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Reconceptualizing open schooling: towards a multidimensional model of school openness

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ABSTRACT

‘Open schooling’ has become in recent years a burgeoning theme in the discourse on how to rethink education for the 21st century. This paper addresses a gap between calls for implementing an open schooling approach in policy papers and international reports and the scarcity of rigorous academic discourse on what open schooling theoretically means and practically entails in terms of school organization and curriculum. To this end, the paper presents an ecological model of school openness that is composed of eight interrelated dimensions: shared governance, ‘open’ curriculum, inner-school communities, learning communities, student participation, social engagement, parental involvement, and community collaborations. These dimensions are organized into three categories, accounting for *organizational*, *pedagogical* and *communal* aspects of school openness. The multidimensional nature of the model presented here provides a more intricate and nuanced account of open schooling that acknowledges the complexities and challenges that the *movement* towards greater openness yields for school communities. From an educational research perspective, this model functions to inform the understanding and examination of the multidimensionality of opening schools to their community. From an educational practice perspective, it can instigate in-depth and meaningful dialogue within school teams on what open schooling is and its ensuing merits.

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Introduction

‘Open schooling’ has been reintroduced in recent years as a burgeoning theme in the discourse on how to rethink education for the 21st century and transform schools into better, more relevant, and adaptable organizations (EC, 2015, 2024; OECD, 2020). This *rearticulation* of ‘Open schooling’ has been spearheaded by recent reports by the OECD (2006, 2020), such as the *OECD scenarios for the future of schooling* and the European Commission’s (EC, 2015) *Science Education for Responsible Citizenship*, which call for transforming schools into ‘hubs of learning’ by opening school walls, fostering collaborations with the community, and engaging in innovative research. Opening schools to the community and engaging in Responsible Research and Innovation (RRI) is claimed to offer students (and society at

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large) the necessary knowledge, skills, and values to successfully perform in 21st century societies, and act as responsibly engaged citizens who are motivated to address a wide range of burning social issues (Sotiriou et al., 2017). This transformative shift in the aims of school organization and curriculum requires a root-and-branch reform (Sotiriou et al., 2021). Open schooling is, therefore, regarded as a sea change reform, a *reschooling* vision, that is aimed at rearticulating the central mission, goals and curriculum of schools, into ‘core social centres’ and learning organizations (OECD, 2020).

The idea that schools ought to connect to the community did not originate with the concept of open schooling and can be traced back, at least, to John Dewey. Various recent approaches have highlighted the importance and effectiveness of learning *with* and *for* the community. The *Community Schools* literature is an important case in point (e.g. Dryfoos, 2000; Heers et al., 2016), as is the more general school–community partnership literature (Furman, 2002; Valli et al., 2018). Furman (2002), for instance, highlighted the need to bridge the gap between the school-as-community strand and the school–community connection strand towards the formulation of a more robust ecological perspective. Nevertheless, given that systematic discussions on ‘open schooling’ are largely absent from peer-reviewed academic journals and publications, we identify a gap between recent reform efforts expressed in international policies and reports and rigorous academic discourse.

This paper attempts to bridge this gap by engaging in theoretical development of ‘open schooling’. If reform efforts are to realize the beneficial impacts expected of them, such efforts must be met with appropriate theoretical rigour. Given the community-based approach to open schooling that is currently advocated by the EC and OECD, we propose connecting the theorizing of open schooling to Furman’s ecological model of school-as-community (Furman, 2002) and the application of open system theory to educational discourse by Mascareñaz and Tran (2023). We argue that the multidimensional model of school openness presented here significantly clarifies and expands the understanding of what openness is and thus offers beneficial insights for the implementation and research of open schooling.

We first provide a brief overview of open schooling and how ‘openness’ has been articulated in educational discourse, with particular attention to recent developments by the EC and EC-supported projects. After specifying gaps in the way openness is currently articulated, we present an ecological model of open schooling and conclude by indicating how it can be used as a framework for implementing and researching open schooling.

Open schooling and ‘openness’

The concepts of ‘open schooling’ or ‘openness’ in educational contexts are not new. Based on an examination of the ‘openness’ literature in educational discourse, it is possible to distinguish three generic meanings (see Table 1).

Table 1. Three generic meanings of ‘open schooling’ in educational discourse.

Open schooling concept	Central tenets	Main descriptors
Open education and classrooms (e.g. Morrison, 2022)	Student-centred learning, student-choice and authenticity	The autonomy of students to direct their own learning, flexible curriculum, constructivist pedagogy, freedom of expression and authentic personal development
Online and distance learning (e.g. Abrioux & Ferreira, 2009)	Inclusiveness, mobility, accessibility to education, and employability	Physical separation between learners and teachers, use of ICTs and educational technologies, different pedagogies and learning methodologies that enable wide participation in terms of when, with whom, and where learning is conducted.
Community-based approach (e.g. EC, 2015, 2024)	School-as-community, community collaboration, social problem-solving	Breaking down school walls and collaborating with various community stakeholders to connect learning to the real-world and society, solve social problems and equip citizens with the needed skills to succeed in modern complex societies

The first meaning of open schooling is associated with the ‘open education’ or ‘open classroom’ movement (Cuban, 2004) that originated from Dewey and Piaget’s progressive and constructivist view of human development. Open education was first applied in England from the beginning of the 20th century (Smith, 1997) and by 1931, the Hadow report proclaimed that the ‘curriculum is to be thought of in terms of activity and experience rather than of knowledge to be acquired and facts to be stored’ (Hadow Report, 1931, p. 93). In the US, open education peaked during 1960’s and 1970s, mirroring social, cultural, and political challenges to authority and conformity (Cuban, 2004). The most basic philosophical tenet of open education was children’s independence, their own experiences in constructing knowledge and self-directed learning, all reflected in an evolving curriculum in which student participation was central in the setting of curricular goals. From the late 1960s substantial criticism in the UK and the US targeted two main features: the lack of measurable standards of evaluation and lack of a stable curriculum with a common body of knowledge (Smith, 1997). The open education movement was not able to sustain itself also in light of its clash with the dominant culture, no tangible evidence of success and rigidity, and in large part lost credibility as a viable form of public schooling (Morrison, 2022). While some observe the possibility of a revival of open schools and classrooms that promote open and flexible learning environments (Morrison, 2022), these are certainly still practiced at the outskirts of public educational systems and practices.

