

Schools as Learning Organisations

The concept, its measurement and HR outcomes

Marco Kools

Schools as Learning Organisations.
The concept, its measurement and HR outcomes.

Scholen als lerende organisaties.
Het concept, de meting en HR uitkomsten.

Proefschrift
ter verkrijging van de graad van doctor aan de
Erasmus Universiteit Rotterdam
op gezag van de
rector magnificus
Prof.dr. R.C.M.E. Engels

en volgens besluit van het College voor Promoties.
De openbare verdediging zal plaatsvinden op

17 April 2020 om 11:30 uur

door

Marco Kools
geboren te Wouw

Doctoral committee

Promotors:

Prof. dr. A.J. Steijn

Prof. dr. V. Bekkers

Dr. B. George

Other members:

Prof. dr. J. Edelenbos

Prof. dr. E. Knies

Prof. dr. S. Severiens

Table of Contents

CHAPTER 1. INTRODUCTION	7
1.1 INTRODUCTION	8
1.2 PROBLEM DESCRIPTION AND RESEARCH QUESTIONS	9
1.3 EMPIRICAL, THEORETICAL AND PRACTICAL RELEVANCE OF THE STUDY	14
1.4 METHODOLOGICAL OVERVIEW OF THE DISSERTATION	17
1.5 STRUCTURE OF THE DISSERTATION	21
1.6 PEER REVIEWED ARTICLES AND PUBLICATIONS BASED ON THIS STUDY	23
REFERENCES	26
CHAPTER 2. A REVIEW OF THE (SCHOOL) AS A LEARNING ORGANISATION LITERATURE	33
2.1 INTRODUCTION	34
2.2 DEFINING THE LEARNING ORGANISATION	35
2.3 REVIEWING THE SCHOOL AS A LEARNING ORGANISATION LITERATURE	44
2.4 MEASURING THE (SCHOOL AS A) LEARNING ORGANISATION	52
2.5 CRITICS OF THE LEARNING ORGANISATION AND SCHOOL AS A LEARNING ORGANISATION	58
2.6 DISCUSSION AND CONCLUSION	63
REFERENCES	65
ANNEX 2A. SCHOOL AS A LEARNING ORGANISATION DEFINITIONS	73
CHAPTER 3. DEFINING AN INTEGRATED SCHOOL AS A LEARNING ORGANISATION MODEL	78
3.1 INTRODUCTION	79
3.2 TOWARDS AN INTEGRATED SCHOOL AS A LEARNING ORGANISATION MODEL	80
3.3 OPERATIONALISING THE UNDERLYING DIMENSIONS	80
3.4 THE NEED FOR FACILITATING GOVERNMENT POLICIES AND SUPPORT STRUCTURES	103
3.5 DISCUSSION AND CONCLUSION	103
REFERENCES	107
CHAPTER 4. THE SCHOOL AS A LEARNING ORGANISATION AND ITS MEASUREMENT	116
4.1 INTRODUCTION	117
4.2 BUT WHAT IS THE ADDED VALUE OF THE SCHOOLS AS LEARNING ORGANISATIONS SCALE?	117
4.3 THE (SCHOOL AS A) LEARNING ORGANISATION	119
4.4 METHODS	121
4.5 RESULTS	123
4.6 DISCUSSION AND CONCLUSION	127
REFERENCES	130
ANNEX 4A. SCHOOLS AS LEARNING ORGANISATIONS SCALE	133

<u>CHAPTER 5. INDIVIDUAL AND ORGANISATION ANTECEDENTS OF SCHOOLS AS LEARNING ORGANISATIONS</u>	136
5.1 INTRODUCTION	137
5.2 THE SCHOOL AS A LEARNING ORGANISATION AS AN ORGANISATIONAL PROCESS INNOVATION	137
5.3 ANTECEDENTS OF SCHOOLS DEVELOPING AS LEARNING ORGANISATIONS	139
5.4 THE WELSH CONTEXT	144
5.5 METHODS	144
5.6 RESULTS	148
5.7 DISCUSSION AND CONCLUSION	150
REFERENCES	155
<hr/>	
<u>CHAPTER 6. A COMPARATIVE CASE STUDY ANALYSIS OF ANTECEDENTS OF SCHOOLS AS LEARNING ORGANISATIONS</u>	160
6.1 INTRODUCTION	161
6.2 METHODS	161
6.3 RESULTS	165
6.4 DISCUSSION AND CONCLUSION	171
REFERENCES	178
ANNEX 6A. GUIDING QUESTIONS FOR SEMI-STRUCTURED INTERVIEWS	181
<hr/>	
<u>CHAPTER 7. SCHOOLS AS LEARNING ORGANISATIONS AND HR OUTCOMES: EVIDENCE BASED ON TALIS DATA</u>	182
7.1 INTRODUCTION	183
7.2 LITERATURE REVIEW	183
7.3 METHODS	185
7.4 RESULTS	188
7.5 DISCUSSION AND CONCLUSION	192
REFERENCES	197
ANNEX 7A. TEACHER JOB SATISFACTION AND SELF-EFFICACY IN TALIS 2013	202
ANNEX 7B. MAPPING TALIS 2013 ON THE SCHOOL AS A LEARNING ORGANISATION	203
ANNEX 7C. RESULTS EXPLORATORY FACTOR ANALYSIS AND RELIABILITY ANALYSIS	204
ANNEX 7D. RESULTS OF REGRESSION ANALYSIS FOR THE SCHOOL AS A LEARNING ORGANISATION; JOB SATISFACTION WITH WORK ENVIRONMENT; AND SELF-EFFICACY	205
<hr/>	
<u>CHAPTER 8. SCHOOLS AS LEARNING ORGANISATIONS AND HR OUTCOMES: EVIDENCE BASED ON THE WELSH CASE</u>	206
8.1 INTRODUCTION	207
8.2 LITERATURE REVIEW	207
8.3 THE WELSH CONTEXT	209
8.4 METHODS	210
8.5 RESULTS	213
8.6 DISCUSSION AND CONCLUSION	218
REFERENCES	224

