

The school as a learning organisation: a review revisiting and extending a timely concept

Schools today have to prepare students for life and work in a fast-changing world, for jobs and for using technologies some of which haven't yet been created. But schools and school systems aren't keeping up: all too often, teachers aren't developing the practices and skills required to meet today's learners' diverse needs. The education sector doesn't have a great track record of innovating itself. Change is complex and multifaceted; creating lasting change is hard. Reforms frequently fail to take hold or at best get 'adopted' superficially without altering behaviours and beliefs (Fullan, 2015). Many reform efforts prepare schools inadequately for the changing environment (OECD, 2015a). Meanwhile, schools are under pressure to learn fast and teachers are urged to become 'knowledge workers' to deal effectively with growing challenges of the changing environment (Schleicher, 2012, 2015).

In response, policy makers, educators and researchers have searched for alternative strategies to foster school-wide change, affect all aspects of school culture, and support schools in initiating and sustaining their own innovations. In this context, it is time to revisit arguments for reconceptualising schools as learning organisations (SLOs), a concept successfully practised in business and industry. SLOs have been seen as the ideal type of organisation for dealing with the changing external environment, for facilitating organisational change and innovation, and even improvements in students' learning and other outcomes. Does this argument stand up to scrutiny? Though the concept of the school as learning organisation – also known as the learning school – has inspired hearts and minds of a group of researchers, educators and policy makers internationally for around 25 years, relatively little progress has been made in advancing it in research or practice.

While a read of SLO texts from 20 years ago highlight many resonances, global and policy changes indicate a greater imperative but also some cautions. This review is part of an attempt to work towards a common understanding of the SLO today which is both solidly founded in the literature and recognisable currently by researchers, practitioners and policy makers in many countries¹. For us, this is not just a theoretical exercise. To be truly relevant and have the necessary impact, we would argue that the concept also needs to support those who are interested in transforming or further developing their school(s) into learning organisations at this point in time.

In this article, we first summarise different perspectives on the concept of the learning organisation (LO) as used more generally across disciplines. Next we describe our methodology for exploring the SLO and discuss definitional issues, before presenting a summary of our integrated model with accompanying rationale. Finally we discuss plans to bring the model to life, with associated issues for researchers, educators and policy makers.

The learning organisation

For several decades, the concept of the learning organisation has played a pivotal role in contemporary management theory and practice. Gaining popularity in the late 1980s, it became more widely used following Senge's (1990) highly influential best-seller *The Fifth Discipline: The Art & Practice of The Learning Organization*.

Over 25 years, organisational researchers have focused on conceptualising the LO, identifying characteristics of those organisations which have the capacity to continuously learn, adapt and change. The literature is disparate, with many different definitions. A few researchers have aimed

to create order in this 'scholarly chaos' by defining categories or typologies of different approaches. Among these are Yang et al (2004) whose comprehensive typology consists of four perspectives: 'systems thinking', the 'learning perspective', the 'strategic perspective' and the 'integrated perspective'.

Systems thinking perspective – the conceptual cornerstone of the LO is an open system which relates to and interacts with the environment. It's able to scan, discover changes and respond in order to restore equilibrium (O'Connor and McDermott, 1997; Birnbaum, 1988). An open system has an adaptive capacity enabling the creation of alternative futures. It does this by adopting the disciplines of learning as a team, sharing the same vision, internalising models of how the world works, being focused, patient and objective at a personal level, and thinking systemically (Senge, 1990). A systemic, thinking organisation can see the bigger picture by looking at the system's interrelationships both internally and externally.

Learning perspective – this focuses on studying the learning processes of and within the organisation i.e. organisational learning. An effective learning organisation can detect and correct error using deuterio learning (Argyris & Schön, 1978). Deuterio learning occurs when the organisation learns how to carry out single and double-loop learning, by identifying the processes and structures that facilitate learning. Learning is required at the whole organisation level. Social interaction, context and shared cognitive schemes for learning and knowledge creation are significant. Pedler, Boydell, & Burgoyne (1989, p1) describe the LO – as "an organization that facilitates the learning of all its members and continually transforms itself".

Strategic perspective – this emphasises the strategy required to develop core learning competencies for the present and the future. As such, learning capacity has to be created through an understanding of the necessary strategic internal drivers. Garvin's (1993) definition is of "an organisation skilled at creating, acquiring, and transferring knowledge, and at modifying its behaviour to reflect new knowledge and insights" (p. 80). This perspective also foregrounds the search for new ideas through exploration and exploitation, highlighting innovation and inquiry (March, 1991), but neglects some commonly defined elements such as individual learning.

Integrative perspective - this pulls together other perspectives, as defined by Watkins and Marsick's (1996), where:

"people are aligned to a common vision, sense and interpret their changing environment, generate new knowledge which they use, in turn, to create innovative products and services to meet customers' needs" (p.10).

'People' and 'structure' work together in the process of changing and developing with the following action imperatives identified by Yang, Watkins & Marsick (2004) – continuous learning, inquiry and dialogue, team learning, embedding systems for capturing and sharing learning, empowerment, system connection, and strategic leadership. Several other models exist.

Common features across perspectives

Many different interpretations of the concept exist, even among those who have aimed to develop integrated models. Despite these differences, we can identify common features. First, it is agreed that the LO is necessary, is suitable for any organisation, and that an organisation's learning capability will be the only sustainable competitive advantage in the future. Second, the LO is generally seen as a multilevel concept and can be defined as 'organic' and in terms of interrelations between individual behaviours, team organisation and organisational practices and culture. Third,

beliefs, values and norms of employees for sustained learning are emphasised. The need to create a learning atmosphere, learning culture or learning climate is frequently discussed in this context. As such, learning to learn is a key factor in becoming a LO (OECD, 2010). These common features are best reflected in the integrative perspective.

