

School leadership dimensions that foster the development of learning ecosystems. The cases of the “Scuola Diffusa” (Reggio Emilia, Italy) and “interseccions” (Catalonia, Spain)

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Received 13 May 2024
Revised 10 October 2024
Accepted 29 November 2024

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Abstract

Purpose – This article is based on the hypothesis that distributed and ecological leadership by the school institution and agents involved contributes to the creation, further development and sustainability of learning ecosystems. With this premise in mind, the main research question was: What are the main dimensions for developing learning ecosystems from an ecological perspective focused on school leadership? Thus, the purpose of this article is to identify and analyze school leadership dimensions from an ecological perspective within the context of flourishing learning ecosystems. The specific aims are to test the significance of and empirically illustrate those dimensions and/or conditions considered to nurture learning ecosystems.

Design/methodology/approach – Drawing on notions of system, distributed and ecological leadership, the article presents a theoretical approach for examining ecological leadership. The framework is tested and illustrated in two case studies developed in Reggio Emilia (Italy) and El Prat de Llobregat, Catalonia (Spain), respectively. The data consist of semi-structured interviews and focus group interviews involving school principals, educators and program coordinators from the two municipalities.

Findings – Based on the literature review and empirical work carried out, three conditions are suggested and illustrated for creating, developing and sustaining learning ecosystems: (1) cultural conditions (shared purpose and view, ecosystem engagement, shared knowledge and organizational changes); (2) social conditions (social capital, trust and interdependence-collaborative culture) and (3) material conditions (time, infrastructure and sustainability).

Practical implications – The findings have practical implications for understanding the conditions needed for an ecological leadership that nurtures thriving learning ecosystems throughout the school and local communities.

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This paper is developed under the ERASMUS+, Cooperation partnerships in school education (KA220SCH), program entitled “Widespread School: Innovating Teaching Approaches Outside the Classroom” funded by the European Union (Reference of the project: KA220-SCH-E7BDB190). Moisés Esteban-Guitart acknowledges financial support from the 2021 ICREA-Academia Award by the Generalitat de Catalunya. Alfredo Jornet acknowledges financial support from the Agencia Estatal de Investigación (Spain) through a Ramón y Cajal award with reference number RYC2021-034096-I.



Originality/value – This article adopts an ecological perspective on school leadership that challenges more traditional perspectives emphasizing individual leadership (school leaders) and identifies three core dimensions that characterize school leadership in the context of socio-educational ecosystems connecting school and local community. This approach is illustrated through two cases carried out in Reggio Emilia, Italy, and Catalonia, Spain, respectively.

Keywords School leadership, System leadership, Ecological leadership

Paper type Conceptual paper

Introduction

In recent decades, educational scholarship has moved away from a narrow emphasis on learning as encapsulated within school practices towards a broader perspective that considers the wider community surrounding the school as an ecosystem for learning and development (Falk *et al.*, 2015). Within this context, “the idea of ecosystem refers to interconnections among educational actors which include internal interdependencies – between professionals and agents within the organization – and external interdependencies – among organizations in the community such as schools, extracurricular entities, social services, families, universities and companies” (Díaz-Gibson *et al.*, 2021, p. 456). A learning ecosystem can be defined as a group of social, educational and community agents (formal, non-formal and informal) that are intentionally organized to build mutual trust, connect diverse forms of expertise and cultivate educational co-responsibility by co-designing and co-implementing a particular educational project (Díaz-Gibson *et al.*, 2021; Jorret *et al.*, in press). An important challenge in understanding how learning ecosystems work concerns their governance and, in particular, the leadership strategies needed to nurture the learning ecosystem. Our specific focus in this article is the role played by school leadership in these broader socio-educational initiatives.

We take the notions of *system leadership* (Hopkins and Higham, 2007), *ecological leadership* (Toh *et al.*, 2014) and *distributed leadership* (Harris and Spillane, 2008) as our point of departure to stress the links within and across different learning settings and agents in socio-educational ecosystems and emphasize their potential for school-led social transformations. In this regard, Hopkins and Higham (2007) introduced the notion of a system of leadership as a form of leadership where school leaders take into account their role within wider systems and the successes of other educational agents (i.e. other schools): “System leaders are those headteachers who are willing to shoulder system-wide roles to support the improvement of other schools as well as their own” (p. 147). System leadership is an emerging practice that embraces different responsibilities and actions to contribute to system transformation. Taking the notion of system leadership and building upon an ecological approach to human development, Toh *et al.* (2014) characterized *ecological leadership* as comprising those kinds of school leadership practices that involve thinking collectively (assuming East-Asian collectivist beliefs), mitigating tensions within and across actors (i.e. collaboration versus competition and centralization versus decentralization) and managing interactions with multi-level actors to benefit other schools. In line with the above, a *distributed leadership* perspective recognizes the existence of different formal and informal leaders and focuses on interactions (Harris and Spillane, 2008) while also observing how different leaderships influence organizational structures (Spillane, 2006). Works such as those of Wenger *et al.* (2002) show how, as schools face complex challenges, new leadership logics are configured that can cross the traditional limits of each organization.

The notions of both system leadership and ecological leadership have focused on traditional leadership roles (i.e. the principal), where a leader becomes aware and concerned with the broader community, including other schools, and strives to impact the broader community by contextualizing and disseminating school innovations. Schools are envisioned as systems working together collaboratively around authentic tasks to mitigate tensions and paradoxes through ecologically aware leadership. Taking into account but also expanding on these contributions, our aim in this article is to further elaborate an ecological and distributed perspective on leadership that considers other social and communitarian agents beyond schools, making leadership more distributed and interconnected.

In this article, we conceive of leadership as a transactional phenomenon that emerges from an ongoing process of interaction and collaboration among different learning spaces and educational agents (whether in formal settings, such as schools, non-formal ones, such as art and cultural centers, or informal ones, such as families). This transactional view allows us to incorporate the systemic, distributed and ecological leadership perspectives while emphasizing the relationships across agents in the ecosystem rather than the more traditional view of leadership as residing within one individual or institution. In other words, we advocate for a socio-material and distributed view of leadership within the context of learning ecosystems, recognizing various factors (dimensions) that contribute inside and outside of the school setting.