CHAPTER 9. CONCLUSIONS AND DISCUSSION	228
9.1 INTRODUCTION	229
9.2 SUMMARY OF THE MAIN FINDINGS	229
9.3 ANSWERING THE CENTRAL RESEARCH QUESTION	241
9.4 CONTRIBUTIONS OF OUR RESEARCH	244
9.5 METHODOLOGICAL REFLECTIONS	248
9.6 FUTURE RESEARCH AGENDA	252
9.7 RECOMMENDATIONS FOR PRACTICE	259
REFERENCES	261
SUMMARY IN ENGLISH	269
SUMMARY IN DUTCH (SAMENVATTING IN HET NEDERLANDS)	279
ABOUT THE AUTHOR	290

CHAPTER 1. INTRODUCTION

1.1 Introduction

“Today’s schools must equip students with the knowledge and skills they’ll need to succeed in an uncertain, constantly changing tomorrow. That means preparation for constant learning and growing. We used to learn to do the work, now learning is the work. Students are unlikely to become lifelong learners unless they don’t see their teachers as active lifelong learning. That means schools today have to be effective learning organisations” (Schleicher, 2018).

A generation ago, schools would be expected to equip students with the skills needed for the rest of their lives. In today’s world they need to prepare students for life and work in a rapidly changing environment, for jobs and for using technologies some of which have not yet been created (Schleicher, 2018; Benevot, 2017). Cognitive abilities such as literacy and problem solving are still crucial, but teachers also must support students in developing the strong social and emotional foundation skills needed to thrive in a highly dynamic labour market and rapidly changing world. Education today is much more about ways of thinking that involve creative and critical approaches to problem solving and decision making, and where students influence what they learn. Their interests, motivation and overall well-being are taken in consideration for shaping their learning (Dumont, Istance, & Benavides, 2010; Trilling & Fadal, 2009). Traditional models of schooling whose organisational patterns deeply structure schools – the single teacher, the classroom segmented from other classrooms each with their own teacher, and traditional approaches to teaching and classroom organisation, etc. – are inadequate for delivering these 21st century learning agendas, especially for the most disadvantaged students in society (Schleicher, 2012).

Countries have been trying to accommodate their increasingly complex education systems to the changing times. This development is not limited to the education sector. The changing environment has in many countries called for public sectors to innovative their services (Agostino, Arena, & Arnaboldi, 2013; Albury, 2005). Research evidence shows us how innovation can contribute to improving the quality of public services, as well as to enhancing the problem-solving capacity of governmental organisations in dealing with societal challenges (Damanpour & Schneider, 2009). Hence innovation is not an optional luxury for public services and the public sector: it is core and needs to be institutionalized as a deep value (Bekkers, Edelenbos, & Steijn, 2014; De Vries, Bekkers, & Tummers, 2014; Albury, 2005).

Few would therefore dispute that the primary task for management today, whether in public- or private organisations, is the leadership of organisational change (Fernandez & Rainey, 2006; Plowman, et al., 2007; Damanpour & Schneider, 2009; Agostino, Arena, & Arnaboldi, 2013). However, organisational change is a complex, multifaceted process and creating sustainable change is hard (Kuipers, et al., 2014; Walker, 2006). Whilst many public sector organisations have embarked on the path of change and innovation, many do not achieve the intended outcomes (Potts, 2009; Pollitt & Bouckaert, 2011; De Vries, Bekkers, & Tummers, 2014).

Unfortunately, the education sector is no exception to this. In many cases, reforms have failed to take hold in the classrooms or at best get ‘adopted’ on the surface without altering behaviours and beliefs. Many reform efforts and policies have also failed to adequately prepare schools for the changing environment (Viennet & Pont, 2017; Fullan, 2011; Giles & Hargreaves, 2006). This while, schools are nowadays urged to learn faster than ever before to deal effectively with the seeming growing pressures of a rapidly changing environment (Fullan & Quinn, 2016).

As a response to the often-disappointing results of reform initiatives and a seeming lack in ability of many contemporary schools, policy makers, educators and scholars have looked for alternative strategies that could foster school-wide change and affect all aspects of the school culture. In this context a growing body of scholars, educators and policy makers have argued for reconceptualising schools as ‘learning organisations’ (Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012; Silins, Zarins, & Mulford, 2002; Schlechty, 2009; Stoll & Fink, 1996; Bowen, Rose, & Ware, 2006; Giles & Hargreaves, 2006). The argument is that this is the ideal type of school organisation for dealing with the changing external environment, for facilitating change and innovation, and even effectiveness, i.e. improvements in human resource (HR) outcomes of school staff, like job satisfaction and self-efficacy, and ultimately student learning.

1.2 Problem description and research questions

Arguably more than ever before, schools and our school systems at large need change strategies that allow them to relatively independently respond to and thrive in a rapidly changing environment. This rather than continuing with what some have called the ‘tinkering towards utopia’ attempted by wave after wave of reforms (Tyack & Cuban, 1995). In response to the often disappointing results of reform initiatives and a seeming lack in ability of many contemporary schools to initiate and

sustain their own innovations after an initial ‘golden age’ (Giles & Hargreaves, 2006), a seeming growing number of scholars and educators have argued for reconceptualising schools as learning organisations. According to Garrat for example (cited in Stoll and Fink, 1996, p. 150) “to be relevant, schools must become learning organisations where the rate of learning within the organisation must be equal to, or greater than, the rate of change in the external environment”.