Methodology

The search for this literature in the English language² was carried out through: focused searches of nine electronic databases – ERIC, SAGE, Google Scholar, Taylor & Francis, Emerald, JSTOR, SpringerLink, Google, Science Direct – using the search terms ‘school as learning organisation’ and ‘learning school’; and contacts with leading experts in this area of work which led to identification of additional literature. The first approach led to selection of 25 most frequently found publications on the school as learning organisation and/or learning school. This search included empirical studies and theoretical pieces. Notable, a few were authored by academics who had first studied the concept outside education. Through the second approach, we used an additional seven publications to further enrich the analysis. The interdisciplinary review was extended to include investigation of related organisational change, learning, school improvement and effectiveness literatures.

The school as a learning organisation – definitional issues

Though literature on the SLO or learning school has steadily grown, it is less extended than that mainly dealing with private sector organisations. In common with other sectors though, the concept lacks clarity.

Lack in advancing the concept in research and practice partly stems from many different understandings. The problem also lies in a shortage of systematic empirical investigations. With notable exceptions, investigations have often been limited in scale, failing to offer real insight into the spread and/or performance of the SLO within and across countries. Nor do they give a thorough insight into policies, practices, and characteristics of schools that could support them in transforming into learning organisations. Existing examples don’t always use the term ‘learning organisation’.

Attempts to define the concept of the SLO include Senge, Cambron-McCabe, Lucas, Smith, & Dutton (2012) who, in applying their wider perspective to education, describe the SLO as one that is:

“re-created, made vital, and sustainably renewed not by fiat or command, and not by regulation, but by taking a *learning orientation*. This means involving everyone in the system in expressing their aspirations, building their awareness and developing their capabilities together”. (p.5)

Senge et al. suggest that practising the five disciplines can empower schools to meet the challenges of educational reforms, and improve their performance. Their work has inspired others to develop and assess schools as learning organisations using the five disciplines. Interpretation of specific characteristics of the five disciplines differs, leading to limited consensus on how the disciplines can best be operationalised. For some this flexibility – or as Örténblad (2002) calls it the ‘vagueness’ – is desirable; for others it diminishes its usefulness by offering insufficient guidance as to how to develop schools into learning organisations.

Starting in the mid-1990s, attempts were made for around a decade to describe processes, strategies and structures that would enable a school as a learning organisation (SLO) to learn and react effectively in uncertain and dynamic environments.

An example of a holistic definition is that of Watkins & Marsick (1996; 1999) through which they offer schools operational guidance. They consider a learning organisation to be one in which people are aligned to a common vision, sense and interpret their changing environment, and generate new knowledge which they use, in turn, to create innovative products and services to meet customers' needs. Silins et al (2002) provide a similar holistic definition based on investigating SLOs in South Australian and Tasmanian secondary schools. They conclude that SLOs:

“employ processes of environmental scanning; develop shared goals; establish collaborative teaching and learning environments; encourage initiatives and risk taking; regularly review all aspects related to and influencing the work of the school; recognise and reinforce good work; and, provide opportunities for continuing professional development” (p.26-27).

Learning organisations versus professional learning communities

Definitional issues are confounded by a related body of research on professional learning communities (PLCs). Several sources refer to both concepts as similar but distinct (eg Leithwood and Louis, 1998; Giles and Hargreaves, 2006). The origins of PLCs differ, with the emphasis on 'community'. In our view, adding the notion of community brings 'heart' into the concept of learning organisation. An ethic of interpersonal caring is central to the idea of school community (Giles and Hargreaves, 2006), permeating the life of teachers, students and school leaders. The community focus in PLCs emphasises mutually supportive relationships and developing shared norms and values, strongly influenced by the presence and development of trust. As Mitchell & Sackney (2000, p.6) argue, “the learning community is concerned with the human experience and that this concern is not necessarily evident in a learning organization”. The connecting point of both concepts, potentially, is how an organisation's 'collective life' (Douglas & Wynoski, 2011) affects its way of thinking about reality and approaching problems, opportunities and learning. PLC research has also emphasised a committed focus on teaching and learning, the use of assessment and other data to inquire into practice and evaluate progress, and the notion of collective responsibility – the sense that all members have a stake in all students' and each other's learning, development and success.

Use of the term 'professional learning communities' in some countries and school systems to refer to teams of teachers frequently mandated to meet as data teams – or even smaller voluntary groups engaged in a range of inquiry processes – limits its potential for organisation- or system-wide change. A more holistic concept is needed to merge the caring, pedagogically-focused and collectively responsible aspects of professional learning community, with further research and theory from other disciplines to capture an organisation-wide collaborative culture which places learning at all levels – individual, group and collective – front and centre of a school's way of being and operating.

Assessing the effectiveness of the school as learning organisation

While literature has accumulated around the importance of turning schools into learning organisations, there still is relatively little evidence to support the argument that such schools are associated with better performance and greater innovation. From our sample of 32 identified

publications, only five explored the impact on student outcomes (Author and Author, 2016). Not all studies show a positive impact on student outcomes. In contrast, some researchers have provided evidence for 'the acclaimed promise' of the SLO on student performance. Among them are those who define student outcomes more broadly than merely in terms of academic outcomes. The Australian LOLSO project is an example (Silins, Zarins, & Mulford, 2002). Their findings support a growing conviction that what counts as effective education goes beyond academic achievement, and should include, for example, ethical values, self-esteem, students' ability to self-direct learning and personal development, their wellbeing or happiness.