A three-dimensional approach to ecological school leadership to foster the development of learning ecosystems

Following a review of the literature on the role of school leaders in creating learning ecosystems through school–community partnerships, as cited throughout this section, a three-dimensional approach is proposed to account for the emergence and development of ecological school leadership in learning ecosystems. It is the first time such an approach has been suggested in the literature (see [Table 1](#)). All these dimensions and/or conditions are considered to create and sustain a distributed and ecological school leadership that nurtures learning ecosystems.

By cultural conditions, we are referring to conditions for establishing shared worldviews or horizons (beliefs) and the emergence of shared social practices that characterize the learning ecosystem. In terms of leadership, this involves cultivating a shared vision and commitments towards common aims among participants ([Díaz-Gibson et al., 2021](#)), promoting shared decision-making, engagement and belonging ([Kutsyuruba and Walker, 2015](#)), facilitating co-creation of learning ([Toh et al., 2014](#)) and being the driver for organizational change ([Gairín et al., 2022](#)). To do this, there is a need to create a culture of dealing with dilemmas and

Table 1. Dimensions of leadership for nurturing learning ecosystems

Cultural conditions	Dimension 1: Shared purpose and vision	Shared goals and a common vision of desired outcomes for the partnerships
	Dimension 2: Learning ecosystem engagement/belonging	Sense of belonging to community and partnership
	Dimension 3: Learning shared and created	Recognizing mutual learning and co-creation as a result of being part of the learning ecosystem
	Dimension 4: Organizational changes	Reconsidering relationships of school and territory to expand educational boundaries
Social conditions	Dimension 5: Social capital	Networks of relationships to support students' learning
	Dimension 6: Trust	Establishing relationships based on hope, mutual faith, reliance and care, repairing crises and problems over the course of educational projects and partnerships
Material conditions	Dimension 7: Interdependence-collaboration	Coming together to address mutual problems among organizations to reduce redundancy
	Dimension 8: Infrastructure	Configurations of physical requirements to design, implement and sustain the learning ecosystem and educational projects
	Dimension 9: Time	Acknowledge the time that is required for collaborative work, co-design and school-community partnership development
	Dimension 10: Sustainability	Capacity of the development of the educational project and the learning ecosystem partnership through time by distributing autonomy

Source(s): Table created by authors

tensions, avoiding unnecessary conflicts, sharing meanings to avoid misunderstandings and community involvement (Epstein *et al.*, 2011). As for organizational change, the literature asserts that it is not only organizational commitment that is required to this end but also leadership practices for promoting it. That is, there is a need for practices that break down the barriers between partners in the learning ecosystem and integrate a full range of services that strengthen the network of support, dealing with bureaucracy, reducing redundancy and facilitating efficiency (Gairín *et al.*, 2022; Valli *et al.*, 2018).

By social conditions, we are referring to relevant interpersonal relationships for grounding interconnected and distributed leadership in the context of learning ecosystems. It is through such relationships that the participants are recognized and legitimized as educational-intellectual resources within the ecosystems. This involves enriching social capital through networks of partnership support (Díaz-Gibson *et al.*, 2021), establishing relationships based on mutual care, co-responsibility, and trust (Kutsyruba and Walker, 2015) and fostering interdependence among participants as collaborators (Gairín *et al.*, 2022). By social capital, we mean the notion and characteristics attributed by Putnam (1993), i.e. networks, norms and trust as factors that allow for greater effectiveness in achieving shared objectives. Along the same lines, those communities that are best connected are the ones considered to develop most successfully (Burt, 2001). Importantly, leadership is characterized as providing opportunities for participants to engage as co-designers of the educational project, supporting their agency (Penuel *et al.*, 2020). A critical component of social conditions is the transactional capacity of the leadership and partners to establish, maintain, sustain, break and restore trust in the learning ecosystem work and lifecycle over time (Kutsyruba and Walker, 2015).

Finally, by material conditions, we mean the practical spatial-temporal requirements that allow for the design, development and sustainability of the educational project within the learning ecosystem. Penuel (2019) suggested *infrastructuring* as a condition for supporting equitable educational transformations and sustainability, infrastructuring referring to “activities that aim to redesign components, relations, and routines of school and districts that influence what takes place in classrooms” (p. 659). Some challenges that inhibit the efforts of leadership to create and maintain learning ecosystems include a lack of time (DiMartino, 2018) and challenges related to the sustainability, diffusion and scalability of the educational project (Toh *et al.*, 2014).

Therefore, cultural conditions refer to symbolic conditions, social conditions encompass relational aspects between agents and material conditions refer to aspects related to resources and time. Furthermore, from a dynamic perspective, we observe that sustainability is a condition that requires time to be achieved.

Methods

Case study research design

In order to empirically illustrate the three-dimensional ecological approach proposed above and outline a potential approach to support the construction of learning ecosystems in other contexts, we have drawn on two case studies from two socio-educational ecosystems in two European countries: “Scuola Diffusa” (SD) in Reggio Emilia, Italy, and “Interseccions” in El Prat de Llobregat, Catalonia (Spain). To this end, we align ourselves with the conceptualization of local educational ecosystems posited by Longás *et al.* (2008), who view them as horizontal organizations – as opposed to having traditional hierarchical organizational charts – that integrate services, resources, agents and institutions with educational co-responsibility and for a common benefit. These structures are considered to promote the interaction of socio-educational actors to favor the exchange of information, coordination or even joint work, which is why attending to elements related to governance is essential (Díaz-Gibson *et al.*, 2013). Both cases present concrete examples of successful initiatives connecting schools and community agents, with a strong commitment on the part of local authorities and agents to implement distributed socio-educational networks with the

shared aim of enriching educational opportunities in their local contexts. And both are helpful in illustrating the type of relationships and distributed leadership that emerge among different actors and professional contexts in city-wide efforts to improve existing opportunities for knowledge and cultural participation for all stakeholders within a territory.