A later development of ‘openness’ in educational contexts, and which constitutes the second meaning of open schooling, was connected more specifically to distance learning or online education. The focus here is on *inclusiveness*, i.e. expanding educational opportunities for wider populations (e.g. Haughey et al., 2008; National Institute of Open Schooling, 2022). In the wake of technological developments, this understanding of ‘openness’ has been closely connected to distance learning and MOOCs (Haughey et al., 2008). The commonwealth of learning (COL) defined open schooling as ‘the physical separation of the school-level learner from the teacher, and the use of unconventional teaching methodologies, and information and communication technologies (ICTs) to bridge the separation and provide the education and training’ (Phillips, 2006, p. 21). The focus, in this context, ‘refers to the openness of the system—seldom with rules dictating student ages, prerequisites, courses to be taken, number of courses in which students must enrol or even the timing for an examination’ (Phillips, 2006, p. 21). ‘Open schooling’ here refers to dynamic or flexible learning environments and pedagogies in which students are provided personalized educational services that enhance educational opportunities also for non-conventional learners (Abrioux & Ferreira, 2009). The meaning of ‘open schooling’ as inclusive distance learning, is still prevalent in recent years in educational literature, given significant technological innovations, such as the use of virtual reality technologies (Mkwizu, 2022).

More recently, the European Commission (EC) has been instrumental in propagating an updated (or third) view of ‘open schooling’, which involves breaking down school walls and opening schools to the community. This old-new reconceptualization of open schooling incorporates key tenets of previous articulations such as inclusiveness and pedagogical innovation. However, underpinning this new reconceptualization is the idea that ‘openness’ concerns educational institutions ‘that promote partnerships with families and the local community with a view to engaging them in the teaching and learning processes, but also to promote education as part of local community development’ (EC, 2015, p. 69). The OECD scenarios for future education highlight the idea that opening ‘school walls’ connects schools to their communities, favouring ever-changing forms of learning, civic engagement, and social innovation (OECD, 2020). Consequently, the focus shifts from the individual learner (child-centred learning and pedagogy) to a *community-based approach* for which the individual learner is regarded as part of a community working together to enhance community wellbeing.

This understanding of ‘openness’ assumes that schools play an active role within the community, and this is connected to the development and cultivation of democratic citizenship and social responsibility. This is reflected in the following characteristics of open schooling (EC, 2015, p. 69):

- Schools, in cooperation with other stakeholders, become an agent of community well-being;
- Families are encouraged to become real partners in school life and activities;
- Professionals from enterprise, civil and wider society are actively involved in bringing real-life projects into the classroom.

Reports (EC, 2015; OECD, 2020) connect open schooling predominantly to *science education* as part of the challenge to increase learners' motivation to learn science and pursue scientific careers. The EC (2015) advocates partnerships between teachers, students, researchers, innovators, professionals in enterprise and other stakeholders in science-related fields, to 'work on real-life challenges and innovations, including associated ethical and social and economic issues' (p. 69). The potential of open schooling for promoting *more relevant and meaningful science education* is reflected in several EC-supported large-scale projects (e.g. MOST, Make it Open, OSHub, OSOS, PULCHRA) and networks (OSTogether), some of which have enriched the theoretical understanding of open schooling in the context of science education, as well as provided roadmaps for implementation and research tools (Sotiriou et al., 2017, 2021). These characteristics not only underscore the creation of partnerships, collaboration and interconnectedness among schools and various stakeholders, but also the connectivity and interdependence between openness, responsible research and educational excellence that benefits all involved in the educational process.

A recent publication by the EC (2024) summarizes developments that have been made in the implementation of open schooling in various projects supported by the EC. In the editorial to this publication, the EC further specified that applying a community-oriented open schooling approach is required given that current prevailing educational practices 'lack the methodologies and practices to meet the diverse needs of the 21st-century learners'. These needs include problem solving and critical thinking skills. To do so, learning must take place in the real world: 'the home, the community, the museum, the lab, the park; competence-based education cannot be confined within school walls' (EC, 2024, p. 2). The EC's community-based notion of open schooling calls for a major overhaul in the way education and learning is perceived in terms of the 'what', 'where' and 'when' people learn. This is also a claim regarding the need to connect learning to society and promote civic and citizenship education in general. The EC reports frame open schooling in large part in the context of science and STEM education. The call to open the school to the community is not merely connected to the general skills all students require in the 21st century, but as a strategy to connect students to science education, and the ability to critically and mindfully engage with social issues and making problem solving a central mode of citizenship.

While some developments have been made in the articulation and, more specifically, the practical *implementation* of open schooling including specific tasks it entails (Sotiriou et al., 2021), certain aspects of open schooling remain theoretically underdeveloped. We identify three main theoretical gaps in this discourse: (1) the current understanding of open schooling lack a clearly conceptualized connection to *community and community-building*. While collaboration and partnerships with community stakeholders are highlighted, various aspects of a community approach are not explicitly articulated and organized into a coherent framework of school openness. Dimensions of *shared* governance and community-based curriculum design that is adapted *with* and *for* the community (e.g. Jóhannsdóttir, 2018; Sanders, 2003) are cases in point; (2) Current open schooling discourse is tightly connected to *science education* and inquiry-based pedagogy. While RRI and inquiry-based processes are central to current understanding of open schooling, it should be further expanded into a *whole-school approach* applicable to school *curriculum as-a-whole*. Thus, a more generalized or expanded conceptualization is needed, one that accounts for organizational, pedagogical and communal dimensions of school organization. (3) Current discourse usually articulates open schooling, or school openness by listing central features. This method of articulation does not address the intricate *relationships* among the different features of openness and overlooks the *dynamic and complex* nature of school openness. A more intricate and nuanced account of open schooling is needed, which identifies the interconnections among the dimensions of school openness with an

awareness of the complexities and challenges that a *movement* towards greater openness yields with regards school community. The multidimensional model presented here seeks to address these three gaps.

Towards a multidimensional model of school ‘openness’

We build on previously identified characteristics of school openness to develop a multidimensional model that attempts to make the following contributions:

- (1) increase conceptual clarity, including a distinction between different types of openness;
- (2) expand the scope of openness by incorporating additional dimensions of openness particularly taken from the school-as-community literature;
- (3) offer an alternative (circular) mode of organizing and visualizing the openness dimensions to enhance clarity and coherency, which addresses the relations among the different categories and dimensions of openness.

The presented model expands the understanding of open schooling and school openness by incorporating insights from two main sources of inspiration: Furman’s (2002) School-as-community ecological model and Mascareñaz and Tran’s (2023) application of the open system theory to educational contexts. These two basic sources of inspiration provide greater articulacy and conceptual coherency to a community-based notion of open schooling by identifying basic aspects of openness that are re-enforced from two different yet interrelated theoretical perspectives: school-as-community theory and open system theory.