Benefits for staff included greater individual and collective understanding, improved skills and practices, more commitment, feeling affirmed as professionals and better able to learn, being more willing to work with colleagues and more comfortable around sharing their practice.

Common features

In summary, although the SLO literature isn't as vast as the general literature, they have in common that interpretations of the concept vary, sometimes considerably. Despite these differences, common features emerge. First, there is general agreement that the SLO is a necessity for dealing with the rapidly changing external environment. Implicitly or explicitly, the concept is viewed as suitable to any school organisation, regardless of context. This is exemplified by application of the concept in a wide range of countries including, for example, Australia, Canada, England and Wales, Iran, Israel, Korea, Malaysia, South-Africa and the United States.

Second, as in the general literature, the SLO is defined as 'organic' and closely connected to its external environment. Third, the SLO literature strongly emphasises the importance of individual, group and organisational learning with inquiry, problem solving and experimentation as key drivers of change and innovation. Almost all of our publications highlight the need for promoting team learning and collaboration, and continuous individual learning, but go further in implicating investigative and adaptive processes as part of this learning in order to stimulate change and innovation. The fact that many schools are still far removed from the ideal of the learning organisation – while the pressures of the external environment to make this transformation are mounting – argues for the importance of exploring new ways of doing things and striving for lasting innovations in education practice. Notably, ICT is rarely discussed in this context.

Last, much of the literature emphasises the importance of beliefs, values and norms of employees for continuous and collaborative learning, and processes, strategies and structures to create the conditions for such learning, experimentation and innovation to flourish. These are sometimes brought together in holistic, integrated models.

An integrated model of a school as a learning organisation

Based on our analysis of the learning organisation literature in general, and within a school context, we chose the seven dimensions of Marwick & Watkins' (1996) (school as) learning organisation model (*Dimensions of the Learning Organisation Questionnaire*) as a theoretical starting point when developing our integrated SLO model. We selected it because it captured all of the different perspectives and because of its orientation to action, as articulated in seven action imperatives (dimensions) which provide operational guidance. We then tested it out, by mapping the findings of our publications against the dimensions. This testing suggested sufficient support for using the model as a basis for further development.

Our review, however, suggested the need to refine some dimensions and the framework of indicators, to take account of related literature and our search of more recent and cross disciplinary literature. To further strengthen its applicability to contemporary school organisations, informed by a small network of experts, we proposed refinements and operationalised the dimensions of the SLO in an integrated model (Authors, 2016) in which the collective endeavour is focused on:

- Developing and sharing a vision centred on the learning of *all* students;
- Creating and supporting continuous learning opportunities for all staff;
- Promoting team learning and collaboration among staff;
- Establishing a culture of inquiry, innovation and exploration;
- Embedding systems for collecting and exchanging knowledge and learning;
- Learning with and from the external environment and larger learning system; and
- Modelling and growing learning leadership.

As a consequence of this collective endeavour, a school as a learning organisation has the capacity to change and adapt routinely to new environments and circumstances as its members, individually and together, learn their way to realising their vision.

Each dimension is broken down into a set of elements³. We now summarise the dimensions, highlighting our rationale for inclusion and revisions in relation to the current context.

Developing and sharing a vision centred on the learning of all students

Identifying and articulating a vision was consistently highlighted in reviewed SLO literature and confirmed in analysis of the contemporary environment and wider improvement and leadership literature. It is agreed that shared vision has to shape the organisation, give a sense of direction to change and innovation efforts, and serve as a motivating force for sustained action to achieve goals. This process involves staff, students, parents and other stakeholders. And there is some reference to an emphasis on teaching and learning (e.g. Silins et al, 2002). But our study highlights an omission: frequently little or no guidance exists on the vision's focus. In contrast, our review leads us to focus vision squarely on students, emphasising quality and equity.

Student outcomes measured by international assessments help to understand part of the picture today, and knowledge is increasingly extensive about teaching practices associated with better quality in these outcomes. Other cognitive outcomes, including '21st century skills', are now recognised and starting to be included in curricula and international assessments (e.g. PISA's collaborative problem solving). These will become more essential in the world described in our introduction. But such outcomes simply don't tell us everything about what it means for students to be successful at school and prepared for future life. Other essential outcomes today include students' personal and social development, such as wellbeing or resilience. And these non-cognitive outcomes have as much to do with learning as cognitive ones, as seen in UNESCO's (Delors et al, 1996) 'four fundamental types of learning' – *learning to know*, *learning to do*, *learning to live together* and *learning to be*. They are essential for students to develop to their fullest potential.

Equally, integrating those on the margins of society whose learning difficulties undermine their self-confidence is one of today's greatest challenges. Wider literature suggests that any inspiring and motivating vision to transform a school into a learning organisation should include moral purpose – complete and central commitment to making a difference in *all* students' learning and lives – and focus on learning and teaching that influences a broad range of outcomes for today and the future.

To address all students' needs, in translating that vision into reality, understanding the nature of learning is becoming essential in order to realise how teaching can most powerfully enhance learning (e.g. Dumont, Istance & Benavides, 2010).

Creating and supporting continuous learning opportunities for all staff

With support across both reviewed and extended literatures, continuous learning of individual staff retains its prominence as a dimension. For some schools and systems, this may be a 'no-brainer'. But great disparity still exists between countries in teachers' access to learning opportunities (OECD, 2013b). Furthermore, since much SLO research has been carried out, a surge of evidence shows that teachers' professional development can have a positive impact on student performance and teachers' practice (e.g. Timperley et al, 2007). Consequently, researchers, educators and policy makers internationally increasingly support the notion of investing in quality, career-long opportunities for professional development. In considering learning organisations, use of the word 'learning' rather than 'development' is significant. Recent literature and current challenges imply that educators need to take much greater charge of their own learning – in essence, they must become the self-regulated learners that learning literature suggests their students need to be.