Senge et al. (2012) describe the school as a learning organisation (SLO) as one that “involves everyone in the system in expressing their aspirations, building their awareness and developing their capabilities together. In a school that learns, people who traditionally may have been suspicious of one another – parents and teachers, educators and local business people, administrators and union members, people inside and outside the school walls, students and adults – recognise their common stake in the future of the school system and the things they can learn from one another” (p. 5).

The support for reconceptualising schools as learning organisations is not limited to scholars and educators. During the last 25 years a considerable number of policy makers have been drawn to the intuitive appeal and promise of the SLO concept. Since the 1990s the concept can be found in the policy statements of several OECD countries, and beyond. For example, Singapore’s official vision *Thinking Schools Learning Nation* emerged from a strategic review of education, motivated by a pre-occupation with the future. The then Deputy Prime Minister Lee (1997) said: “Our schools and tertiary institutions must become learning organisations, not teaching factories. Teachers and lecturers should continually seek to improve, to pick up best practices elsewhere, and to challenge students to find better solutions. These changes in our education system need to be supported by a national environment that promotes a learning mind-set and a society that upholds the fundamental values of equal opportunities and meritocracy”.

Similarly, Norwegian schools were intended to become learning organisations as part of the *Competence for Development* reform (Norwegian Ministry of Education and Research, 2005). The Netherlands and Wales (United Kingdom) provide us with more contemporary examples (Ministry of Education, Culture and Science of the Netherlands, 2013; Welsh Government, 2017). Under its *Teachers Agenda 2013-2020* the Netherlands for example set a specific objective to transform schools into learning organisations.

Despite the steadily growing support among scholars, educators and policy makers for developing schools into learning organisations during the last 25 years, relatively little is known about whether these organisations indeed as often assumed lead to better outcomes for the people working in these schools. Although empirical research supports the existence of a relationship between the learning organisation and positive HR outcomes, like job satisfaction and self-efficacy (Egan, Yang, & Bartlett, 2004; Rose, Kumar, & Pak, 2009; Kim & Han, 2015), the research evidence of this relationship in a school context has to date been limited, especially across countries.

A further examination of this relationship is important for several reasons. First, the evidence suggests that positive HR outcomes in turn are likely to positively influence organisational performance. Several studies from the field of public administration and education have shown a positive relationship between positive HR outcomes, like job satisfaction, organisational commitment and self-efficacy, and individual and organisational outcomes (Vandenabeele, 2009; Cantarelli, Belardinelli, & Belle, 2016; Homberg & McCartey, 2016; Caprara, Barbaranelli, Borgogni, & Steca, 2003; Kim & Han, 2015; Rose, Kumar, & Pak, 2009; Egan, Yang, & Bartlett, 2004). Research evidence for example shows that job satisfaction leads to enhanced commitment, which in turns leads to better job performance (Lee, Carswell, & Allen, 2000; Kardos & Johnson, 2007). Teachers who report greater social support – a key characteristic of a SLO according to several authors (Bowen, Rose, & Ware, 2006; Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012), particularly from the principals with whom they work, also report greater job satisfaction (Zellars & Perrewe, 2011) and those that feel satisfied with their job generally display also more loyalty to their organisation (Matzler & Renzl, 2006). Research evidence furthermore shows that teachers tend to report more job satisfaction when they are given the opportunity to participate in decision making at school (OECD, 2014), which is another characteristic of a school that is a learning organisation (Silins, Zarins, & Mulford, 2002; Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012). Moreover, job satisfaction plays a key role in teachers' attitudes and efforts in their daily work with children (Caprara, Barbaranelli, Borgogni, & Steca, 2003).

In addition, there is increasing evidence that teachers' sense of self-efficacy is an important factor influencing academic outcomes of students, and simultaneously enhances teachers' job satisfaction (Klassen & Chiu, 2010; Caprara, Barbarenelli, Steca, & Malone, 2006). Lower levels of teachers' self-efficacy, on the other hand, have been linked to teachers experiencing more difficulties with

student misbehaviour, being more pessimistic about student learning. The evidence suggests that positive HR outcomes are in turn correlated with better student outcomes (Klassen & Chiu, 2010; Collie, Shapka, & Perry, 2012; Caprara, Barbaranelli, Borgogni, & Steca, 2003; Silins & Mulford, 2004) – schools’ core mission, whether a learning organisation or not. This adds further importance to the realisation of positive HR outcomes and gathering evidence on its relationship with the SLO given its policy/research relevance.

Second, internationally there is a growing interest in the positive influence of HR outcomes in the field of education (Dinham & Scott, 2000; Evans, 2000; Butt, et al., 2005; Pepe, Addimano, & Veronese, 2017). The growing interest seems to stem from the growing awareness that in order to meet the needs of increasingly diverse learners, enhancing teacher and school leader professionalism has become essential (Earley & Greany, 2017). In many countries however this transition towards enhanced professionalism is taking place in difficult conditions in terms of workload, accountability requirements, level of autonomy and budget pressures (Earley & Greany, 2017; Schleicher, 2018). As a result of these developments, stress and staff well-being have become issues in a number of education systems. These developments provide further impetus for investigating the relationship between the SLO and positive HR outcomes, as it – as research evidence suggests – may offer a means for responding to the challenging working conditions that many educators and schools operate in nowadays.