School-as-community ecological model

Furman (2002) discusses and develops in her book - *School as Community: From Promise to Practice* - an ecological model of school community (Figure 1).

Furman’s model incorporates two central concepts: ‘school-as-community’ and ‘school-community-connections’. Ecological models not only focus on social relationships *within* communities (school-as-community) but also relations between communities (school-community connections). Given the ‘rather artificial gap between school-as-community and school-community connections’ (Furman, 2002, p. 10), a community-based approach to open schooling not only highlights the creation of partnerships and collaboration with community stakeholders but also regards the school itself *as a community* (Sergiovanni, 1994).

Three further insights follow from Furman’s ecological model and inform the development of the present model of open schooling. First, a community approach assumes that rigid boundaries between the school and its surroundings are continuously re-examined and renegotiated. Second, in the light of this more intricate view of community, there is heightened awareness of tensions, contradictions and paradoxes of community (Shields & Seltzer, 1997) and democratic forms of school organization in particular (Reitzug & O’Hair, 2002; Sarid, 2022). These intricacies require attention to detail and a more conceptually elaborated identification of openness dimensions. A third insight is that problems and needs of the community transform into the problems and needs of the school community. Expanding school boundaries (Jóhannsdóttir, 2018) is also reflected in the connection between open schooling and RRI; open schooling not only concerns deep learning and the acquisition of new knowledge and skills, but also that learning and inquiry penetrate the social-political domain and assumes an active citizenship role (e.g. Berkovich, 2014; Ryan & Higginbottom, 2017).

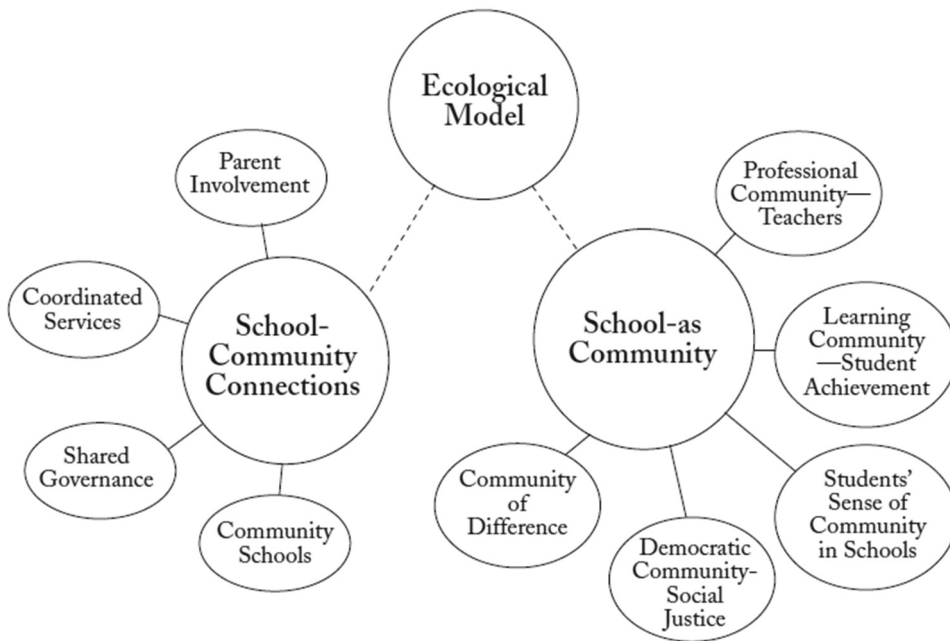


Figure 1. Furman's (2002) ecological model of school community.

School as an open system

Closely related to the above characteristics of Furman's school-as-community ecological model, in a recent publication, Mascareñaz and Tran (2023), offer six principles that portray school as an *open system*. Applying an open system theory approach to educational organizations, Mascareñaz and Tran claim that looking at schools as an open rather than a closed system is essential, especially in today's complex societies, for providing quality and inclusive education for all. School as open system includes the bi-directional flow of information from the outside into the school and from the school to the community, that is needed for: (a) continuous revitalization and adaptiveness of schools, (b) the facilitation of a democratic school culture and decision-making processes that engages also parents and significant stakeholders from the community, and (c) the spreading of trust among the school community. All these are vital for creating a better school climate for deep learning and for facilitating productive interactions within schools and between the school and its social environment. The six principles that are offered closely follow Furman's ecological model. These include open leadership, know the community, design breakthrough spaces, model creative democracy, assemble abundance partnerships, and expand openness. These principles, together with Furman's model, are incorporated into the openness model offered here (see below), and are reorganized across eight dimensions according to three basic categories: Organization, Pedagogy and Community collaborations.

Presenting the ecological model of school openness

We conceive open schooling to be an approach to schooling that applies the following dictum: school *as, with and for* the community. The model is composed of eight dimensions of school openness (see Figure 2). These eight dimensions have been identified through literary analysis of the EC (2015) and ensuing developments (Sotiriou et al., 2017, 2021), specifically, the focus on fostering partnerships and collaborations with community stakeholders ('community collaborations'),