SD began in 2020–2021 as a response to the COVID-19 emergency, with the aim of improving educational opportunities for all during the crisis. During its first two years, the project comprised 82 class groups serving a total of 2,000 students. Since the 2022–2023 school year, the project has evolved into a permanent structured feature of the Reggio Emilia educational landscape, comprising 205 class groups with 5,100 students, 620 teachers and 3,100 h spent co-designing educational actions over the past two years.

Interseccions was established in 2016 as a municipal initiative aimed at holding up education and culture as two strategic axes to enable social transformation towards a more egalitarian and democratic city. In its public presentation, *Interseccions* was defined as a “public policy laboratory” [1] connecting the municipality, 31 educational centers, 12 cultural centers, 2 art schools, 6 family associations and a wider network of local social entities, media and communication actors, as well as other external collaborators. All in all, during the 2021–2022 academic year, the network offered 12,957 opportunities for local stakeholders to participate in projects framed within the *Interseccions* initiative.

In adopting a case study approach, we take as a point of departure the notion of case as a “study of a social unit within its natural setting” (Priya, 2020, p. 106). From this perspective, our aim is not to conduct exhaustive inductive research to generalize common features from a broad sample but rather to provide illustrations of concrete *critical cases* (Flyvbjerg, 2006) that serve as exemplary test beds for research hypotheses and where widespread distributed leadership networks involving schools have emerged and been sustained over time. We consider SD and *Interseccions* to be such critical cases because, in addition to meeting the criterion of comprising extended socio-educational ecosystems, they also represent forerunning examples of what is possible in such approaches, including emerging forms of distributed leadership. In this regard, although the significance of the findings is based on the context- and case-specific nature of the data, it should apply not only to the specific contexts analyzed here but also to distributed leadership efforts in more general education settings. Additionally, in using cases from two different countries, our aim is *not* to conduct an international comparative study but rather to examine two exemplary critical cases in the (southern) European context. Limitations of this approach are briefly discussed in the concluding section.

Data collection and analysis

Documentation of the cases was carried on as part of a broader Erasmus + collaboration connecting municipalities, schools and university scholars involved in the widespread implementation of new educational approaches such as the two presented here. To document the two cases presented in this article, the researchers carried out focus groups (FGs) and interviews (see Table A1 of appendix). For the Italy data, we focused on two educational institutions (referred to as School 1 and School 2). The researchers conducted two interviews with school principals and one with a municipal project manager from the *Officina Educativa* (or *Officina Educativa* [OE], explained in the findings section). Two FGs were carried out with staff from the same institutions. The first FG involved three secondary and two primary school teachers and two cultural educators from the SD program (henceforth simply “educators”), while the second had four primary and four secondary school teachers. The interviews lasted an average of 90 min each, and the FGs an average of two hours. Data on the *Interseccions* program include a FG that was carried out at the special needs school and included the school’s director, who also participates in the project as a teacher, and three additional teachers involved in the project with diverse levels of experience at the school (from novice to near retirement). One additional interview was carried out online with the *Interseccions* program coordinator,

who provided historical and contextual insights on the program, as well as a broader perspective on the city-wide network.

All interviews were transcribed and then analyzed using two different approaches. First, a thematic analysis approach (Braun and Clarke, 2006), which followed a theory-driven perspective aimed at identifying aspects of the three dimensions in the approach presented in this article (for further information see Table A2 of appendix). Second, a *narrative approach* (Bruner, 2004; Ethertington, 2019) drawing on the informants' accounts regarding the emergence and development of their distributed leadership experiences. This allowed us to reconstruct two *case narratives*, presented below. These narratives trace the emergence and development of challenges and opportunities as they relate to social, material and cultural conditions in the respective socio-educational contexts from the perspective of the school actors involved. Accordingly, the following sections present the findings in the form of two case study narratives summarizing the agents' perspectives and experiences of distributed and connected leadership in the two specific Italian and Spanish contexts.

Findings

This section presents the insights gained from our analyses in narrative form, structuring the presentation in terms of the three conditions included in the theoretical framework. Although each condition is highlighted at different times in the narrative, it is important to note that the three conditions are not independent and are, in most cases, difficult to disentangle from one another. Cultural conditions are material and social, as much as social conditions are material and cultural. Yet, each of these aspects can still be highlighted separately and plays a major role at different stages in the development of the socio-educational ecosystems examined here.

The whys of SD in Reggio Emilia

Reggio Emilia has a long-lasting tradition of community involvement in education. According to Italian legislation, municipalities must provide school services, such as buildings, utilities and transportation, in order to grant every child the right to study in primary and lower secondary school. Given the town's history, this duty has been interpreted in a much broader sense, with an investment that vastly exceeded obligations according to the local government and school principals. In 2010, the municipality created a specific department in order to better coordinate services for schools: the *OE*. In 2017, the municipality and the 12 comprehensive educational institutions co-designed and rectified an agreement for education. As schools reopened after the lockdown, with a requirement for social distancing, this agreement became the basis for a collective reflection. In order to reduce the number of students in each school building every day, classrooms were moved to rooms and buildings throughout the city that had never previously been used for the purposes of schooling. Museums, parishes, former banks, exhibition halls and farms all donated rooms and space so that classes of students could "go to school there" for a week or even a whole year. This constraint was turned into an educational opportunity and planted the seed for SD.

Cultural conditions

In the words of the principal of School 2, the main objective of SD is: "*Providing alternative learning spaces and environments outside of the school complex that are integrated into the urban territory and its productive fabric*" spaces that promote cross-disciplinary collaboration and knowledge. This is a vision shared by all of the interviewees, who also share a similar idea that the aim of school leadership should be student learning. They interpret their role as being pivotal in achieving this; for instance, one School 2 teacher said, "*I believe the school is trying, [. . .] also through SD, to create more aggregation and lead the pupils to feel like agents inside something*". They consider themselves to be the orchestrator, the force providing coherence and activating other agents, as one "School 1" teacher claimed, "*We as teachers adapt the*

proposed approach to our class [. . .] during the co-design we find the right path to take". In line with this, the OE project manager acknowledged that schools provide the learning tempo – *"all these processes have to be moderated at a speed that schools know better than we do"*. Teachers know when it is time to accelerate the pace and when students need to slow down and reflect.