Another question that has received little attention in the literature to date is ‘how to actually develop schools as learning organisations?’. Most scholars agree that creating the conditions for a school to develop as a learning organisation, in practice, is far from straightforward. In many cases it will require a significant cultural shift, a change of mind-sets and a school wide commitment to self-reflection and evaluation (Harris & Jones, 2018). What processes and actions a school should go through and aim towards as it transforms itself into a learning organisation is not well understood however.

The challenge partly lies in the fact that, despite the seeming steadily growing support for developing schools as learning organisations during the last 25 years, confusion still reigns about concept (Retna & Ng Tee, 2016; Schleicher, 2012; Zederayko, 2000). Although the SLO literature is not as vast as the general learning organisation literature, they have in common that scholarly interpretations of the concepts vary, sometimes considerably.

Part of the problem lies in the shortage of systematic empirical investigations on the concept (Schleicher, 2012; Zederayko, 2000). When the proposition that schools should become learning organisations is addressed without confirmation or identification of a concrete construct, or variables that are defining the SLO, efforts to become such an organisation exist only in name (Zederayko, 2000). Despite some advances by different scholars (Silins, Mulford, & Zarins, 2002; Bowen, Rose, & Ware, 2006) the evidence on the construct or variables of the SLO is still thin. Understanding how to create schools as learning organisations has consequently remained an elusive phenomenon (Gandolfi, 2006; Silins, Zarins, & Mulford, 2002; Harris & Jones, 2018). This in turn has hindered the advance of the SLO – in both research and practice. The construct and measurement of the school as a learning organisation are therefore two issues that this study will look into first.

In addition, with some notable exceptions (Silins, Mulford, & Zarins, 2002) empirical investigations have often been limited in scale (Hamzah, Yakop, Nordin, & Rahman, 2011; Ho Park, 2008; Retna & Tee, 2006); sometimes exploring the concept in only one school. Although these small-scale studies are often valuable contributions to the literature, they are limited in that they fail to give a real insight into the antecedents that influence schools in developing as learning organisations (Giles & Hargreaves, 2006; Schlechty, 2009). Antecedents can, depending on their level and the specific context, be either a driver or a barrier. It is therefore important to take stock of the antecedents of the SLO as these may inform school leaders, teachers, policy makers and other parties involved on what factors to consider and actions to take when setting out to develop their schools as learning organisations.

In light of the above this study aims to investigate the following main research question:

- What are the characteristics, antecedents and HR related outcomes of a school as a learning organisation? (R1)

Several sub-questions are posed to help answer this question:

- How can a school as a learning organisation be defined and conceptualized? (Sub-R1)
- How can a school as a learning organisation be measured? (Sub-R2)
- What antecedents influence schools in developing as learning organisations? (Sub-R3)

- To what extent is the school as a learning organisation associated with HR outcomes? (Sub-R4)

This study as such explores only one aspect of the ‘effectiveness’ of the SLO, i.e. its relationship with positive HR outcomes of school staff. This is done to ensure sufficient focus and depth to the analysis of this study. This choice is also partially based on practical considerations in that access to reliable data on student outcomes would have been difficult, if not impossible to obtain. The relationship with student outcomes however is another key issue deserving further research attention, as will be discussed in Chapter 9.

1.3 Empirical, theoretical and practical relevance of the study

1.3.1 Empirical and theoretical relevance

The concept of the learning organisation plays a pivotal role in contemporary management theory and practice (Nakpodia, 2009; Gronhaug & Stone, 2012), and has done so for several decades. It started gaining popularity in the literature in the late 1980s, becoming more widely used following Senge’s (1990) best-seller *The Fifth Discipline: The Art & Practice of The Learning Organization*. The concept has continued to be explored by scholars and practitioners since then and fits with recent paradigmatic shifts in public administration, often labelled the New Public Governance movement, that have called for more attention to be paid to such things as learning, trust, systems thinking and networks (Osborne, 2006; Dickinson, 2016).

In the area of strategic monitoring and evaluation, New Public Governance emphasises a greater focus on processes, stressing service effectiveness and outcomes that rely on the interaction of public service organisations with their environment. These messages strongly resonate with the (school as a) learning organisation literature, although explicit links between these literatures are still to be established.

As mentioned earlier, despite the seeming steadily growing support among scholars, educators and policy makers for developing schools as learning organisations, confusion still reigns about the concept (Retna & Ng Tee, 2016; Schleicher, 2012; Zederayko, 2000). This lack of a common understanding of the key characteristics that make a SLO has hindered its advance in the literature.

This dissertation aims to respond to this ‘scholarly chaos’ by developing an integrated SLO model that is both solidly founded in the literature and is recognisable to all parties involved, i.e. educators, policy makers, parents and others alike. This will be done through an in-depth analysis of the learning organisation literature in general, and within a school context (in Chapters 2 and 3). The proposed SLO model which consists of seven action-oriented dimensions draws heavily from other relevant literatures like the organisational behaviour, knowledge management, learning sciences, school improvement and effectiveness, and professional learning literatures. This is because there is much to gain from ‘building bridges’ to related literatures and concepts, like the well-established literature on professional learning communities (Stoll, Bolam, McMahon, Wallace, & Thomas, 2006; Kruse, Louis, & Bryk, 1995) or learning environments (Simons & Masschelein, 2008) as this may help in working towards a (more) common understanding of the SLO that is recognisable to all parties involved.

The model will be translated into a SLO scale that aims for the holistic measurement of the concept (in Chapter 4). The development and testing of the scale will allow for further exploring the characteristics that make a SLO; thereby enriching the literature and empirical evidence base on the construct, but also the literature on the learning organisation in public organisations more generally.