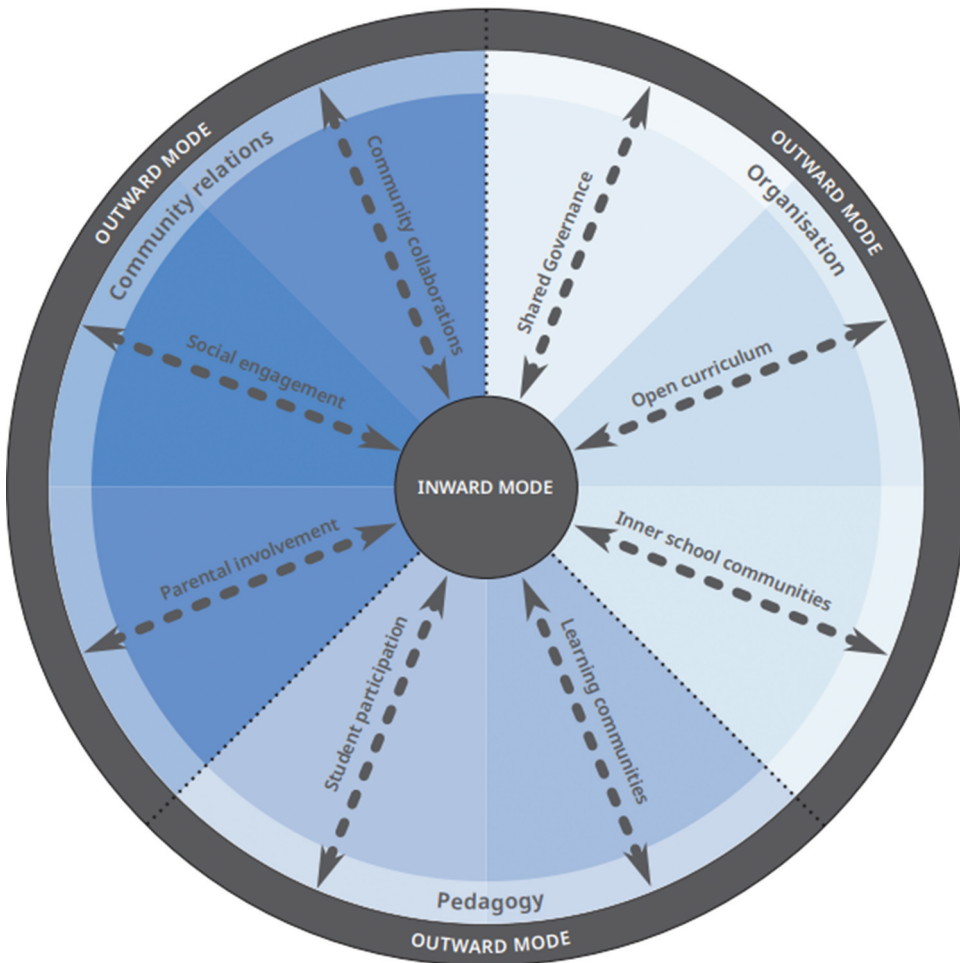


Figure 2. Ecological model of school openness.

'parental involvement', and 'social engagement' (understood here primarily from the standpoint of addressing social issues and needs for promoting community wellbeing). The dimension of social engagement includes addressing issues of inclusiveness, disparities and differences (including gender), not only in the community, but in the school community at large. Other dimensions have been added that highlight characteristics of openness that either appear indirectly or directly in further developments of the concept of open schooling, such as 'student participation'. The active engagement of teachers is also stressed in the literature (e.g. Sotiriou et al., 2021) ensuring their active participation and empowerment. Yet, this aspect of openness is accounted for in the present model within *different* dimensions, rather than as a stand-alone dimension, given the various ways in which teacher engagement manifests itself in applying open schooling.

While the above dimensions can also be extracted from Furman's ecological model (Furman, 2002) and Mascareñaz and Tran's (2023) open system approach, these sources offer additional dimensions that are not frequently accounted for in the open schooling literature. Based on these two sources, the present model conceives 'shared governance' (or open leadership) as a central element of opening the school to the community. The idea that school management must be actively involved in the creation of an open schooling culture has been previously indicated (Sotiriou et al., 2021), yet not as a dimension of openness *per se*, but as practically enabling and facilitating

openness through various management mechanisms (e.g. vision and strategy, coherence of policies, communication and feedback mechanisms). The present model proposes to view management, and more specifically, 'shared governance', from the perspective of *leadership theory for school community* (Furman, 2002) and this entails a specific focus on the different forms of sharing leadership. 'Curriculum', which is rarely explicitly mentioned in the open schooling literature, underscores the importance of diversifying knowledge and allowing flexibility in the *contents of learning*, thus allowing adaptation of learning that reflects a collaborative engagement with the needs and concerns of the community. The dimension of 'inner school communities' has been incorporated as an additional feature of institutionalizing open schooling practices. In the ecological model this feature is accounted for particularly in the 'professional learning communities' sub-field. In the present model, we expand it to include various other forms of inner school communities, such as student councils and other permanent and ad hoc organizations within the school. This organizational element is found in Mascareñas and Tran's (2023) principles of 'designing breakthrough spaces' and 'expanding openness', both addressing the needed organizational structures and processes that sustain and maintain openness, interaction, and collaboration. Finally, 'learning communities' concerns the *pedagogies* applied to teach-learn school subjects specifically with respect to community-based approaches to pedagogy such as 'community of practice' (Wenger, 1998) and 'community of learners' (Brown & Campione, 1996). Whereas current open schooling literature is predominantly focused on inquiry-based instruction, it is important to frame open schooling *pedagogy* as a community-based approach to learning or a pedagogy committed to co-design and co-production (Mascareñas & Tran, 2023).

In the light of the above, it is possible not only to specify eight distinct dimensions of openness, but also to organize these dimensions under three basic types: *organization*, *pedagogy*, and *community-relations*. *Organisation* includes 'shared governance', 'curriculum' and 'inner-school communities'; *Pedagogy* includes 'learning communities' and 'student participation'; and *Community-relations* includes 'parent involvement', 'social engagement', and 'community collaboration'. As visualized in Figure 2, each dimension constitutes a continuum ranging from inward to outward. Moving outward in each dimension assumes a movement towards greater openness, and the more dimensions are characterized by outward movement the greater the school is moving in terms of its openness.

Organisational dimensions: shared governance, open curriculum, inner-school communities

Shared governance

'Shared governance' concerns the extent to which leadership is shared/dispersed/distributed throughout the school organization and decision-making processes (Hallinger & Heck, 2010; Leithwood et al., 2009). In the present context, 'governance' is understood as the authority and capacity to shape the school's *organisational culture* and *policies* and is focused more on *formal* leadership positions in school (superintendent, principal, formal leadership teams), and the extent to which leadership shares authority, so that others in school (and beyond) may have an impact on the school. Sharing authority is an essential property of open schooling given that open schooling requires, by definition, collaboration between the school and other stakeholders (parents, informal educational organizations, and so forth) who actively participate in decision-making processes. Sharing authority has not only been shown to have positive results for team effectiveness (Wang et al., 2014) and student achievement (Leithwood & Mascall, 2008), but also to have a positive contribution when leadership is shared with parents as well as other members of the community (Rodela & Bertrand, 2018).

It should be stressed that there are multiple forms of distributive leadership and shared governance (Spillane, 2005), ranging from more centralized distributions of authority (granting autonomy to school teams or individuals) to deeply collaborative and democratic forms (e.g. Woods et al., 2018), in which leadership is envisioned more as an action or attribute rather than a role or formal

position (Linsky & Lawrence, 2011; Spillane, 2005). From a community-based perspective, the likelihood, motivation and ability to share authority assumes that this takes place not only with stakeholders external to the school organization, but more importantly, originates in a culture of collaboration and sharing also, and perhaps especially, with individuals *within* the school organization. Furthermore, we are also assuming that sharing leadership concerns a deep cultural change in the organization and is an ongoing process, requiring continuous reassessment and responsiveness, and thus cannot be regarded as a binary practice (Scott & Caress, 2005).

