadership is shared, and realised, within extended groupings

and networks. Some of these groupings will be formal while others will be informal, and in some cases, randomly formed".

Another key issue of the capability of these schools to sustain changes over time was leader's succession. Throughout institutional history, leadership succession was generally performed guaranteeing the continuity of the school politics, as well as the culture core assumptions and the logics of power. That smooth succession was assured either by remaining the principal more than one period in the post or by integrating teachers who had occupied head positions in former teams in the new team[5]. Almost never –in the great majority of the schools- leadership succession implied dramatic changes of the school trajectory and even less, a vacuum of power.

But the way influence is deployed in organizations is not only a leadership issue. From our point of view, leadership has to be placed in the frame of the wider phenomenon of power. It is well known that where there is power, there is also resistance. However, an important trait of these innovative schools was the absence of any frontal or destroyer dissidence. This dissidence –both agents and coalitions- are repeatedly invited to get integrated in the social, informal network of the organization. Rarely could we observe relevant tensions among the staff whereas discrepancies could be exposed without any important distortion of both personal and professional relationship. With the only exception of one of the cases studied, these schools succeeded in keeping micropolitics reasonably apart from the patterns of relationship and the systems of influence of their communities. Instead of micropolitics, formal authority, professional merits / experience or bureaucracy, it was organizational culture the responsible of the predominant logic of power. It means that culture was found the most alleged reason to keep individual actions aligned. And it implies that power is shared by a great variety of internal and external agents in the studied schools.

THE PRACTICE OF INNOVATION

Although the majority of the school practices related to innovation were developed under formal projects, those projects seemed to be arranged to fulfil the expectations of educational authorities rather than to prescribe the means to perform innovation. Projects worked as a call for innovative ideas and practices to be developed, more than as a rigid structure to be accomplished. In sum, innovation appeared to be a more emergent, uncertain, trial-error, deliberative activity –rather than rationalistic, fully planned and controlled- which could be presumed reading innovative projects.

Related to this point, an important trait of the way innovation is performed in the studied schools is that teachers voluntarily attached themselves to those projects and have a great amount of autonomy to implement them. Once a project is put in practice it is expected that every teacher carries out some lines and recommendations to his o her teaching by him/herself, both individually and coming together with other teachers. Hence, they are generally involved in all the projects assumed by the school, or in the majority of them, taking into account that such implication does not require a formal, precise adscription.

[5] In both primary and secondary Spanish schools head teams include principal, vice-principals (only in the bigger ones), head of studies (something like a vice-principal in charge of academic / pedagogical issues) and secretary, being all of them members of the educational staff.

Therefore, schedules, spaces, activities and resources are not expected to be managed according to the plans presented to get funds from the educational authorities, but according to the criteria –and creativity- of the project manager, helped by the rest of the staff throughout a complex network of meetings and spaces of team-work. Precisely, the teachers who adopted the project manager role in these schools worked more as producers and providers of ideas and materials to their colleagues, than as *heads* of projects, properly said.

Planning, coordination, implementation and control of innovation activities take place in formal spaces like cycles teams in the primary schools -grouping of teachers working in the same range of grades, e.g. first to third grade is a cycle, fourth to six grade is another one- and departments in the secondary schools. Also a Board of Pedagogical Coordination –similar to an extended head team for academic issues- plays an important role in both primary and secondary schools in terms of coordination and control. But informal spaces are used to coordinate and implement changes as well. In fact, some of the informants came to utter the idea that an excessive formalization of the projects does not help its continuity at all. So direct communication among teachers is not only permitted but encouraged by school leaders in order to seek effective and creative paths to implement innovation projects. In this sense, a wide range of both teachers' and pupils' grouping could be registered by researchers (much more in primary than in secondary schools).

All these points reflect the presence of true *communities of practice* in these schools (Wenger, 1998; Strike, 2000; Furman, 2004; Stoll and cols, 2006). As Muijs and cols. (2004: 160) pointed out: "Learning schools are characterised by the presence of reflective dialogue, in which staff conduct conversations about students and teaching and learning, identifying related issues and problems" They are also "engaged in continuous improvement efforts and enquiring into both within-school conditions and out-of-school developments, rather than being merely reactive to inspection or government initiatives" (see also: Louis and Miles, 1990).

However, while organizational changes are stimulated by the practice of innovation described above, curriculum changes are hard to be implemented in a similar extent. The emphasis on teachers' autonomy lets a great variety of new teaching practices related to the innovation projects flourish. But at the same time, autonomy seemed to preserve the enough teacher privacy to block deeper innovation and, more specifically, innovation related to the methodological and didactics issues.