In addition, the identified scale will allow for the strengthening of other theories. It will also be used to explore the relationship between the school as a learning organisation and a number of antecedents that are theorised to be of influence on schools developing as learning organisations (in Chapter 5) – as discussed above, this is an issue on which the empirical evidence base is limited to date.

A comparative case study analysis of four schools (in Chapter 6) is aimed to deepen our understanding of the results. This study as such aims to make a modest contribution to the literature by exploring the influence of several antecedents on schools developing as learning organisations.

Furthermore, the proposed SLO model and corresponding scale will be used to explore whether the SLO indeed as often is associated with positive HR outcomes. As mentioned, although empirical research from other sectors supports the existence of such a positive relationship, the evidence base in a school context has been limited to date. This study aims to respond to this gap in research and strengthen the empirical evidence base on this important policy/research question that is relevant

not only for the field of education, but also for other public sectors. This study as such aims to also contribute to the development and/or further strengthening of theory on the relationship between the learning organisation and positive HR outcomes in the public management and the management literatures. This is also important, as mentioned earlier, as positive HR outcomes are in turn correlated with better organisational performance.

Elaborating on this point, as mentioned earlier, recent paradigmatic shifts in public administration, often labelled the New Public Governance movement, have called for more attention to be paid to such things as learning, trust, and system thinking and networking (Osborne, 2006; Osborne, 2013). As a response to the often strong, but narrow focus on performance measurement data for enhancing efficiency and effectiveness that has characterised many New Public Management reforms (Diefenbach, 2009; Manning, 2001), it argues for using performance data for the purpose of learning, within and beyond the organisation, in order to ensure it is purposefully used to adapt strategies and processes to a changing environment (Kroll, 2015; Gerrish, 2015). These messages strongly resonate with the (school as a) learning organisation. Consequently, it would seem that the SLO has the potential to be at the heart of the New Public Governance movement in the field of education. This study aims to examine this connection in the literature.

In addition, the developed SLO scale allows for bridging theory and practical relevance of the study. The strengthening of theory this study aims to contribute to may as such inform the actions of policy makers, public managers and other stakeholders in the education sector and other public sectors who are talking to their colleagues about embarking on a path of change and innovation and developing their organisations into learning organisations because of the benefits this may bring to staff, the organisation and performance outcomes – in a school context, that ultimately means student outcomes.

In the section below, we will further explore the practical relevance of this study.

1.3.2 Practical relevance

The presented SLO model and its seven action-oriented dimensions and their underlying characteristics are aimed to highlight both what a school aspires to be and the processes it goes through as it transforms itself into a learning organisation. The model is intended to stimulate

thinking and offer practical guidance to school leaders, teachers, support staff, (local) policy makers and all others wanting to develop their schools as learning organisations.

In addition, international research evidence shows the vital contribution school self-evaluation and improvement planning can make towards raising the quality of education and student outcomes (Ehren, Altrichter, Mcnamara, & O'Hara, 2013; OECD, 2013; Hofman, Dijkstra, & Hofman, 2009). The practical relevance of the model and corresponding scale as such also lies in its potential use as part of school self-evaluation and improvement processes. The SLO scale provides those wanting to develop their schools as learning organisations with an additional, accessible tool to choose from to help them with this endeavour. The option of being able to select a scale that best fits the local context of a given school may help advance the SLO in practice.

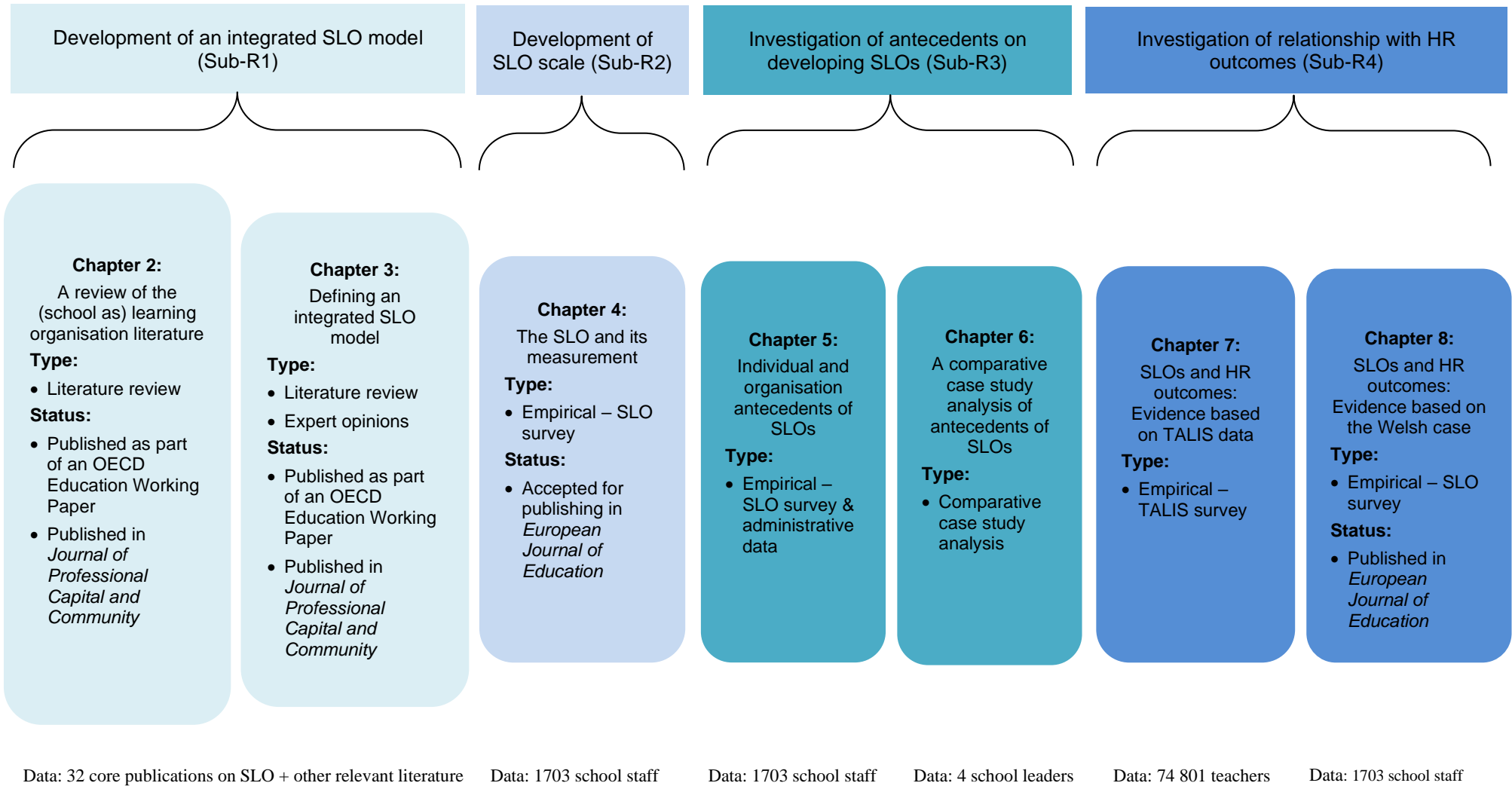
The SLO scale could also be useful to policy makers as it allows for system-level monitoring of the progress schools are making towards developing as learning organisations by identifying strengths and areas for further improvement. The absence of such information leaves governments and other education stakeholders without an insight into these important policy issues (Waslander, Hooge, & Drewes, 2016). On the other hand, information on these issues could inform the development of strategies that aim to support and enable all schools in making the transformation into learning organisations. Also, recognising the potential of sharing good practices for promoting school improvements (OECD, 2013), such examples could be systematically collected and shared widely to inspire and inform other schools in their change and innovation efforts.