'Shared governance' directly impacts other dimensions as well. For example, in the case of 'inner school communities' (depicted below), the more impact inner school communities have on shaping policies and pedagogy, the more authority is shared in the organization. However, the existence of communities within the school, does not *necessarily* mean that there is also shared authority, in the sense of direct influence on school policy and pedagogy. Thus, a continuum of shared governance can be drawn. Towards the inward pole, school principals and administrators make most or nearly all decisions, and rarely share authority with others in the organization. At the outward pole, leadership is dispersed throughout the organization, and can mean—with strong movement towards the outward pole—democratic decision-making and policy-design in which all members of the school community (including parents and students) reach decisions jointly on meaningful issues concerning school culture and curriculum. In this case, *all* openness dimensions will certainly be impacted. However, since it is not feasible to share all decision-making processes with all members of the community, given various limitations (Kocolowski, 2010), such as value conflicts, disruption, uncertainty, and time restrictions, 'Shared governance' involves primarily the *organizational level*; and pertains to those actions and decisions that directly impact school culture and policy. This will necessarily have an impact on the other two organizational dimensions: 'curriculum' and 'inner school communities'. Radical forms of shared governance must take into account the instability and disruptiveness of distributing authority and sharing leadership, although there are organizational models (i.e. the democratic school) in which shared authority is deeply ingrained in school culture and routines.

'Shared governance' is thus a continuum ranging from more centralized to radically collaborative forms of governance'. Inward forms of governance are reflected by the principal or formal leadership teams' control over most school-learning schedules, exam specifications, and the overall curricular and extra-curricular issues that are addressed by the school. Movement towards the outward pole is reflected in granting teacher autonomy and responsibility around the curriculum, promoting participation of teachers and middle-leadership teams in the design and preparation of teaching materials (especially when this concerns specific school subjects). These decisions may be more strictly or leniently supervised and reviewed by school management.

Open curriculum

'Open Curriculum' concerns the extent to which school curriculum is adaptive, flexible and accessible to *emergent* and ongoing changes, as opposed to a fixed or rigid curriculum that is primarily pre-designed and rarely altered to meet changing interests or needs. Generally speaking, 'curriculum' is regularly thought to refer to the body of knowledge that is to be transmitted to pupils in order to realize educational goals (Richmond, 2018). This pertains to the structure and organization of learning subjects, namely, a clear indication of the specific subjects that are to be taught, the relationships among them, and indication of timelines and levels in which these subjects are to be transmitted. However, there are other ways of understanding what a curriculum is, such as regarding the curriculum as a process, product or praxis (Smith, 1996/2000). Thus, for example, from a critical approach to curriculum, the more dynamic the curriculum, the more the boundaries between content and practice become blurred since the (political) policy-question regarding which content or body of knowledge is to be learnt is dependent on the kind of pedagogical practices and relationships taking place, primarily between teacher and students. For purposes of clarification, 'Open Curriculum' refers to the extent that the structure

and content of learning subjects and the topics within these subjects are open to renegotiation, reorganization, and innovation. Open curriculum is central to openness because it entails not only fostering relationships, collaboration and sharing authority, which can be seen to promote knowledge sharing and active participation in learning by various stakeholders, but also must include the ability and flexibility to reconsider the topics and contents of learning in accordance with authentic problems of the community, and the ability to overcome rigidly defined disciplinary boundaries that inhibit meaningful engagement with these very problems.

The openness of the curriculum is intimately related to *pedagogical practice*, primarily the role of teachers, students, as well as others in deciding what should be learned and how. Yet, since the model differentiates different categories of openness, including organization and pedagogy, 'open curriculum' primarily focuses on the *contents of learning and disciplinary knowledge*. To further clarify the differentiation between curriculum and pedagogy-instruction, it may be argued that engaging in alternative and innovative pedagogies can be exercised in the learning of pre-determined and pre-designed contents and bodies of knowledge. Conversely, it is possible to introduce new topics (including interdisciplinary contents) without dramatically altering conventional pedagogical practices. While there are surely overlaps between curriculum and pedagogy, especially in cases in which open schooling is more meaningfully applied, it is beneficial to make such distinctions given that most schools predominantly follow the national curriculum and thus lean more towards the inward pole of the openness continuum. Even more recent curricular reforms across Europe, while granting more autonomy and flexibility to schools to design school curriculums and distribute leadership, as in the Finnish reform (Tian & Risku, 2019), are still predominantly committed to more structured modernist national curriculums that also prioritize scientific disciplines over others (Sarid, 2017). In such cases, the distinction between 'curriculum' and 'pedagogy' becomes paramount for moving the school organization outward in a manner that best accommodates the school's specific openness attributes.

The more outward the curriculum, the more open it is to change that is propelled by emergent needs and decisions. Curricular innovation may occur in cases where school management actively endorses curricular flexibility or in cases where changes are encouraged bottom-up, that is by students, parents or other community members. The open curriculum continuum expresses the scope of curricular change: it can be limited to certain teams, subjects, or individual teachers, and it can be practised as a whole-school approach, for which curricular openness is ingrained into school culture. Movement outward on the 'curriculum' continuum reflects a movement from 'first order' changes, that is, when the objectives and general aims of the national curriculum remain unchallenged, and some extra-curricular activities are initiated, towards 'second order' changes, that is, engagement in deep structural change in the contents of the curriculum (e.g. Cuban, 1990). Extremely open curriculums are those in which all elements of the learning process (content, evaluation, teaching method) are negotiated by the participants in learning and are deeply emergent. From this perspective, a significantly open curriculum is one in which the community *is* the curriculum, or in other words, 'building and sustaining of community must be seen as an essential part of the curriculum of the school' (Starratt, 2002, p. 321).

Inner-school communities

'Inner-school communities' refer to the extent to which *organisational structures* and routines operate in school that have an impact on school policy and decision-making. School organizational structures are composed of several participants that are engaged in the leadership, cultivation and development of certain aspects or themes pertaining to school curriculum and pedagogy. In most schools, leadership is distributed, to varying degrees, to various roles and positions constituting what is frequently termed 'middle or mid-level school leadership' (Gurr et al., 2013). Mid-level leadership roles and positions are regularly organized according to traditional school structures and hierarchies, namely, either disciplinary or age-cohort teams. Research has shown that mid-level leadership roles

have a significant impact on schools and student improvement, but also that unsupportive senior leadership and school structure may hinder their work (Gurr, 2019).