Our review leads us to conclude that the SLO has a supportive culture, and invests time and other resources in quality, ongoing and active professional learning opportunities for all staff – teachers, school leaders and support staff – starting with induction into the profession. The professional development and learning literature emphasise how work-based learning and external learning (e.g. workshops or university courses) need to be connected, ensuring professional learning is sustainably embedded in daily practice. Staff also have to be fully engaged in identifying aims and priorities for their professional learning in line with school goals and student learning needs. And continuous assessment and feedback are built into daily practice, producing reflection, analysis and challenges to established thinking patterns which are necessary to bring about and embed change and innovation (Timperley, 2011).

Promoting team learning and collaboration among staff

In line with extensive confirmation across the SLO and wider literature, team learning maintains its place in our model. Neuroscience demonstrates how we learn through social interaction. Literature informing this dimension highlights a way of working designed to get members of a team thinking and acting together. Significantly, team learning isn't collaborative learning, per se, but rather the collective learning shared among people. This dimension is particularly influenced by PLC literature. Strong PLCs are collaborative cultures which deal with change more effectively and where professional capital is enhanced (Hargreaves & Fullan, 2012). Trust forms the foundation for co-operation between individuals and teams; the essence of caring.

Importantly, there is an 'edge' to the collaboration. The notion of collegiality is not new (Little, 1990) but it has not been commonly associated with the SLO literature. It is a form of collaboration more likely to lead to deeper learning and improvement as it creates greater interdependence, collective commitment, shared responsibility, and review and critique. Such 'deprivatisation' of practice as the PLC literature describes it (eg Kruse et al, 1995) or 'joint practice development' (Fielding et al., 2005) is a "process of learning new ways of working through mutual engagement that opens up and shares practices with others". In line with current collaborative conceptions of professionalism (eg Wang et al, 2014), practice is open to the scrutiny and feedback of others and staff regularly reflect together on how to solve student learning problems, and learn how to enhance their practice. School structures are thus marshalled to encourage collaboration and dialogue among staff. The review also includes a collaborative form of meta-learning (Watkins et al, 2000), where SLOs

colleagues not only learn to learn in SLOs; but they learn about their learning together – collective meta-learning (Author, 2010).

Establishing a culture of inquiry, innovation and exploration

This dimension updates the original model's inquiry dimension, but adds Silins et al's (2002) initiative and risk taking, which we highlight through innovation and exploration. To reflect critically on your work and profession, and be continuously engaged in self-improvement within an organisation requires a pervasive spirit of inquiry, initiative and willingness to experiment with new ideas and practices (Watkins & Marsick, 1996). Our review suggests that today's SLOs need inquiry mindsets. Literature from beyond SLO sharpens understanding of how professionals must be able to tolerate ambiguity, avoid snap judgements, consider different perspectives, and pose increasingly focused questions (Earl & Katz, 2006). Inquiry is fundamental to professional growth, and to decisional capital; making informed decisions about learning, teaching and children gives professionals confidence, competence, insight, sound judgement, and the ability to adapt (Hargreaves & Fullan, 2012).

It's now generally accepted that just doing more of the same is inadequate to the task of moving forward. Blending innovation with inquiry, through a development and research process can ensure that the innovation is disciplined (Hargreaves, 2003). A mindset for innovation (Schley & Schratz, 2011) enables people to challenge their and others' existing mental models. It also ensures that a critical stance is taken, so that problems are well understood, people are clear about how they contribute to issues, selected focus areas and innovations are appropriate, and staff engage in necessary professional learning (Halbert & Kaser, 2013). The SLO supports and protects those who initiate and take risks (Masten, 2013) and problems and mistakes are seen as opportunities for learning (Silins et al, 20002). Inquiry is fundamental here, as the school uses inquiry cycles in identifying and analysing mistakes, learning from them and applying that knowledge to move forward.

Embedding systems for collecting and exchanging knowledge and learning

Our review reinforces the previous model's call for strategies and structures that allow the schools to learn and react effectively in uncertain environments. Schools need systems to ensure they are 'knowledge rich'. While data use isn't new for many schools, 'big data' is now part of the landscape, and analytics offer much greater sophistication in exploring an organisation's situation. Without systems, a learning organisation can't thrive. Effective data use by teachers, school leaders and support staff has become central to school-improvement processes (Schildkamp, Lai, & Earl, 2012). Reading of the literature suggests that significant improvements are possible when schools increase their collective capacity to engage in ongoing assessment of and for learning, and regularly evaluate, amend and update their theories of action (Argyris & Schön, 1978) about how interventions are intended to work and whether they actually do. In this, they might be supported by new methodologies, for example evaluative thinking (Earl & Timperley, 2015).

Wider literature in particular suggests that SLOs also need to ensure that their staff have the capacity to analyse and use data to improve and, where necessary, transform existing practice. This is essential, as evidence shows that in many school systems the capacity to systematically collect, analyse and exchange knowledge and learning is underdeveloped (e.g. Schildkamp, Karbautzki, & Vanhoof, 2014). While many are seduced into treating information as knowledge, it isn't; social processing brings information to life. This is a fundamental contribution of both the LO and SLO literatures. For a learning culture to emerge, schools need to create structures for regular dialogue and knowledge exchange where lessons learned are shared. Using external research

findings to improve day-to-day teaching practice is also far from common practice (OECD, 2013b). Many schools struggle to become 'research engaged' because staff lack necessary skills, resources or motivation (eg Brown, 2015).