The SD educators at the school determine the learning objectives, and the other educational agents provide spaces, tools, and expertise to support school needs. According to the principal of School 2, *"The educators provide a variety of suggestions on teaching methods, in a variety of ways, so as to address the wide range of approaches to learning that pupils have"*. Schools recognize that they learn through the hands-on, research-based, divergent approach of the educators and appreciate that it is possible to move beyond the cage that evaluation and traditional teaching methodologies place on teachers' actions. The principal of School 1 summed up this concept by saying, *"We are attaining great peace of mind, the possibility to free ourselves [. . .] because we have seen what these experiences can offer in terms of students learning"*.

Thanks to this ecological context, all actors highlighted the opportunity to change worldviews and relational dynamics as an advantage, not only among adults but also among peers, for the recognition and acceptance of differences. The teachers emphasized the material condition that facilitates this, as they have a permanent space where they can negotiate certain aspects with the OE, such as recognition for the meaning and significance of the SD. Those participants who exercise a coordinating role, the principals and project manager, highlighted the processual dimension of shared decision-making (an aspect in the making) and the effort needed to co-construct it. *"Democracy is laborious, but indispensable,"* according to the project manager. Furthermore, the teachers also emphasized their role as mediators between the environment, the experience and the students.

Since this is primarily an educational experience, one of the key factors in relation to sustainability is improving students' skills. The next steps in this regard will be to measure these advances through structured observation, formalized student self-assessment and tests.

Social conditions

The learning ecosystem within which SD is situated is conceived as a space for dialog among the different actors. According to the principal of School 1, *"It allows for a relationship between internal and external agents instrumental to learning, to skills development to consolidating a strong local identity"*. As orchestrators of learning, schools feel they play a special role in this educational ecosystem.

The project manager defined the role of the OE as *"not just organizational and financial, but it is also a pedagogical partner for the school"*. According to him, the key lies in promoting *"a school, rooted in the territory, that can provide better answers to the current educational challenges"*; thus, the focus is on teachers and community. SD represents an opportunity to foster instructional design innovation, increase democracy in education and promote cultural and productive agents in the town. In addition, a shared language is promoted: *"Our educational service"*, says one of the School 1 educators, *"speaks the same language as the places we live in during SD; there is an intertwining of different languages and disciplines"*. All actors acknowledged that activities being co-designed and co-evaluated by teachers, OE educators and local hosts was pivotal to achieving coherence. As one School 1 teacher put it: *"Without this aspect, there is no SD"*. It is for this reason that the School 2 teachers expressed the need *"to have a strong connection between the SD site and the discipline we teach (. . .); otherwise, there is a risk that the proposal would work for certain teachers and not others"*.

The co-design of educational actions is a dimension that all agents perceive as being central and strategic to their profession. It is described as the "strength" of SD, and proposals for improvement refer to the need to increase opportunities in this direction, especially in the stage prior to carrying out educational activities, thereby ensuring coherence with the school

curriculum and continuity between activities. Also, all actors acknowledge the process of joint evaluation as a strength: the teachers talked about the value of “cold” evaluation carried out not immediately after the experiences but a few months later.

Trust is recognized as an essential element at the micro level of relationships and the macro level of the SD system. All actors affirmed their trust in other subjects, albeit with different perspectives and interpretations. Some mentioned possible aspects of disappointment or inconsistency. It is the leadership role exercised by the OE that keeps schools on track with respect to coherence through evaluation and monitoring. Schools define the issue of trust as an undisputable aspect of the system, the main characteristic of which is sharing – the achievement of common goals is acknowledged to be a central, though not unique, element – while they also point out that differences in people and contexts mean that trust cannot be taken for granted. It is the continuous working out of relationships between people that makes the difference rather than the mere affirmation of common principles and goals. The School 1 teachers said that “*Sometimes there was no trust between the parties, precisely because the relationship had not been created*”.

Regarding the nature of relationships among educational agents, the schools made it clear that it is not a matter of generating new relationships with new actors but rather of improving the quality of existing relationships within the territory, which are recognized as collaborative and fruitful. Furthermore, the time element was also highlighted as being crucial to building trust, since it is considered that prolonged relationships that last longer than a week, for example, will contribute to establishing relationships of trust based on mutual knowledge.

Finally, all the actors involved feel the need to continue deepening the connections, and it is this sharing that fosters the sustainability of the project. The school actors expressed the need to involve more teachers and classrooms in the project in this regard. The aim here would be to give meaning to what is already known and deepen connections so that other agents, including external service providers, become active agents or members of the system. In line with this, for the OE, sustainability depends on facilitating the emergence of new leadership layers and agents that help expand and improve the connections between the school and the ecosystem.

Material conditions

After the pandemic emergency, the program underwent different organizational and structural changes. The current format of SD involves primary and lower secondary classes spending one week per year doing school activities outside of the school building. Each participating class stays in the same location from 9 a.m. to 12 a.m. every day for a week. Wherever the group goes, whether it is to the farm, the theater or the museum, they have a space that becomes their classroom for a week, while they will also explore, together with their classmates and educators, the cultural institution hosting them. All costs related to transportation, educators and locations are covered by the OE. The municipality is also in charge of all organizational aspects, including coordination between educators, teachers and local hosts. Specifically, Education Outside the Classroom activities are carried out at eight main locations (a theater, museum, three farms, the Malaguzzi International Center, Art Exhibition Palazzo Magnani and different spaces in the Pieve neighborhood) in cooperation with a total of 16 partners. Weeks with activities in the SD program can be held throughout the year. In addition, the groups of participating students remain in their own reference classroom before and after the experience.

As for the time allocated to SD, the perception is not unanimous, since some School 2 teachers feel it is not enough – “*A week is too short*” – while others do not feel the need to have longer outside of the classroom but do consider it key that the SD week is connected to school projects of longer duration.

The Interseccions program: expanding ecological leadership towards inclusion

The Interseccions program emerged in 2016 as a response to a municipal internal diagnosis revealing that years of substantial investment in cultural services and infrastructures had not translated into a clear impact on the city's population at large. The citizens' educational outcomes and their participation in cultural and artistic events (other than participation in traditional festivities) had not changed accordingly. The transformative potentials of culture and education were thus seen as yet to be realized.