From a *community-based* approach to school organization, mid-level leadership includes a variety of forms of collaboration between actors in the school that contribute to curricular and pedagogical decision making. These collaborations may involve different compositions (e.g. Professional Learning Communities, significant PTA, student bodies, book clubs) and different kinds of *themes or topics* that are organizationally promoted in the school (such as promoting interdisciplinary whole-school themes such as sustainability, pedagogical innovation, or community service). The existence of such inner-school communities is an indication of the school's organizational culture, primarily the kind of leadership and curricular openness that is espoused and implemented.

The 'inner-school communities' dimension is closely related to 'shared governance' and to 'open curriculum', yet it is distinctively focused on middle-level leadership and the kinds of communities that are formally and informally operating in school. The inner-school community continuum expresses the extent to which (primarily) teachers and students work in teams and collaborate to make curricular and pedagogical decisions. Thus, the boundaries between this dimension and *pedagogical* dimensions are less rigid (as indicated in Figure 2 by the dotted line). Moreover, moving outward on the 'inner-school communities' continuum may involve the participation of different types of stakeholders beyond the school community. As collaboration with community stakeholders is highlighted in a separate dimension (see 'community collaborations'), it is worth noting that while collaborations may take on various forms in practice, they do not necessarily pertain to school organizational structures but may involve, and usually are, more informal and *ad hoc* collaboration pertaining to specific topics of learning. The inner-school community dimension specifically concerns more *stable* organizational structures.

Thus, three modes of openness pertain to this dimension: The more outward the school is on this dimension, the *number* of inner communities operating are greater, the more *impact* they have on policy or have visibility in school (some communities operate in relative seclusion from other communities or the school as a whole, thus have limited impact) and the more *diverse* they are in terms of their membership. As there is no clear-cut definition of what constitutes an inner-school community *as such*, there are various ways that these may take form either in formal structure or routines (beyond standard disciplinary or age-specific teams). A common inner-school community is professional learning communities (PLC) composed mostly of teachers, and these may include routines in which teachers share experiences, observe each other's teaching, and conduct regularly scheduled consultations. Disciplinary teams may collaborate with each other, and the school may conduct periodical round table meetings that are open also to external community members. It should be stressed that substantial movement outward may create tensions between various school teams—and in more extreme cases a balkanization of school culture (Hargreaves, 1994), and so some moderating authority must remain in the hands of formal school leadership to create a more collaborative school culture (Hargreaves, 1994).

Pedagogical dimensions: learning communities, student participation

Learning communities

'Learning communities' refers to the kind of *pedagogy* and teaching methods that are practiced in schools. While 'Learning communities' has various meanings, it is possible, following the 'Fostering a Community of Learners' pedagogy (Brown & Campione, 1996) to identify several generic features: learning communities are learner or student-centred, are characterized by collaborative practices, deal with authentic (or real-world) tasks, and are emergent and experiential (constructivist). Learning communities are composed first and foremost by teachers (may be more than one) and learners but may involve continuous change in composition and membership (Wenger, 1998). They may be either permanent or *ad hoc* learning environments that are constructed for dedicated purposes or themes. Learning communities constitute the

central pedagogy of open schooling given its focus on community and collaboration and in the present model we highlight the active participation, not only of students and teachers, but also of *external stakeholders*. While the idea of community is associated with creating a sense of belonging and common purpose, and particular attention to relationships and interactions between individuals, in educational-pedagogical contexts it must also include ideas of curiosity, active engagement, openness to different perspectives and others, and critical awareness. Following the theory of community of practice (Wenger, 1998), we highlight the *identification* of all involved with what is being learned as well as each learner's ability to *negotiate* meanings (i.e. have a say with regard to what and how is being learned), and the idea that a community of individuals is formed to further the investigation and practical application of a given theme or topic.

The 'learning communities' continuum concerns the extent to which the above attributes of a community-based pedagogy are practiced in school. This entails that teachers take on different roles and greater emphasis on learning rather than on teaching (Barr & Tagg, 1995). As with other dimensions previously discussed, 'learning communities' impacts and overlaps other dimensions. The more extensively and deeply learning communities are applied in school practice, the more they will impact both organizational and pedagogical dimensions, most notably '*student participation*', as this would involve that teachers change the way they view their own authority (Sarid, 2014). To distinguish between organizational dimensions and other pedagogical dimensions (i.e. '*student participation*'), the focus here is on *teacher identity*. This concerns an understanding of the teachers' role in promoting social and emotional aspects of learning in a community (Edwards, 2005): creating a sense of community, subjective well-being, and greater attention to cultivating relationships and dialogue, yet without relinquishing or diminishing cognitive development (Edwards, 2005). Following the connection between open schooling to RRI (EC, 2015; Sotiriou et al., 2017), we connect learning communities to an inquiry-based learning approach, which can be seen as combining formal and informal approaches to learning (Sotiriou & Bogner, 2023). The present model underscores the interrelatedness between community-based learning, mutual engagement, cognitive development and an explorative learning culture.

'Learning communities' contains therefore various foci pertaining to learning in-and-as-a-community and the extent to which this relates to the use of alternative teaching methods, primarily explorative, (social) constructivist and inquiry-based types of learning. Inward modes of pedagogy are mostly oriented towards the success of individuals in exams and are largely predesigned and highly structured providing little room for student participation and engagement. With the movement outward, learning may also include different forms of peer-learning (students teaching students), the participation of external stakeholders in learning, and greater focus on social-emotional aspects. More significant movement may include explorative inquiry-based processes in which students and other community stakeholders may have an impact on learning topics and engage in meaningful interactions to jointly construct knowledge.

Student participation

'Student participation' refers to the diverse ways in which students can be actively involved in learning, school organization and school-related activities. Perhaps the most prevalent form of 'Student participation' is their active involvement in classroom learning and activities, and these can range from shallow (i.e. responding to teacher's questions) to deep relationships and engagement (i.e. autonomous choice of learning contents, evaluation methods or collaborative work in research teams and learning communities). Student participation may take forms that go beyond the classroom such as active participation in student boards or committees (that impact school-wide decision-making processes), participation in student leadership groups (Rodela & Bertrand, 2018), planning and organizing school events, ceremonies, and activities, and after-school activities that influence the school community. More engaged student participation has been shown to be connected to improved school climate and student well-being (Anderson et al., 2022).