Therefore, changes do not reach curriculum innovation as far as they reach organizational practices like grouping, team-work of teachers and pupils and staff collaboration. While this finding might sound paradoxical, in fact it seemed quite comprehensible to the researchers. Another important key to understand it is that these schools make big efforts to improve students´ attitudes and behaviors, their social skills, the school-community relationship, the workplace climate, etc. So as much as the energies are focused on school and attitudes based changes, less attention is being paid to classroom and didactics based innovations. The result is that a great variety of innovative projects can coexist with traditional teaching methodologies. And this is perhaps the reason why many participants in the study have not identified their schools as *innovative* -when they were directly asked about it- but as *worker*, *committed* or *responsible* schools.

In consequence, it can be suggested that what Teachers' Centres had identified at the beginning of the inquiry was not necessarily *innovative* schools, in the technical, pedagogical meaning (in the way experts are willing to think innovative schools are) but in the sense of owning a dynamics oriented towards changes over time. All these schools showed effectively strong cultures, a recognizable personality from outward and a strong purpose of making things differently. They had the dynamics and the confidence to make changes. This dynamics was deeply installed and enough institutionalised to have sustained changes –modest but effective ones- throughout a long trajectory. And that is why they were identified as innovative by the agents who are directly in charge of promoting innovation in the schools of their district. Perhaps they considered having that rare dynamics more valuable and innovative than adopting the specific orientation that fits the experts' commonly assumed criteria about educational innovation.

SCHOOL CLIMATE

Another important trait of the studied cases was the widely extended perception of a satisfactory workplace climate by the staff. These schools seemed to commit the continuity of innovation to the workplace climate much more than a careful planning. In fact we could describe some meaningful decision making process in which the principal gave up promoting what he considered an innovative initiative to avoid a confrontation inside the Teachers' Council. Some other mechanisms helped educational community to preserve such a satisfactory atmosphere.

One of them is the blend of external/internal challenges and visible patterns of emotional support between teachers, which operate as a strong mechanism of staff selection. This is very important if we take into account that in the Spanish educational system the staff selection is not a schools principal competency, but a complex system of merit and personal interests based removals. These are not precisely workplaces that let their staff indifferent. The subtle but steady exigency of implication and efforts in diverse directions only fits a vocational, enthusiastic, engaged teacher's profile which is not suitable for everyone. In compensation for such exigency, organizational culture provides considerable both ideological and emotional support, guaranteeing a quick integration of those newcomers. The result is a strong feeling of motivation and affiliation of the staff. The great majority of teachers –also students and, in great extent, their families- are proud of belonging to these communities. Again, it can be seen that challenge environments help this kind of organizations to build strong social, informal structures to cope with the difficulties associated to them.

The perception of a satisfactory school climate is extended to students and families. It cannot be forgotten that these schools make considerable efforts caring of relationships, so they are usually horizontal and respectful. In this sense, the main complain expressed by the schools is the lack of participation, which is characteristic of this population with cultural and socioeconomic deficits.

The other remarkable mechanism that helps to preserve the school climate is a wide spam of socialization activities in order to guarantee a rapid and smooth integration of new teachers, which will be described in the next section.

ORGANIZATIONAL CULTURE

The schools that participated in the inquiry reported on this paper probed that organizational culture can become a powerful tool to sustain changes over time. When changes were introduced as a development of the school identity, they succeeded and achieved a wide support and commitment from the educational community. In this sense, Fuller and Clarke (1994) argued that much of the inquiry on how to improve schools has been misleading because it has failed to take into account the ways in which organizational cultures shape and influence processes of implementation. In the case of the analysed schools, they shared a distinguishable set of meanings and beliefs. It provides them enough confidence to promote original initiatives, taking risks, adapting norms to the new ideas, and a spirit of seeking and discovering. In consequence, they seemed to guarantee some "all right, go on" to any individual or collective new plan and afterwards some others joined it.

Allusions to collective ideas and beliefs are frequent coins in the school life. But surprisingly, it has nothing to do with keeping neither an ideological nor militant position in favour of some progressive education and against a traditional one. Teachers work together without any distinction between major educational assumptions. In this way, innovation does not become a *property* of any subgroup or coalition, and new projects do not come to put in evidence old practices but to develop them. Similarly, Denton (1998) outlined the importance of developing non-blame cultures to stimulate experimentation, commitment, risk-taking, as well as the creation-use-transfer of knowledge by teachers. The fact that projects and initiatives are developed avoiding to be labelled in ideological terms, apparently have helped them to integrate the new and the old. In this sense, we could describe a case in which the new principal team had to dismantle the confrontation of progressive against conservative teachers by changing the discourse supporting innovation completely - before involving the staff into the new projects.

The organizational cultures found in the studied schools possessed a set of widely shared assumptions and values, which does not mean that diversity is overwhelmed in them. Some of these core assumptions included:

- The relevance of a peaceful co-existence and a full education of the students was perhaps the most extended one.

- Emphasis on teachers' engagement, professionalism and responsibility.

- The idea that departments and cycle's teams were the most important units of change and the associate need to respect and support their autonomy and capacity of decision-making.