To conclude this section, with minor amendments the developed SLO model and scale could be applied to other public sector organisations to support improvement processes. Policy makers could also use an amended scale to identify strengths and areas for further improvement of public services. This dissertation as such aims to contribute to advancing the learning organisation concept – in both theory and practice – in other public sectors (than education) as well.

1.4 Methodological overview of the dissertation

Having discussed the empirical, theoretical and practical relevance of the study, this section presents the methodological rationale underlying this dissertation. A methodological overview of this dissertation is presented in Figure 1.1.

Figure 1.1 Overview of the dissertation



The study starts with an inductive approach. Inductive analysis primarily uses detailed readings of raw data and information to derive concepts, themes, or a model (Thomas, 2006). So in response to the call of Zederayko (2000) and other scholars, educators and policy makers for the confirmation of a concrete SLO construct, the study starts with a review of the literature on the learning organisation in general and in a school context in particular, in an effort to work towards common understanding of the concept. These efforts result in the presentation of an integrated SLO model.

In addition to the multi-disciplinary literature review, a group of international experts with various profiles, including scholars, policy makers, educators and OECD- and European Commission analysts working in the field of education, provided feedback on the literature review (Chapters 2 and 3) and supported the formulation of the integrated SLO model that is presented in Chapter 3.

From Chapter 4 onwards this study employs the philosophical underpinnings of positivism – except for Chapter 6 (see below). Three aspects typically constitute a positivist approach (Schrag, 1992; Creswell, 2013): 1) the goal is to offer, to some extent, evidence-based insights that are generalizable towards a specific population; 2) to employ existing theoretical frameworks to formulate hypotheses and, subsequently, test these hypotheses to see whether these are (partially) confirmed or rejected; and 3) to objectify and quantify data-gathering as much as possible in order to avoid researcher-related biases. Positivists as such prefer quantitative methods such as social surveys, structured questionnaires and official statistics because these have good reliability and representativeness. They tend to look for relationships, or correlations between two or more variables. Hence, using the proposed SLO model of Chapter 3 as the theoretical foundation and starting point for analysis, Chapters 4, 5, 7 and 8 employ large-n datasets that are the result of random sampling. Representative survey data and statistical analysis are employed to allow for generalization to a larger population.

Figure 1.1 shows the applied funnel approach in the first part of the study in which a broad concept lacking clarity – the SLO – is theorised into a concrete model (in Chapter 3) (Barker, 2014). A small network of international experts contributes to this process by reflecting on and sharing their feedback on the theorised model. The resulting SLO model is then tested for construct validity (Chapter 4) using a specifically designed survey, the *Schools as Learning Organisations Survey*, to which 1703 school leaders, teachers and learning support staff in 178 schools across Wales responded. This survey consists of a number of core items that respond to the seven dimensions of

the theorised learning organisation model (i.e. the SLO scale), as well as some background items on the respondent (e.g. highest level of formal education, age).

The study continues by exploring several antecedents that are believed to be of influence on schools developing as learning organisations through hierarchical linear modelling (Chapter 5). Using the SLO survey data and administrative data available on the My Local School Wales website (<http://mylocalschool.wales.gov.uk/?lang=cy>), the relationship between the SLO and the variables school type, socio-economic background of schools and staff position is explored.