However, years of investment had contributed to generating cultural, social and material conditions with great potential, and the Interseccions program aimed to take advantage of that. Several spaces had been created, including a well-regarded theater that is seen as a "reference in Catalonia" – according to the Interseccions Technical Office – and a public cultural space that hosts a public library, an auditorium, study rooms, exhibition rooms and a restaurant. The aforementioned investment had resulted in the generation of these material spaces, but also at the same time it led to the development of what the program coordinator refers to as a "social cultural fabric," a fabric connecting relatively small but relevant specialized local actors, which in turn had further connections in the cultural and artistic domains outside the municipality. These initial cultural, social and material conditions, and the sense that there is an unrealized potential for educational and cultural impact, are the basis upon which Interseccions was conceived.

Cultural conditions

The first steps in the program involved establishing alliances between educational and cultural actors in the city. All public schools in the municipality were contacted and asked to collaborate with actors outside of the school. However, it is worth noting that the special needs school that is the focus of this study was not initially contacted. The school was not yet seen as one of the city's transformative cultural and educational assets, "perhaps due to ignorance," as the school's director put it. This changed, however, as the school took the initiative of requesting its inclusion in the program. The municipality immediately agreed, and an alliance was established between the special needs school, a local contemporary art gallery, a visual arts school and a dance school.

From the perspective of the special needs school, the alliance with these particular actors not only responded to Interseccions' interest in capitalizing on "education and culture as strategic axes of the municipality and engines of social transformation" (as stated on the program's website [2]). It was also conceived as a natural continuation of the school's approach to education, which is firmly anchored in the arts, particularly the visual arts and dance, as a means to engage students with varying degrees and types of disabilities. As will become clear throughout the school's narrative, this constitutes a relevant initial cultural condition that greatly impacted the trajectory and development of the collaboration.

Social conditions

The particular social conditions the school presents posed an initial challenge for the alliance, with students spanning ages from 6 to 21 years old and having varying degrees of functional and cognitive disability. Initially, the actors from the cultural and artistic centers involved did not have the competencies to educationally interact with and engage these students in their activities. Organizing joint activities and/or projects therefore required that a competency be generated within the collaborating network so that all participants knew how to interact and engage with special needs students. Motivated by this need, the collaboration changed from initial formative sessions organized centrally by Interseccions and aimed at promoting collaboration within the alliance to formative sessions led and organized by the educators from the special needs school, who shared their knowledge on inclusive pedagogical strategies and communicative practices with the members of the other institutions. These formative sessions led to the development of extended expertise among educators and practitioners from the

participating institutions, who gradually gained competency in this regard, both to approach special needs education and engage in the corresponding educational activities and to receive students with special educational needs in their centers.

Material conditions

The latter is of particular relevance because the collaboration resulted in the generation of resources not only at the special needs school (embodied in the interventions of external actors through coordinated projects in the context of the collaboration) but also at the art and cultural centers, as a list of recommendations for inclusive communication was developed that the centers could use in their own installations. Here, we see how initial material conditions that allowed for the collaboration to take off also transformed with and contributed to transforming the collaboration. The special needs education teachers and school director referred to this broadening of competencies and material resources as being *expansive*: “It is expansive, as the members from the other centers told us. Because it expands from some to the others. All this baggage and this learning that we are doing bring us a lot. It generates more culture and more inclusive culture.”

The feeling among these practitioners is not only that they have improved their own domain-specific practices, extending the ways in which the arts can become an educational resource as well as an inclusive force, but they also sense having transformed the way the whole city approaches inclusion – at least when it comes to educational and cultural centers. “We’ve had a huge, huge impact. We could never have imagined how much this collaboration has resulted in real social inclusion”, states the school director.

Just as the school members expressed their awareness of the expansive potential and significance of the alliance for social inclusion and education, they also expressed consideration and concern with respect to the material continuity and scalability of the project, something they also connected to an expanded sense of distributed leadership within the school. This became visible during the group interview, where the most junior teacher described having felt very engaged since she joined the school the previous year because she “had never seen a project with so many possibilities before.” Describing herself as a very “motivated” person, she added that the project had “stimulated [her] to seek out activities and things with which to connect and do things with [others]” and remarked that she had been introduced to an inclusive environment where decisions are made jointly. The director then noted that this new teacher was hired because the most experienced person in the team (also present in the group interview) was about to retire [. . .] “and we needed someone to continue leading” the school’s work based on the arts as fundamental to inclusive education. The ensuing discussion made it clear that the team’s perception of the scalability and sustainability of the project was the most immediate and pressing need for the school.

The teachers acknowledged how “enriching” the project has been for everyone, before one of them also identified a challenge: “What perhaps comes as the next step is to make this extensible to the rest of the teachers at the school.” Reflecting on this issue, the team formulated the problem as one of “expanding” and “spreading the motivation.” One teacher described the importance of witnessing and experiencing the positive impact of the project and/or collaboration in the classroom and on the students: “If you don’t see and experience the process, you don’t understand it.” Asked about what he would want to happen next in the collaboration, the director pushed forward the ideas of the project’s sustainability and scalability within the school: “My dream with respect to Interseccions is that it will expand within our own center.”

Discussion

In this article, we present a three-dimensional (cultural, social and material) model of ecological leadership that emphasizes its distributed and interconnected nature, which we

apply to examine school leadership in the context of socio-educational ecosystems. These ecosystems transgress the boundaries of traditional schooling by including diverse actors who share a purpose, horizon and commitments through collaborative work. In this sense, our approach broadens traditional perspectives on leadership, which tend to conceive learning and/or education as encapsulated within school boundaries, focusing on individual school agents (i.e. principals), to understand the school as a living system interacting with its local communities. These types of partnerships between schools and community actors have become increasingly relevant for policymakers, educators and community leaders (Díez *et al.*, 2011). Evidence of this can be found in the design and development of the two public policies analyzed. In light of the results, both experiences provide an interesting framework for analysis for policymakers, as they generate valuable lessons for the promotion of public policies designed on a cross-disciplinary basis across different areas of work. They also reveal that time is needed for development to generate visible results. For this reason, it is important to appeal to political commitment to maintain the structures and resources that make them possible. In addition, the set of dimensions can serve as a reference checklist for policymakers.