In this, today's management information systems should allow for storing and easy access to data that can fuel new organisational routines to foster continuous improvement. Our review suggests to us that developing digital tools needs to be based on considerations of how to grow capacity if deeper learning and equity are goals, and on promoting collective responsibility and internal accountability among professionals. The right systems can support 'knowledge-based organizational learning' (Supovitz, 2010) where there is a: "focus on continuous change, stimulated by multiple sources of knowledge, where knowledge is a constantly changing collective understanding not of "facts" but of the action implications of what is known together" (Louis, 2008, p.15-21).

Learning with and from the external environment and larger learning system

As 'open systems', sensitive to their external environment, SLOs can't operate in a vacuum. They are sustained by connections to diverse partners, networks and communities. What's 'out there' is 'in here'. Connection to the wider system features in both models and other literature (eg Silins et al, 2002). The school goes beyond being open to outsiders. Critically, as a SLO, it is proactive in continuously scanning its environment to monitor and respond to external challenges and opportunities, broadening the scope of information, policy, theory and practice brought to bear on its development and decision-making processes. Connection with its community, partners and networks enriches its capacity to serve its students, as it looks to build and maintain the professional capital (Hargreaves & Fullan, 2012) it needs. As the school effectiveness and improvement literatures also highlight, parents or guardians are key partners. Without co-operation between families and schools, it's unlikely that all students will meet the high expectations set by a demanding society (e.g. Castro, Exposito, Lopez-Martin, & Gaviria, 2015; Shute, 2011). But, thinking holistically about students also means ensuring connections with a diverse range of services. Integrating social services facilitates information and knowledge sharing between professionals, with increased co-operation and collaboration leading to improvements in service quality, and production of better outcomes and satisfaction amongst service users and providers (OECD, 2015b). And, in a broadening of view around who might be considered as an educator (OECD, 2013a), partnerships also involve non-traditional stakeholders, eg external advisors (consultants), public organisations, non-governmental organisations, business and foundations (eg. Silins et al 2002). With an increased focus on evidence use to support decisional capital, partnerships with higher education institutions receive greater profile. Such partnerships potentially benefit both partners, as schools draw on research partners' expertise and capacity as they engage in double loop learning (Ainscow, 2016), and innovative ideas and practices implemented in individual schools influence the thinking in universities and teachers colleges (Portfeld, 2006).

Other divergences from the earlier model include greater emphasis on mutual engagement and relationships with those in the larger learning system, leading to co-production (Ostrom et al., 1973; Cahn, 2000) of processes. The school works with and through community and other partners: contributing to the community and strengthening links, but also revitalising community (OECD, 2013a). Also, earlier SLO work mainly focuses on peer learning and collaboration within the same school. Notably, connections between schools, as well as within them, are increasingly significant, with a strengthening view that teacher professionalism includes peer networking (Wang et al, 2014; OECD, 2016). As networked learning and collaboration across school boundaries is increasingly emphasised, our view suggests stronger emphasis on forging synergies, and sharing and creating knowledge and innovations with various partners (eg Bowen et al., 2006; Bentley and Cazaly,

2015; Harris and Tassel, 2005). Networking with other schools is increasingly a vital element of today's SLO. At its best, networked-based learning will facilitate collaboration and peer learning and helps reduce the isolation of independently functioning schools, helping to transform them into LOs that are part of a larger "learning system".

Modelling and growing learning leadership

Leadership brings the separate parts of the learning organisation together to ensure that the whole adds up coherently and is sustainable. The earlier integrated model emphasised strategic leadership (eg Coppieter, 2005). Transformational leadership also significantly contributes to school conditions and directly fosters organisational learning (Leithwood, Jantzi, & Steinbach, 1998). Our review incorporated these, adding literature on the learning, innovation and change foci of leadership, including that which deepens, extends and grows leadership to ensure sustainability.

We chose the descriptor 'learning leadership'. Drawn from our earlier work on Innovative Learning Environments (OECD, 2013c), it shares common features with other learning-focused forms of leadership, but is distinct. It's most closely aligned to interpretations of leadership for learning that take a broad, growth-oriented view, encompassing professional, leadership and organisation learning (MacBeath & Dempster, 2008). In relation to the SLO, we define learning leadership as *directional influence that models and keeps individual, group and collective learning at the heart of the endeavour to realise its vision*. Learning is at the heart of daily leadership practice.

Our review implied that in SLOs school leaders model and champion today's professionalism throughout the school and beyond its boundaries. They also establish a learning culture, and promote and facilitate organisational learning (eg. Berkowitz, Bowen, Benbenishty, & Powers, 2013), shaping the work and marshalling administrative structures, to support professional dialogue, collaboration and knowledge exchange. They have to create a safe and trusting environment to enable colleagues to challenge the status quo while fostering their capacity to challenge others' and their own habits and ways of thinking and operating. This requires them to be adaptive, creative and, at times, courageous.

In this updated model, staff are not just empowered, leadership is now better understood as distributed. Leadership responsibilities are more broadly shared with others, inside and outside the school. Distributed leadership develops, grows and is sustained through collaboration, team work, and participation in PLCs and networks. School leaders mentor and coach colleagues, ensuring sustainable leadership through succession. Students are also engaged more actively in designing initiatives that improve relevance for them as well as their outcomes (Whitehead, 2009). And school leaders establish strong collaborations and networks, share resources, and/or work together, as well as with parents, community members and other partnerships. These engagements are designed to enlarge the scope of leadership beyond the school to the welfare of young people in the city, town or region.