This is followed by a comparative case study analysis of four schools in Wales (in Chapter 6), so this is where we as mentioned temporarily step away from the positivist approach. Although recognising the potential of survey research to examine a number of antecedents that influence schools in developing as learning organisations, the number of antecedents that can be investigated through the HLM in Chapter 5 is limited. Chapter 6 therefore adopts a qualitative approach i.e. a comparative case study analysis to complement, expand and/or deepen our understanding of the quantitative analysis of the previous chapter (Creswell, 2013).

Specifically, a sequential explanatory research design is adopted (Creswell & Plano Clark, 2007), where quantitative data is first gathered and analysed and based on the analysis, positive and negative outlying cases are selected to identify best practices and pitfalls through a comparative multi-case study (Eisenhardt & Graebne, 2007). The selection of case studies was done based on two criteria: First, a purposeful sampling approach was used on the SLO survey data to identify two ‘high scoring schools’ i.e. schools with an average score on the SLO scale of above 4.3 across the seven dimensions, and two ‘low scoring schools’ with an average score below 3.7. These schools were as such at different stages of developing as learning organisations and we considered it of great relevance to learn about the potential influence of contextual variables that each of these two groups of schools face.

Second, one primary school and one secondary school were selected for each category. This choice was made based on the knowledge that secondary schools are larger and have a more compartilised structure, which the empirical evidence of Chapter 5 suggests provides additional challenges for developing as learning organisations. The comparison between the two schools at the same levels of education is expected to shed further light on the factors of influence on schools developing as

learning organisations. The interviews with the school leaders of these schools are as such aimed to enrich and deepen my understanding of the results of the previous chapter.

The study continues by returning to a positivist approach in Chapters 7 and 8. Multiple regression analysis is used to investigate the relationship between the SLO and a selection of HR outcomes, starting with teachers' self-efficacy and job satisfaction across a wide range of countries and economies (Chapter 7). OECDs 2013 Teaching and Learning International Survey (TALIS) is used for this purpose. TALIS is an international representative survey of teachers and principals who report on different aspects of their work (OECD, 2014). In 2013/14, 38 countries and economies implemented the TALIS survey in ISCED 2-level (i.e. lower secondary) schools. The use of TALIS has obvious limitations in that it does not allow for the holistic measurement of the SLO. However, it still allows for measuring some of the key characteristics of the SLO and its relation to a selection of HR outcomes – importantly – across many countries.

The investigation of the SLO and its relationship with a selection of HR outcomes are repeated, but this time in only one country; in Wales, using the mentioned purposefully designed SLO scale (Chapter 8). This scale allows for a more holistic measurement of the SLO concept according to the views of three categories of school staff: school leaders, teachers and learning support staff (while TALIS does not collect data from learning support staff).

1.5 Structure of the dissertation

In this section the content of the chapters in relation to the posed research questions is summarised (see Figure 1.2).

Chapter 2 provides an overview of the learning organisation literature in general, and within a school context in particular. It explores other relevant literatures, like the literatures on organisational change, (adult) learning and school effectiveness, to define how these relate to and could enrich the SLO concept. The chapter also outlines some critiques on the concept and reviews some of the assessment instruments that have been developed during the last decades to measure the school as a learning organisation. It aims to identify the key characteristics of the (school as a) learning organisation, as well as areas for further refinement of the concept.

Drawing from the multi-disciplinary literature review that was started in Chapter 2 and by including an exploration of related concepts, **Chapter 3** discusses and operationalises the key characteristics of the SLO in an integrated model; thereby providing a preliminary answer to the first sub-research question of this study.

Figure 1.2 Chapter overview and research questions

Chapter 1. General introduction					
Chapter 2. A review of the (school as) learning organisation literature					
	Sub-R1	Sub-R2	Sub-R3	Sub-R4	R1
Chapter 3. Defining an integrated school as a learning organisation model					
Chapter 4. The school as a learning organisation and its measurement					
Chapter 5. Individual and organisation antecedents of schools as learning organisations					
Chapter 6. A comparative case study analysis of antecedents of schools as learning organisations					
Chapter 7. Schools as learning organisations and HR outcomes: Evidence based on TALIS data					
Chapter 8. Schools as learning organisations and HR outcomes: Evidence based on the Welsh case					
Chapter 9. Conclusions and discussion					

Chapter 4 explores the construct validity of the SLO through a purposefully designed survey, the SLO survey. It discusses the development, field testing and implementation of the survey in Wales as part of the OECD study *Developing Schools as Learning Organisations in Wales* (2018). It describes the application of principal component analysis and reliability analysis on the collected survey data to validate the overall SLO construct – thus informing our evidence base for answering the second sub-questions of this study.

In **Chapter 5** hierarchical linear modelling (HLM) is used to explore the relationship between the SLO and several antecedents: school type and the socio-economic background of a school’s student population (school-level variables) and staff position (individual-level variable).

Chapter 6 consists of a comparative case study analysis of four schools to deepen our understanding of the influence of a school's context on its development as a learning organisation – thus providing further information for the answering of the third sub-question of this study

In **Chapter 7** of this dissertation, TALIS 2013 is used to explore the benefits of developing schools into learning organisations for the teachers working in them; multiple linear regression modelling is used to explore the relationship with teachers' self-efficacy and job satisfaction across TALIS countries and economies; thereby providing a preliminary answer to the fourth sub-question of this study.

Chapter 8 continues the investigation on the relationship between the SLO and HR outcomes that was started in Chapter 5, but does so through the mentioned SLO survey that was used in the mentioned OECD study in Wales (2018). This survey allows for exploring the relationship between the SLO and the job satisfaction and the school's responsiveness to staff needs, i.e. of school leaders, teachers and learning support staff. Again, multiple linear regression modelling is used to predict the relation between the SLO and its underlying dimensions with staff job satisfaction and the school's responsiveness to staff needs; thereby enriching the analysis of Chapter 7 and supporting the answering of this study's fourth sub-question.