Both cases also provide a favorable context for the development of an ecological leadership capable of contributing to learning ecosystems (Driscoll and Goldring, 2005). Through the case descriptions, we provide narrative accounts that allow us to explore the significance of the three-dimensional approach elaborated here, which has been articulated based on a review of the corresponding literature. Below, we discuss the results analyzed according to the three dimensions that make up the approach and discuss their potential and implications.

Cultural conditions: a broader perspective on educational needs

The experiences analyzed here are based on well-defined objectives connected to school learning. Each of the programs emerged in response to a distinct issue, namely the underutilization of cultural resources (Intersecciones) and the generation of more educational opportunities during the COVID-19 pandemic (SD). The responses to both challenges resulted in and shaped two equity-based local learning ecosystems (Hannon *et al.*, 2019) in the form of interconnected networks of horizontal relationships for the exchange of visions and knowledge, as well as for the mutual recognition of capacities (Díaz-Gibson and Cívís, 2011). While school learning is at the heart of the objectives of both experiences, the existence of an ecological vision of the context results in schools recognizing the relevance not only of the students' academic learning but also learning at the personal, social and civic levels. This allows for a vision of learning coherent with current perspectives that emphasize the participation of different agents beyond the school context (Gonzales *et al.*, 2013) and where the cultivation of shared visions and commitments among participating agents are seen as crucial to leadership (Díaz-Gibson *et al.*, 2021).

Another element that contributes to the existence of ecological leadership is the conviction that schools play a central role in the ecosystem (Kutsyuruba and Walker, 2015). Although the schools' agents themselves do not use the term "educational ecosystem," they do, for example, point to the impact of their contributions to the whole ecosystem beyond the school, such as contributing to making it more inclusive, for example. The cases reported here thus support the view that ecological leadership entails a collective belief in the creation of new opportunities and successes directed not only towards the leading institutions but also other organizations and actors (Toh *et al.*, 2014). It is therefore feasible to consider the existence of a dialog between the positive effect of belonging and being linked to the ecosystem and the willingness to enrich the educational work of others. In line with that posited by Bain (2007), schools thus transcend their individuality, formalizing partnerships to enhance their development.

The formalization of partnerships is indeed a key factor in generating processes of recognition (Bryk and Schneider, 2002). By way of example, through the provision of collaborative time and space, it can be observed how a special education school becomes recognized as an active transformer of the ecosystem. From an ecological perspective, this is

relevant as it emphasizes the dynamic nature of educational ecosystems, and leadership is contextualized within the framework of networks that are interdependent on their own social system of relationships (Kutsyuruba and Walker, 2015). This approach is aligned with the systemic functions of leadership (Hopkins and Higham, 2007), as the schools in the cases analyzed exhibit awareness of their interactions and impacts. In both cases, shared decision-making and ongoing collaborative work nurture a favorable context for dialog between actors. Scenarios are thus configured in ways that allow educational and cultural agents to share different languages, placing value on interdisciplinary perspectives that overcome obstacles to the achievement of common goals (Bremm and Drucks, 2018).

Social conditions: relationships that nurture the ecosystem

Firstly, and in line with the literature (Gronn, 2011; Kutsyuruba and Walker, 2015), trust is conceived as a key factor for legitimization and recognition among agents in the ecosystem. Schools identify several assets in this regard: trust enriches and sustains interpersonal relationships, contributes to recognizing the educational value of the actions of other agents and facilitates better management of different visions. Trust is undoubtedly a key element in understanding ecosystem governance and strengthening the ecological dimension of leadership and its contribution to greater efficiency (Gairín et al., 2022; Valli et al., 2018) while also capitalizing on existing resources (Croninger and Malen, 2002). In the cases analyzed, trust acquires the function of “collective morale” pointed out by Hargreaves (2012), as it brings together agents based on shared codes and a sense of belonging to a common pursuit. It also fosters achievement of the program objectives, since interpersonal relationships underpin the connections between resources distributed throughout the ecosystem. In this regard, it is worth noting the following from an ecological perspective: logics of interdependence are developed between social and cultural conditions and trusting relationships strengthen visions and beliefs regarding the local ecosystem.

Furthermore, in certain cases, the generation of new relationships or social capital is not considered to be the priority but rather the improvement of existing ones, thus enriching social capital and collaborative support networks (Díaz-Gibson et al., 2021). From an ecological perspective of leadership, we observe that trust emerges in the processes of learning while experimenting and is partly dependent upon the capacity of leadership to transfer and cultivate this over time (Kutsyuruba and Walker, 2015). Moreover, its dynamic nature shows bidirectionality. On the one hand, schools develop and generate trust in the ecosystem as they participate in and experience it. This is illustrated in the analyzed schools strengthening their own leadership by taking on mediating roles between the environment, the experience and the students, for example. On the other hand, the programs’ technical offices express confidence in the criteria of the schools to define and lead something as relevant as the timing of the processes, for example.

Secondly, school leadership contributes to the existence of collaborative work logics. In line with Penuel et al. (2020), we characterize leadership here in terms of its capacity to generate opportunities to involve other agents and promote their agency. Consequently, the experiences analyzed illustrate practices that democratize decision-making (FitzGerald and Quiñones, 2018) and foster a community vision of schools (Valli et al., 2018) based on consensus-building, shared visions and interdependence (Oppenheim, 1999).

Material conditions: sustainability of the present and future

We would first highlight the existence of an infrastructure, understood as the conditions necessary to drive the transformations being pursued (Penuel, 2019). In the cases analyzed, for example, these are illustrated in the existence of well-established cultural and educational spaces and spaces for collaborative work, which are material conditions that generate other social conditions and opportunities for co-design. In line with DiMartino (2018), we observe how school leaders take advantage of these structures to maintain existing relationships and

build new social capital. At the same time, they strengthen the material conditions as they negotiate meanings and membership in a shared project. Together, these conditions facilitate the development of ecological leadership, where school leaders act as nodes between the agents and emerging educational opportunities. By carrying out formative sessions led by the teachers themselves (e.g. on inclusion), ecosystems develop their potential to become more organic, interconnected and collaborative (Diaz-Gibson *et al.*, 2021).