Transversal themes

A set of cross-cutting themes – the 4 T's – appear to flow through the dimensions and exert influence across the whole: trust, time, technology and thinking together. Trust underpins the kind of relationships needed internally and externally for SLOs to flourish. Similarly, time is an essential structure for all aspects of school development. ICT is now a powerful driver of educational change and innovation (e.g. Kamylyis, Punie & Devine, 2015). It enters the SLO in many different ways; it plays an essential role in shaping the learning – of students, teachers, school leaders, parents and others, and serves as a durable and valuable means for creating and transferring knowledge and

facilitating collaboration within and across schools and with the external environment (Istance & Author, 2013). Many calls have been made for more democratic and inclusive forms of collaboration (e.g. Surowiecki, 2004), with new understanding about notions of collective intelligence (Leadbeater, 2009) and collective efficacy (Farmer, 2014). As the SLO is essentially a social enterprise, thinking together comes into play in developing a shared vision and when welcoming outside approaches as it does when staff are working as a team.

Moving forward

If we are serious about bringing about the changes in schools that will be needed to prepare our children for their future, we will have to think differently. While the concept of a school learning organisation may not be new, the time is right to give it a new lease of life: to draw on what previous studies and efforts can offer, but to connect this to a wider relevant knowledge base and the current context.

Deeper understanding is needed on how schools today can develop as learning organisations, and can be helped to do so. To this end, the literature review is informing the OECD's work on schools as learning organisations. OECD will be gathering evidence on this from a wide range of countries. In its current form, our model is intended to offer a stimulus and provide practical guidance on how schools might support and use learning at all levels – individual, team and organisational – to improve and transform themselves into a learning organisation and ultimately enhance outcomes. In that sense, it is both intended as a process the school goes through which is the means to an end – the ultimate difference that is made for students – and a positive intermediate outcome in its own right; a school that is a powerful and thriving learning organisation. The language is deliberately action-oriented, and elements highlight both what a school aspires to and the processes it goes through in its journey of developing itself as a learning organisation.

As our review suggests, meaning making is critical to learning, and team learning will bring different understanding in varied contexts. This model isn't intended to be fixed in stone. Educators and policy makers need to bring the model to life through a process of knowledge animation (Author, 2010). We hope that through processing the ideas together, and informed by their own experience and context, their collective learning can create new knowledge and action as they design context-specific models or frameworks. As such, the model will go through a process of refinement in varied contexts, and dimensions may have diverse weightings depending on existing policies and procedures. But if they take the idea of school as a learning organisation seriously, practitioners and policy makers will be impelled to question whether their policies and procedures enable or constrain schools as learning organisations.

The policy climate, locally, regionally and nationally, clearly matters. Some initiatives and experiments will fail. Organisations that systematically and effectively learn from failure are rare (Cannon & Edmondson, 2005); this applies to schools too. But people are often afraid to innovate – or even just experiment on a small scale – when mistakes and experiments that fail are viewed in the wrong way, or accountability systems punish them (Author & Temperley, 2009). Experimentation then gives way to drilling students for tests and a focus on memorisation rather than understanding (Sahlberg, 2010). The question is, can schools become learning organisations in this kind of climate or are they just being forced to push a boulder uphill? To understand this better, we need more comparative studies of systems trying to transform schools into learning organisations.

A school also doesn't transform into a learning organisation on its own. Teachers and school leaders need help. They need the right conditions and support to make this transformation. Time and other resources, including engagement in networked learning and collaboration across school boundaries, are essential. They need professional learning opportunities and materials. In some countries schools and their principals have considerable discretion over resources while in others, school boards, local or higher levels of government play a more prominent, and sometimes inhibitory, role. Also, schools are not equal in terms of their resources and capacity to use these effectively. Government policies and support structures are needed that are sensitive to local and school differences if SLOs are to blossom and thrive. Further understanding is needed on what is required in terms of governance and support structures, including the change and innovation capacity of leaders at other levels of the system. These are fundamental questions deserving attention.

This is also a call to educators to be open to the kinds of thinking and relationships SLOs demands. We know this isn't easy. Changing mindsets of participants in the change process and the culture of their organisations is rarely straightforward. Undetected inhibitors and barriers – organisational learning disabilities (Senge 1990) or dysfunctional learning habits (Louis, 1994) – protect the existing state. Ability to challenge the status quo – including our own mental models, doesn't come without effort. School leaders and teachers could be supported in this by further examples of successful learning organisations in different countries and contexts.

Meanwhile, our own starting hypothesis is that the seven action-oriented dimensions of the model together add up to a sustainable learning organisation; that is, successfully realising all seven dimensions is greater than the sum of the parts. But, working with practitioners, policy makers and researchers from around the globe, we hope to learn more about how the individual dimensions relate to each other, and explore the impact of SLOs at a range of levels. Practising what we preach, we intend to continue to challenge our own assumptions, updating the model as we learn more about SLOs.

References

Argyris, C. and Schön, D. (1978) *Organisational Learning: A Theory of Action Perspective*, Reading, Mass: Addison Wesley.

Ainscow, M. (2015) *Towards Self-improving School Systems: Lessons from a city challenge*. London: Routledge.

Bentley, T. and Cazaly, C (2015) The shared work of learning: lifting educational achievement through collaboration. Mitchell Institute research report No 03/15. Melbourne: Mitchell Institute for Health and Education Policy and Centre for Strategic Education.

Berkowitz, R., Bowen, G., Benbenishty, R. and Powers, J. D. (2013) A cross-cultural validity study of the school success profile learning organization measure in Israel, *Children & Schools*, 35 (3):137-146.

Birnbaum, R. (1988) *How Colleges Work. The Cybernetics of Academic Organisation and Leadership*, Jossey-Bass Publishers: San Francisco.