Student participation has been identified as a central characteristic of open schooling (EC, 2015; Sotiriou et al., 2017) that is primarily focused on student *projects* and their active participation in learning. The focus goes beyond a student-centred approach to teaching and learning, which favours project and problem-solving methods of learning (Tang, 2023), by underscoring *interactive* aspects including students' meaningful involvement in information-sharing, engagement in dialogue with peers and adults based on mutual respect, and the sense that they can shape the process and outcomes of learning (UN Committee on the Rights of the Child [CRC], 2009). The latter emphasis includes the impact of student participation also on organizational decision-making, rather than simply on the contents and processes of classroom learning.

The 'student participation' continuum thus ranges from 'shallow' forms of participation, i.e. voicing an opinion in classroom discussion to more open forms of student participation, which include sharing authority and a sense of belonging to the school community, identification with school vision and goals and a sense of agency. As previously indicated, 'student participation' is closely related to the 'Learning communities' dimension. In cases in which students are more deeply engaged in decision-making, 'student participation' will also overlap with organizational dimensions, either in their meaningful participation in inner school communities (such as student bodies and parliaments) or representation in leadership teams ('shared authority'), which also impacts the openness of the curriculum. The distinctiveness of 'student participation' is that it focuses specifically on the beliefs, values and actions of students, and this concerns aspects going beyond classroom practice to broader engagement with school organization and policy or their Organizational Citizenship Behaviours (OCB) (Oplatka, 2009). OCB is usually confined to *teachers'* behaviours, and includes actions that go beyond formal tasks, based on personal choice, and contribute to others or the organization. Applying an OCB lens also to *students* enhances their sense of membership in the school community.

'Student participation' concerns the extent that students are actively engaged either in learning or decision-making processes on school policy. This may range from more inward expressions such as the absence of a student board and no formal communication line with school management, inability to influence what and how students learn, and scarce collaboration among students within learning processes. More outward expressions include ongoing feedback of students and formative self-assessments as a basis for decision-making and curricular policy, an engaged and meaningful student council, significant peer-learning among students and the ability to propose innovation and initiatives.

Community-relations dimensions: parental involvement, social engagement, community-collaborations

Parental involvement

'Parental involvement' is often conceptualized as multidimensional (Boonk et al., 2018). Generally speaking, it is thought to be aimed at improving children's achievement in schools, and this has two generic forms: parental home-based involvement and parental school-based involvement. Home-based involvement may include different ways to assist children with their homework and conducting conversations with them regarding their experiences in school; School-based involvement includes actively seeking meaningful relationships with teachers as this concerns their children's status and experiences in school. Research has identified six types of parental involvement from basic obligations at home to involvement in school decision-making and collaboration with community organizations (Epstein & Dauber, 1991). Our open schooling model conceptualizes 'Parental involvement' as a continuum ranging from various forms of involvement at home and in school to more meaningful *engagement and empowerment* of parents, in which parental leadership engages in the construction of a meaningful relationship between schools, families and communities (Rodela & Bertrand, 2018).

The deeper the involvement, the more 'parental involvement' is transformed into meaningful 'collaboration'. Parental involvement is seldom conceived by school teams and leadership as negative interference and as devaluating school leadership and teachers' professional authority. From this perspective, the mission of school leadership and teachers is to keep parents' involvement at bay. Yet, this way of conceiving 'involvement' is more prevalent in inward school cultures or in cases in which parental involvement is focused exclusively on their own children's wellbeing, at times at the expense of other students, rather than on the wellbeing of the school community as a whole. The meaning of involvement for open schooling refers to *positive* parental contributions to improve learning, school climate and school organizational culture. Openness, in this sense, does not only demand a different mode of operation by school leadership and teams, but also the creation of a culture of trust, mutual respect and understanding, or in other words, a culture which conceives school organization as a community (Furman, 2002).

'Parental involvement' is one dimension of the 'community-relations' category in the model presented. Yet, parents are peculiar representatives of the community given their special status as being both part of the *school* community, as an extension of their children, but also members of the 'external' community. The extent to which parents are considered part of the school community partnered to the school community (Cummins, 1989) and even as part of leadership (Rodela & Bertrand, 2018), is dependent on the type of leadership and school culture, particularly when the school is organized as a community.

'Parental involvement' can also be connected to organizational dimensions, primarily 'shared governance' and 'inner-school communities' when these move more outward to include also the collaboration of external stakeholders. The distinct meaning of 'Parental involvement' in the present model pertains to the specific contribution and participation of *parents* in decision-making processes, and this means viewing parents as *partners* in shaping a wide-range of school-related matters and regarding them as part of the school community itself (e.g. Chatenoud & Odier-Guedj, 2022). Additionally, since open schooling calls for the participation of community members and stakeholders in the *learning process* itself, parental involvement may overlap also with the 'Learning communities' dimension as parents can also be considered *learners-teachers*.

Thus, the 'parental involvement' continuum encompasses a wide range of behaviours. More inward expressions include keeping parental involvement at arms' length (e.g. extra-curricular activities and fund raising). More outward expressions include engaging in organizing school events and meetings, involvement in formulating official school proclamations influencing policy, active parental committees and active involvement in planning and implementation of parent-teacher meetings (such as routine round-table events).

Social engagement

Social engagement concerns the school's active participation in addressing community needs and problems and working towards the community's development and well-being. Similar to other concepts such as 'service learning' and 'community-learning' (Dryfoos, 2000; Heers et al., 2016), 'social engagement' takes place when schools participate in activities *for* the community, such as aiding special needs children, addressing issues of marginalization and discrimination (i.e. inclusion), promoting environmental sustainability, assisting senior citizens, and connecting learning to issues concerning the community and the betterment of society at large. At the inner-school organization level, social engagement may concern awareness of social issues that directly impact the school community, such as addressing concerns regarding cultural diversity of school staff and students. The question of ethnic, gender and religious diversity and inclusion has become a major concern in recent years (i.e. Capper & Young, 2014). Yet, movement on the 'social engagement' continuum means moving beyond the boundaries of the school community, to address issues that concern the immediate community and possibly regional, national, and global concerns (e.g. social and environmental sustainability). The more outward the school is on the social engagement continuum, the more involved the school is in taking action to effect

societal (transformative) change, engaging in civic action, and responding to problems affecting the school's community as part of the school's vision and pedagogy. More deeply engaged schools take part in various forms of activism (from implicit to strategic activism) (Berkovich, 2014), in which the school community engages at times in unconventional actions to change existing cultures, norms and rules that cause injustices, inequities and harm (Ryan & Higginbottom, 2017).