Secondly, we would point to time as a key condition in the development of ecological leadership. Focusing on educational agents, we observe that they have enough time for shared decision-making, for example, and also for the creation of trust. This overcomes the risks identified by DiMartino (2018) with regard to running a school when time is scarce. In addition, focusing on the students, we observe that they have enough time to consolidate their learning, as the teachers and educators design prolonged activities that connect the geography of cultural facilities and that of the classroom.

Finally, we would note that the schools in the cases analyzed display an awareness of and acknowledge the importance of considering the sustainability of the programs a challenge (Toh *et al.*, 2014). Attention and concern are expressed regarding continuity and scalability, as the partnerships guarantee student learning in school. Furthermore, as an expansion strategy for the two programs, it is proposed that evidence be collected showing the academic impact on students, thus aligning with the notion of collective impact for mutual accountability proposed by Kania and Kramer (2011).

The elements discussed in this section have certain implications for professional practice, given that ecological and distributed leadership is presented as an analytical framework conducive to understanding the logic of relationships and leadership. Undoubtedly, fostering or enriching spaces for exchange and reflection based on professional practice itself would contribute to this. We also invite the teachers involved to explain to other teachers, in their own language, their experience of participation and the learning they observe among their students.

Concluding remarks

In this article, we present a theoretical approach emphasizing the importance of three core dimensions – material, social and cultural conditions – for understanding school leadership in the emerging context of socio-educational ecosystems that transcend traditional school boundaries. Built upon the pre-existing literature, the approach is illustrated through two cases (Flyvberg, 2006), which are critical in the sense of them being concrete examples of successful social innovations aimed at transforming educational opportunities beyond the school.

As limitations of this study, it should be noted that voices of agents from other schools or cultural institutions have not been included, nor have the experiences and voices of the participating students. All of these would be useful for a more in-depth vision of the effects of school leadership from an ecological perspective. As future research work, it would be interesting to measure the impact of this type of experience, from an ecological school leadership perspective, in the field of school learning.

As this article has shown, in the contexts analyzed, the role of school leadership acquires a new dimension, challenging dominating views of leadership as anchored in/within individual actors and organizations. Through our discussion, we have demonstrated how the approach presented here considers aspects crucial for generating transformative and expansive opportunities that should be of interest to formal education as it advances with its aim to be relevant in addressing local and global societal challenges.

Notes

1. <https://www.elprat.cat/interseccions/>
2. <https://www.elprat.cat/interseccions/que-es-interseccions> (accessed 20 February 2024)

References

- Bain, A. (2007), *The Self-Organizing School: Next Generation Comprehensive School Reforms*, Rowman and Littlefield Education, Lanham, MD.
- Braun, V. and Clarke, V. (2006), "Using thematic analysis in psychology", *Qualitative Research in Psychology*, Vol. 3 No. 2, pp. 77-101, doi: [10.1191/1478088706qp063oa](https://doi.org/10.1191/1478088706qp063oa).
- Bremm, N. and Drucks, S. (2018), "Building up school to school networks using an evidence-based approach", *European Conference on Educational Research Annual Meeting*, Bolzano, 4 to 7 September.
- Bruner, J. (2004), "Life as narrative", *Social Research: An international quarterly*, Vol. 71 No. 3, pp. 691-710, doi: [10.1353/sor.2004.0045](https://doi.org/10.1353/sor.2004.0045).
- Bryk, A. and Schneider, B. (2002), *Trust in Schools: A Core Resource for Improvement*, Russel Sage Foundation, New York.
- Burt, R. (2001), *New Directions in Economic Sociology*, Russell Sage Foundation, New York.
- Croninger, R.G. and Malen, B. (2002), "The role of school governance in the creation of school community", in Leithwood, K. and Hallinger, P. (Eds), *Second International Handbook of Educational Leadership and Administration*, Kluwer, Dordrecht, pp. 281-320.
- Díaz-Gibson, J. and Civís, M. (2011), "Redes socioeducativas promotores de capital social en la comunidad: un marco teórico de referencia", *Cultura y Educación*, Vol. 23 No. 3, pp. 415-429, doi: [10.1174/113564011797330270](https://doi.org/10.1174/113564011797330270).
- Díaz-Gibson, J., Civís, M. and Longás, J. (2013), "La gobernanza de redes socioeducativas: claves para una gestión exitosa", *Teoría educativa*, Vol. 25 No. 2, pp. 213-230.
- Díaz-Gibson, J., Daly, A., Miller-Balslev, G. and Civís, M. (2021), "The School Weavers tool: supporting school leaders to weave learning ecosystems", *School Leadership and Management*, Vol. 4 Nos 4-5, pp. 429-446, doi: [10.1080/13632434.2020.1770210](https://doi.org/10.1080/13632434.2020.1770210).
- Díez, J., Gatt, S. and Racionero, S. (2011), "Placing immigrant and minority family and community members at the School's Centre: the role of community participation", *European Journal of Education*, Vol. 46 No. 2, pp. 184-196, doi: [10.1111/j.1465-3435.2011.01474.x](https://doi.org/10.1111/j.1465-3435.2011.01474.x).
- DiMartino, L. (2018), "The role of school leaders in creating a learning ecosystem through school-community partnerships", *Educational Studies Dissertations*, Vol. 141, pp. 1-178, available at: https://digitalcommons.lesley.edu/education_dissertations/141 (accessed 20 March 2024).
- Driscoll, M. and Goldring, E. (2005), "How can school leaders incorporate communities as contexts for student learning?", in Firestone, W. and Riehl, C. (Eds), *A New Agenda for Research in Educational Leadership*, New York, pp. 69-80.
- Epstein, J.L., Galindo, C.L. and Sheldon, S.B. (2011), "Levels of leadership: effects of district and school leaders on the quality of school programs of family and community involvement", *Educational Administration Quarterly*, Vol. 47 No. 3, pp. 462-495, doi: [10.1177/0013161X10396929](https://doi.org/10.1177/0013161X10396929).
- Etherington, C., Wu, M., Cheng-Boivin, O., Larrigan, S. and Boet, S. (2019), "Interprofessional communication in the operating room: a narrative review to advance research and practice", *Canadian Journal of Anaesthesia*, Vol. 10, pp. 1251-1260, doi: [10.1007/s12630-019-01413-9](https://doi.org/10.1007/s12630-019-01413-9).
- Falk, J.H., Dierking, L.D., Osborne, J., Wenger, M., Dawson, E. and Wong, B. (2015), "Analyzing science education in the United Kingdom: taking a system-wide approach", *Science Education*, Vol. 99 No. 1, pp. 145-173, doi: [10.1002/sce.21140](https://doi.org/10.1002/sce.21140).
- FitzGerald, A.M. and Quñones, S. (2018), "The community school coordinator: leader and professional capital builder", *Journal of Professional Capital and Community*, Vol. 4 No. 4, pp. 272-286, doi: [10.1108/JPCCC-02-2018-0008](https://doi.org/10.1108/JPCCC-02-2018-0008).
- Flyvbjerg, B. (2006), "Five misunderstandings about case-study research", *Qualitative Inquiry*, Vol. 12 No. 2, pp. 219-245, doi: [10.1177/1077800405284363](https://doi.org/10.1177/1077800405284363).
- Gairín-Sallán, J., Iglesias-Vidal, E. and Díaz-Vicario, A. (2022), "Interprofessional work in the network for social intervention. Possibilities and limitations", *Culture and Education*, Vol. 34 No. 3, pp. 528-553, doi: [10.1080/11356405.2022.2058791](https://doi.org/10.1080/11356405.2022.2058791).