Bowen, G.L., R.A. Rose and Ware, W. B. (2006) The reliability and validity of the school success profile learning organization measure, *Evaluation and Program Planning*, 29 (1): 97-104.

- Brown, C. (2015) (ed) *Leading the Use of Research & Evidence in Schools*, London: IOE Press.
- Cahn, E. S. (2000) Co-producing justice: the new imperative, *UDC/DCSL Law Review*, 5 (105-123).
- Cannon, M.D. and Edmondson, A. C. (2005) Failing to learning and learning to fail (effectively): How great organisations put failure to work to improve and innovate, *Long Range Planning*, 38: 299-319.
- Castro, M., Expósito, E, Lopez-Martin, E. and Gaviria, J-L. (2015) Parental involvement on student academic achievement: a meta-analysis, *Educational Research Review*, 14: 33-46.
- Coppieter, P. (2005) Turning schools into learning organizations, *European Journal of Teacher Education*, 28 (2): 129-139.
- Delors, J. et al. (1996) *Learning: the Treasure Within – Report to UNESCO of the International Commission on Education for the Twenty-first Century*. Paris: UNESCO.
- Douglas, N. & Wykowski, T. (2011) *From Belief to Knowledge: Achieving and Sustaining an Adaptive Culture in Organizations*. Boca Raton, FL.: CRC Press.
- Dumont, H., Istance, D. and Benavides, F. (eds.) (2010) *The Nature of Learning: Using Research to Inspire Practice*, Educational Research and Innovation, Paris: OECD Publishing.
- Earl, L. and Katz, S. (2006) *Leading Schools in a Data-Rich World: Harnessing Data for School Improvement*. Thousand Oaks, CA: Corwin Press.
- Earl, L. & Timperley, H. (2015) Evaluative thinking for successful innovation. OECD Education Working Paper. http://www.oecd-ilibrary.org/education/evaluative-thinking-for-successful-educational-innovation_5jrxtk1jtdwf-en
- Farmer, A. K. (2014) Collective efficacy theory, in J. Mitchell Miller (ed) *The Encyclopedia of Theoretical Criminology*. Oxford: Wiley-Blackwell.
- Fielding, M. et al (2005) Factors Influencing the Transfer of Good Practice. DfES Research Report 615. University of Sussex.
- Fullan, M. (2015) *The New Meaning of Educational Change*, Fifth edition. London: Routledge.
- Garvin, D.A. (1993) Building a learning organization, *Harvard Business Review*, 71 (4): 78-91.
- Giles, C. and Hargreaves, A. (2006) The sustainability of innovative schools as learning organizations and professional learning communities during standardized reform, *Educational Administration Quarterly*, 42 (1): 124-156.
- Halbert, J. & Kaser, L. (2013), *Spirals of Inquiry for Equity and Quality*, Vancouver: BCPVPA Press.
- Hargreaves, A. & M. Fullan (2012) *Professional Capital: Transforming Teaching in Every School*. New York: Teachers College Press.

Hargreaves, D. (2003) *Education Epidemic: Transforming Secondary Schools Through Innovation Networks*. The Innovation Unit.

Harris, M. & van Tassel, F. (2005) The professional development school as learning organization, *European Journal of Teacher Education*, 28 (2): 179-194.

Istance, D. & Author (2013) OECD Work on Technology and Education: Innovative learning environments as an integrative framework”, *European Journal of Education*, 48 (1): 43-57.

Kampylis, P., Punie, Y., & Devine, J. (2015) *Promoting effective digital age learning. A European Framework for Digitally-Competent Educational Organisations*, Seville: JRC-IPTS.

Author & Author, (2016) What are the characteristics of the school as a learning organisation? OECD Education Working Papers Series. Paris: OECD.

Kruse, S. D., Louis, K.S. & Bryk, A.S (1995) An emerging framework for analyzing school-based professional community, in K. S. Louis, S.D. Kruse & Associates, *Professionalism and Community: Perspectives on Reforming Urban Schools*, Long Oaks: Corwin.

Leadbeater, C. (2009) *WE-THINK: Mass innovation, not mass production*. London: Profile Books.

Leithwood, K., Jantzi, D. & Steinbach, R. (1998) Leadership and other conditions which foster organizational learning in schools, in K. Leithwood and K.S. Louis (eds) *Organizational Learning in Schools*, Lisse: Swets & Zeitlinger.

Leithwood, K. & Louis, K. S. (1998) *Organizational Learning in Schools*. Lisse: Swets & Zeitlinger.

Little, J. W. (1990) Norms of collegiality and experimentation: workplace conditions of school success, *American Educational Research Journal*, 19(3): 325-40.

Louis, K. S. (1994) Beyond ‘managed change’: rethinking how schools improve, *School Effectiveness and School Improvement*, 5 (1): 2-24.

Louis, K. S. (2008) Creating and sustaining professional communities, in. A. M. Blankstein (ed) *Sustaining Professional Learning Communities*, Thousand Oaks, CA: Corwin Press.

MacBeath, J. & Dempster, N. (2008) *Connecting Leadership and Learning: Principles for Practice*. London: Routledge.

March, J. G. (1991) Exploration and exploitation in organizational learning, *Organization Science*, 2 (1): 71-87.

Masten, A. S. (2013) Risk and resilience in development. In P. D. Zelazo (Ed.), *Oxford Handbook of Developmental Psychology*. Vol. 2. New York, NY: Oxford University Press.

Mitchell, C. & L. Sackney (2000), *Profound Improvement: Building Capacity for a Learning Community*, Swets & Zeitlinger, Lisse.

O’Connor, J. & McDermott, I. (1997) *The Art of Systems Thinking. Essential Skills for Creativity and Problem-solving*. London: Thorsons.