Taking action *for* the community is an integral feature of opening schools to the community also given its connection to RRI. In the present model, inquiry-based learning centres not only on the investigation of socio-scientific issues, but also developing the competences to *take action* on these issues (Levinson, 2018). Social engagement might take place without necessarily collaborating or creating partnerships with the community—as is regularly the case in many 'social service' volunteer programmes. Nonetheless, in the present model, promoting *community empowerment* is a holistic and comprehensive endeavour that is connected to leadership, parental involvement, school organization and community collaboration (e.g. Edwards et al., 2021), and thus connects to various openness dimensions.

The 'Social engagement' continuum consists of various actions, all of which are aimed at addressing social issues and community wellbeing. More inward expressions include very limited participation in community service projects and initiatives, and in case they do exist, they are mostly extra-curricular so as not to interfere with the expectations of the national curriculum. More outward expressions may include regular meetings with civil society organizations to consider how schools may promote important social causes as part of the school curriculum; an active student council that operates to prevent student bullying and ostracizing as part of a weekly routine; and making volunteer work an obligation for graduation.

Community collaborations

'Community collaborations' refers to the extent to which school engages in collaboration with community stakeholders and other social actors such as public services, science centres, local businesses, museums, higher education institutions. The community collaboration continuum incorporates both the extent (i.e. who participates and how frequently) and the depth of the relationships that are fostered by the school. Openness in this context is determined by the nature of relationships with those who are not an integral part of the school community. 'Collaboration' means that external stakeholders have some impact on various aspects of school learning, and this may include where learning takes place, the disciplinary topics or social issues that are investigated and how knowledge is acquired through mutual engagement. The continuum here points to a movement from simple interactions or connections with community stakeholders (e.g. a lecture given by a professional), towards more meaningful collaborations, in which community stakeholders or social actors participate in decision-making processes and are active in the design of learning or interventions.

The 'community collaborations' continuum connects to nearly all openness dimensions. Most directly perhaps to the 'social engagement' dimension particularly when collaboration is deep and extensive. However, the idea here is that openness is tied to the kind of relationships taking place between school and the external community—and the more meaningful the collaboration, the more influence community actors and stakeholders have on school learning and organization. Thus, 'community collaborations' can be regarded as deeply connected to the 'shared governance' dimension, given that external actors are considered strategic partners and serve as community representatives within formal decision-making processes. The more outward a school is on the 'community collaborations' dimension, the more aligned it is with *collaborative school leadership* (Hallinger & Heck, 2010; Woods et al., 2018).

The 'Community collaborations' continuum accounts for a range of interactions taking place between the school community and external stakeholders. These can range from simple interactions between individual teachers and other individuals (professionals) that may enhance disciplinary knowledge, field trips (e.g. a museum, community centre) to more meaningful collaboration in which

social actors (e.g. universities, SMEs, local police department), engage in dialogue with the school community as part of school leadership or inner-school communities.

Theoretical, practical, and methodological contributions of the model

The model presented here addresses the gaps in current open schooling discourse by offering the following theoretical contributions: (1) it enriches the understanding of school openness by identifying eight interconnected openness dimensions; (2) it regards these dimensions as continuums (inward to outward) and specifies the relationships (and possible overlaps) among them; and (3) it organizes the dimensions into three higher-order openness categories central to school openness (organization, pedagogy and community-relations). We argue that these three theoretical contributions provide not only a more comprehensive and nuanced understanding of school openness, currently missing from the literature, but also a powerful tool to be used by educational practitioners and open schooling researchers. Additionally, the present model, while essentially advocating openness as a general educational approach, adheres to a critical-nuanced view of 'openness' encompassing the complexities and dilemmas inherent to educational processes (Sarid, 2022), and more specifically to the movement outward in various openness dimensions. For example, extreme outward movement on the social engagement dimension continuum may pose complications and tensions among different views of what constitutes community wellbeing (Sarid, 2021), particularly when various community stakeholders are involved. Tensions may arise in more outward movement also between dimensions, such as between deep parental involvement in decision-making processes (Epstein & Dauber, 1991) and inner-school communities' ability to have a deep impact on school policy. Tensions may also arise between openness as curricular flexibility and other competing values that are also espoused, such as, organizational stability and control (Quinn et al., 2015). Thus, the richness of the model allows for further attention to be given to these tensions and other complexities than need deliberate consideration if open schooling is to be achieved. Given the centrality of language-use in the understanding of reform initiatives as well as the ability of educational teams to offer local *interpretations* of the new language for the successful implementation of the reform (Bergh et al., 2019), we believe the more conceptually developed the model is, the more room exists for educational teams and researchers to create localized and precise interpretations of open schooling.

The school openness model can be applied in different ways and for a range of purposes. We see its key contribution in its capacity to instigate in-depth and meaningful *dialogue* within school teams on what open schooling is, its merits for school improvement, by discussing the core elements it is composed of, and the relationships among them. Using the model as an instructional or educational tool promotes greater *awareness* of the contribution and consequences of moving outward on its various dimensions. Closely connected to the above, the model can be used by school teams as a self-assessment tool to consider their school's openness and to engage in reflective dialogue regarding which of the dimensions are relevant and meaningful for them to consider and instigate change for implementation.

The model can also be used for research purposes. It provides a conceptual framework for defining open schooling and offers a more intricate and nuanced understanding of openness than currently exists, which may lead to a better understanding of the different ways in which open schooling might be implemented in practice. The model is better adjusted to the intricate nature of school organization and activities, as well as the ability to concentrate on different core literary discourses and themes (i.e. organization, pedagogy and community) and the interrelations among them facilitating the identification and consideration of tensions between dimensions and supporting the exploration of how such tensions can be resolved at the levels of organization, pedagogy and community. As a basis for developing research tools, the model provides a comprehensive and theoretically informed way forward for understanding the multidimensionality of opening schools to the community.

Conclusion

The school openness model presented in this work assumes that ‘open schooling’ is a fruitful concept for re-envisioning schools for the present reality. Naturally, there are other (related) visions for schooling as specified in research and international reports. Yet, given that policy reports applying open schooling are influencing policymakers, it is becoming ever more apparent that a deeper theoretical account of school openness is needed for it to become a viable reform initiative. The school openness model introduced here is one element in a broader endeavour to gain an understanding of what open schooling is and its contribution to school learning and curriculum. Further research is needed to empirically validate the model, the relationships it articulates among the dimensions, and to consider its overall application for the development of open schooling in diverse contexts.

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