- The concern about being capable of 'keeping things working', meaning that new events do not break the ongoing dynamics. It was apparently achieved by: (a) caring and promoting the integration of newcomers; and (b) facilitating formal and informal weekly meetings in order to keep the staff collaboration about projects' development alive. We referred to the second point in the section about the practice of innovation. Related to the first point, we have found a constant concern about cultural socialization of new teachers. They are quickly provided with information, support and even responsibilities. In some schools it involves

some formally arranged planned actions, while in others it is carried out on a more informal way.

- The priority conceded by school leaders to keep a satisfactory school climate, which did not imply introducing radical changes but progressive ones, being preceded of wide consensus (see also: Ainscow and West, 2006: 80).

EXTERNAL RELATIONSHIPS AND RESOURCES POLICY

In all the studied cases, they had established strong ties between them and their communities. In particular, they had been making strong and steady efforts to involve parents in the school life, up to the point that many of them have implemented curriculum activities in which families were involved. In fact, school heads frequently mentioned that parental involvement was crucial to school improvement.

On the other hand, in the great majority of conflicts involving problematic students that were reported in the study, easy and simple solutions were avoided. Alternative measures trying to connect students, families and teachers were sought instead, with the help of support personnel as psychologist or social workers. Moreover, most of the studied schools had previewed any specific protocol, as well as joint committees where agents concerned in collaboration with supporting ones -again students and teachers- tried to manage the problem, avoiding any important disruption of the school life. Something as a *contract of improvement* among all the parts involved has been found as one of the starring measures. The associate message to such a measure is that the school trusts his members and expects them to improve by themselves.

Two of the schools participate in a national-based movement of *learning communities* founded over the importance of the participation of parents in school based activities. These schools have been getting advice and in-service education from the sponsors of the movement.

The schools of the study are usually well connected with other educational institutions as well: other schools, teachers' centres, inspectorate, educational and municipal authorities, etc. Meaningfully, all the studied schools have reported being well supported by the correspondent teachers' centre. Moreover, they are permanently trying to gather resources from outward, in form of funded projects, services (e.g. school catering, extra-school activities), technologies (e.g. computing hardware and services), support teachers, awards, etc. In fact, applying almost every call for projects from the educational authorities can be considered as an important part of their policy. Many of these schools have come to build their innovative trajectory by applying funded projects again and again, in order to obtain more resources to cope with challenging environments.

Finally, the innovative orientation of the studied schools surprisingly included resistance to some initiatives and changes proposed from the educational system. According to that, it can be suggested that these schools have developed an invisible system of protection from any adventure that could put in peril both the parsimony needed by changes constructed from inside and the social commitment about innovation gained with efforts and wisdom by his staff.

COMMENTARY AND CONCLUSIONS

The organizational knowledge embedded in the studied schools revealed the complex and paradoxical nature of educational innovation. The major findings of this study suggest that while no issue can be pointed out as *the* fundamental basis that sustained innovation over time, many of them were combined in different ways by each school to achieve such sustainability.

An important support of change processes was found in the narratives deployed about the disadvantaged context surrounding the school and the high value of teaching in these circumstances. Such narratives emphasizing the school's obligation of caring the legacy of the founders of the innovation saga and the importance of commitment with the social development of the community were widely recognised in the studied cases. So, organizational knowledge smartly transformed the difficulties into possibilities with the help of discourses that enhanced cohesiveness and created a strong sense of identity.

The leadership that supported the change dynamics of the studied schools was clearly distributed. Head teams shared their power with many other agents that assumed different responsibilities. Some informal leaders supported formal ones when needed, composing something like a second level of headship in the shades. In sum, leaders empowered teachers enough to promote high levels of autonomy and collaboration among them. Apart from this, no special leadership style could be established as dominant. The leaders of these schools rather used diverse power sources trying to adapt their patterns of influence to changing contexts.

Schools avoided identifying innovation processes with neither specific pedagogical nor political ideologies/theories. They rather looked for the arguments to innovate in the school trajectory and the exigency of helping their communities to develop. Doing so, they tried to seek as much consensus as possible, closing the door to a potential opposition that could have become stronger using ideological arguments as well.

The priority given to a satisfactory school climate seems to have decisively contributed to sustain changes in shifting circumstances, especially those referred to a high degree of teachers' turnover. This concern led to the studied schools to carry out a wide range of both formal and informal activities to integrate new members –especially staff members- in the school culture. In this non-blame climate, opponents to the dominant philosophy of the schools could generally dissent and remain integrated in the social network at the same time.

The nature of changes in the cases selected according to the suggestion of external agents were not characterised by radical innovations but by a widely extended network of modest innovations in which the majority of the staff participated. While changes were more abundant in the organizational level, curricular changes and especially new classroom methodologies were less documented.

Such dynamics of change was facilitated by organizational cultures that encouraged teachers to take risks and essay new ways of teaching. Shared assumptions emphasizing teacher's professionalism and commitment were found as support of such cultures. Schools were seen as a collective project. This vision, extended to students and

their families throughout a network of symbols, discourses and school and extra-curricular practices, has spread a feeling of affiliation all over the school community.

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