OECD (2016) *Supporting Teacher professionalism: Insights from TALIS 2013*. Paris: OECD Publishing.

OECD (2015a) *Schooling Redesigned: Towards Innovative Learning Systems*, Educational Research and Innovation. Paris: OECD Publishing.

OECD (2015b) *Integrating Social Services for Vulnerable Groups: Bridging Sectors for Better Service Delivery*. Paris: OECD Publishing.

OECD (2013a) *Innovative Learning Environments*, Educational Research and Innovation, Paris: OECD Publishing.

OECD (2013b) *TALIS 2013 Results: An International Perspective on Teaching and Learning*, Paris, OECD Publishing.

OECD (2013c) *Leadership for 21st Century Learning*, Educational Research and Innovation, Paris: OECD Publishing.

OECD (2010) *Innovative Workplaces: Making Better Use of Skills within Organisations*, Paris: OECD Publishing.

Örtenblad, A. (2002) A typology of the idea of learning organization, *Management Learning*, 33 (2): 213–230.

Ostrom, E. W., Baugh, R., Guarasci, R. B., Parks, R. & Whitaker, G. P. (1973) *Community Organization and the Provision of Police Services*. Beverley Hills, CA: Sage.

Pedler, M., Boydell, T. & Burgoyne, J. G. (1989) Towards the learning company, *Management Education and Development*, 20 (1) 1-8.

Portfeld, I.S. (2006) *The University; A Learning Organization? An Illuminative Review Based on System Theory*, Karlstad: Karlstad University Studies.

Sahlberg, P. (2010) *Finnish lessons: What can the world learn from educational change in Finland?* New York: Teachers College Press.

Schildkamp, K., Lai, M. K. & Earl, L. (eds.) (2012) *Data-based Decision Making in Education: Challenges and Opportunities*. Dordrecht: Springer.

Schildkamp, K., Karbautzki, L. and Vanhoof, J. (2014) Exploring data use practices around Europe: Identifying enablers and barriers, *Studies in Educational Evaluation*, 42: 15-24.

Schleicher, A. (2015) *Schools for 21st-Century Learners: Strong Leaders, Confident Teachers, Innovative Approaches*, International Summit on the Teaching Profession, Paris: OECD Publishing.

Schleicher, A. (ed.) (2012) *Preparing Teachers and Developing School Leaders for the 21st Century: Lessons from around the World*. Paris: OECD Publishing.

Schley, W. & Schratz, M. (2011) Developing leaders, building networks, changing schools through system leadership, in T. Townsend and J. MacBeath (eds) *International Handbook of Leadership for Learning*. Dordrecht: Springer.

Senge, P. M., Cambron-McCabe, N., Lucas, T., Smith, B. & Dutton, J. (2012) *Schools That Learn: A Fifth Discipline Fieldbook for Educators, Parents, and Everyone Who Cares about Education*. New York: Doubleday.

Senge, P. (1990) *The Fifth Discipline: The Art and Practice of the Learning Organisation*, New York: Currency Doubleday.

Shute, V.J., Hansen, E. G., Underwood, J. S. & Razzouk, R. (2011) A review of the relationship between parental involvement and secondary school students' academic achievement, *Education Research International*, 2011: 1-10.

Silins, H., Zarins, S. & Mulford, B. (2002) What characteristics and processes define a school as a learning organisation? Is it a useful concept to apply to schools?, *International Education Journal*, 3 (1) 24-32.

Author (2010) Connecting learning communities: capacity building for systemic change, in A. Hargreaves, A. Lieberman, M. Fullan and D. Hopkins (eds) *Second International Handbook of Educational Change*. The Netherlands: Springer.

Author and Temperley, J. (2009) Creative leadership: a challenge of our times, *School Leadership and Management*, 29 (1): 63-76.

Supovitz, J. (2010) Knowledge-based organizational learning for instructional improvement, in A. Hargreaves, A. Lieberman, M. Fullan and D. Hopkins (eds) *Second International Handbook of Educational Change*, Dordrecht: Springer.

Surowiecki, J. (2004) *The Wisdom of Crowds: Why the Many Are Smarter Than the Few*. New York: Doubleday.

Timperley, H. (2011) *Realising the Power of Professional Learning*, Maidenhead: Open University Press.

Timperley, H., Wilson, A., Barr, H. & Fung, I. (2007) *Teacher Professional Learning and Development: Best Evidence Synthesis Iteration*, Wellington, NZ: Ministry of Education and University of Auckland.

Wang, L., Lai, M. and Lo, L.N.K (2014) Teacher professionalism under the recent reforms of performance pay in Mainland China. *Prospects*, 44(3): 429-433.

Watkins, C. et al. (1998) *Learning about learning*. Coventry: National Association for Pastoral care in Education.

Watkins, K. E. & Marsick, V. J. (1996) *In Action: Creating the Learning Organization*, Alexandria: American Society for Training and Development.

Watkins, K. E. & Marsick, V. J. (1999) *Dimensions of the Learning Organization Questionnaire: Introduction*, <http://www.partnersforlearning.com/instructions.html>

Whitehead, G. (2009) Adolescent leadership development: building a case for an authenticity framework, *Educational Management Administration & Leadership*, 37 (6): 847-872.

Yang, B., Watkins, K. & Marsick, V. (2004) The construct of the learning organization: dimensions, measurement, and validation, *Human Resource Development Quarterly*, 15 (1): 31–55.

¹ This article is based on a more extensive literature review published as an OECD Working Paper (Authors, 2016). References cited in this article are frequently examples of a larger body of literature.

² Though the authors individually master several languages, English is the one language they have in common.

³ Full details of the elements, and the research underpinning these, can be found in the working paper.