- Gonzales, L., Gunderson, J. and Wold, M. (2013), "Linking common core and expanded learning", *Leadership*, Vol. 42 No. 3, pp. 18-22.
- Gronn, P. (2011), "Risk, trust and leadership", in Sugrue, C. and Solbrekke, T.D. (Eds), *Professional Responsibility: New Horizons of Praxis*, Routledge, London, pp. 89-101.
- Hannon, V., Thomas, L., Ward, S. and Beresford, T. (2019), "Local learning ecosystems: emerging models", *Innovation Unit*.
- Hargreaves, D.H. (2012), *A Self-Improving School System: Towards Maturity*, National College for School Leadership, Nottingham.
- Harris, A. and Spillane, J. (2008), "Distributed leadership through the looking glass", *Management in Education*, Vol. 22 No. 1, pp. 31-34, doi: [10.1177/0892020607085623](https://doi.org/10.1177/0892020607085623).
- Hopkins, D. and Higham, R. (2007), "System leadership: mapping the landscape", *School Leadership and Management*, Vol. 27 No. 2, pp. 147-166, doi: [10.1080/13632430701237289](https://doi.org/10.1080/13632430701237289).
- Jornet, A., Penuel, W., Esteban-Guitart, M. and Akkerman, S. (in press), "Socio-educational ecologies for learning, social change, and future thinking. Expanding educational psychology's boundaries", *Acta Psychologica*.
- Kania, J. and Kramer, K. (2011), "Collective impact", *Stanford Social Innovation Review*, Vol. 9 No. 1, pp. 36-41.
- Kutsyuruba, B. and Walker, K. (2015), "The lifecycle of trust in educational leadership: an ecological perspective", *International Journal of Leadership in Education*, Vol. 18 No. 1, pp. 106-121, doi: [10.1080/13603124.2014.915061](https://doi.org/10.1080/13603124.2014.915061).
- Longàs, J., Civís, M. and Riera, J. (2008), "Asesoramiento y desarrollo de redes socioeducativas locales. Funciones y metodología", *Cultura y Educación*, Vol. 20 No. 3, pp. 303-324, doi: [10.1174/113564008785826330](https://doi.org/10.1174/113564008785826330).
- Oppenheim, M. (1999), "The critical place of community development in school transformation: the story of the Vaughn Family Center and Pacoima Urban Village", *Teacher Education Quarterly*, Vol. 25, pp. 135-157.
- Penuel, W.R. (2019), "Infrastructuring as a practice of design-based research for supporting and studying equitable implementation and sustainability of innovations", *The Journal of the Learning Sciences*, Vol. 28 Nos 4-5, pp. 659-677, doi: [10.1080/10508406.2018.1552151](https://doi.org/10.1080/10508406.2018.1552151).
- Penuel, W.R., Riedy, R., Barber, M.S., Peurach, D.J., LeBouef, W.A. and Clark, T. (2020), "Principles of collaborative education research with stakeholders: toward requirements for a new research and development infrastructure", *Review of Educational Research*, Vol. 90 No. 5, pp. 627-674, doi: [10.3102/0034654320938126](https://doi.org/10.3102/0034654320938126).
- Priya, A. (2020), "Case study methodology of qualitative research: key attributes and navigating the conundrums in its application", *Sociological Bulletin*, Vol. 70 No. 1, pp. 94-110, doi: [10.1177/0038022920970318](https://doi.org/10.1177/0038022920970318).
- Putnam, R. (1993), *Making Democracy Work: Civic Traditions in Modern Italy*, Princeton University Press, Princeton.
- Spillane, J.P. (2006), *Distributed Leadership*, Jossey-Bass, San Francisco.
- Toh, Y., Jamaludin, A., Loong, W. and Meng-Huat, P. (2014), "Ecological leadership: going beyond system leadership for diffusing school-based innovations in the crucible of change for 21st century learning", *Asia-Pacific Educational Research*, Vol. 23 No. 4, pp. 835-850, doi: [10.1007/s40299-014-0211-4](https://doi.org/10.1007/s40299-014-0211-4).
- Valli, L., Stefanski, A. and Jacobson, R. (2018), "School-community partnership models: implications for leadership", *International Journal of Leadership in Education*, Vol. 21 No. 1, pp. 31-49, doi: [10.1080/13603124.2015.1124925](https://doi.org/10.1080/13603124.2015.1124925).
- Wenger, E., McDermott, R. and Snyder, W. (2002), *Cultivating Communities of Practice: Learning, Meaning and Identity*, Harvard Business School Press, Boston.

Supplementary material

The supplementary material for this article can be found online.

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