Chapter 9 concludes the dissertation by summarising the findings of the study, reviewing the used methodology, contributions to research and proposing areas for future research, and offering recommendations for practice to help advance the learning organisation in theory and practice in the field of education, as well as in other public sectors.

1.6 Peer reviewed articles and publications based on this study

Several of this dissertation's chapters have been published in peer reviewed articles, an academic publication and an OECD Education Working Paper. The pronoun 'we' is therefore used throughout the dissertation (apart from Chapter 1) for consistency.

International, peer reviewed academic articles:

- Stoll, L. & Kools, M. (2017). The school as a learning organisation: a review revisiting and extending a timely concept. *Journal of Professional Capital and Community*, 2(1), 2-17. (Chapters 2 and 3)

- Kools, M. et al. (2020). The school as a learning organisation: The concept and its measurement. *European Journal of Education*, Early View, DOI: 10.1111/ejed.12383. (Chapter 4)
- Kools, M. et al. (2019). The relationship between the school as a learning organisation and staff outcomes: A case study of Wales. *European Journal of Education*, 54(3), 426-442. (Chapter 8)

OECD Education Working Paper:

- Kools, M. & Stoll, L. (2016). What Makes a School a Learning Organisation? *OECD Education Working Paper, 137*. Paris: OECD Publishing. (Chapters 2 and 3)

Book published by OECD publishing:

- OECD. (2018). *Developing Schools as Learning Organisations in Wales*. Paris: OECD Publishing. <https://doi.org/10.1787/9789264307193-en>. (Chapters 4 and 6)

See the report's Highlights brochure [here](#).

Selection of other professional publications and resources that the analysis of this dissertation has contributed to:

- Kools, M. & George, B. (accepted for publishing in 2020). The learning organisation – a key aspect of strategic management in public organisations, *Public Money & Management*. (partly included in Chapter 9)
- European Commission. (2017). *Teachers and school leaders in schools as learning organisations*. European Commission, Education and Training 2020 Working Group Schools 2016-18. https://ec.europa.eu/education/sites/education/files/2018-wgs4-learning-organisations_en.pdf.
- OECD. (2017). *Schools at the crossroads of innovation in cities and regions*. Paris: OECD Publishing. <https://doi.org/10.1787/20769679>.

- Regional School Improvement Consortia of Wales. (2019). *Resources to support the development of learning organisations*, see [here](#).
- Welsh Government. (2019). *Schools as learning organisations*, see [here](#).

The following Chapter starts a multi-disciplinary literature review that will be continued in Chapter 3 and result in the conceptualization of an integrated SLO model. This model will form the basis for the analysis of the following chapters that inform the answering of this study's main research question, "*what are the characteristics, antecedents and HR related outcomes of a school as a learning organisation?*"

REFERENCES

- Agostino, D., Arena, M., & Arnaboldi, M. (2013). Leading change in public organisations: the role of mediators. *Leadership & Organisation Development Journal*, 34(7), 596-615 .
- Albury, D. (2005). Fostering Innovation in Public Services. *Public Money & Management*, 25(1), 51-56.
- Barker, M. (2014). Doing a literature review. The Counselling. In A. Vossler, & N. Moller (Eds.), *The Counselling and Psychotherapy Research Handbook* (pp. 61-73). London: Sage.
- Bekkers, V., Edelenbos, J., & Steijn, B. (2014). *Leadership, Innovation in the Public Sector: Linking Capacity and Leadership*. Basingstoke: Palgrave MacMillan.
- Benevot, A. (2017). Education for people, prosperity and planet: Can we meet the sustainability challenges? *European Journal of Education*, 52(4), 399-403.
- Bowen, G., Rose, R., & Ware, W. (2006). The reliability and validity of the school success profile learning organization measure. *Evaluation and Program Planning*, 29, 97-104.
- Butt, G., Lace, A., Fielding, A., Gunter, H., Rayner, S., & Thomas, H. (2005). Teacher job satisfaction: Lessons from the TSW pathfinder project. *School Leadership and Management*, 25(5), 455-471.
- Cantarelli, P., Belardinelli, P., & Belle, N. (2016). A Meta-Analysis of Job Satisfaction Correlates in the Public Administration. *Review of Public Personnel Administration*, 36(2), 115-144.
- Caprara, G., Barbaranelli, C., Borgogni, L., & Steca, P. (2003). Efficacy beliefs as determinants of teachers' job satisfaction. *Journal of Educational Psychology*, 95(4), 821-832.
- Caprara, G., Barbarenelli, C., Steca, P., & Malone, P. (2006). Teachers' self-efficacy beliefs as determinants of job satisfaction and students' academic achievement: A study at the school level. *Journal of School Psychology*, 44(6), 473-490.
- Collie, R., Shapka, J., & Perry, N. (2012). School climate and socio-emotional learning: Predicting teacher stress, job satisfaction and teaching efficacy. *Journal of Educational Psychology*, 104(4), 1189-1204.
- Creswell, J. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks: Sage Publications Inc.
- Creswell, J., & Plano Clark, V. (2007). *Designing and Conducting Mixed Methods Research*. Thousand Oaks: Sage.

- Damanpour, F., & Schneider, M. (2009). Characteristics of Innovation and Innovation Adoption in Public Organizations: Assessing the Role of Managers. *Journal of Public Administration Research and Theory*, 19(3), 495-522.
- De Vries, H., Bekkers, V., & Tummers, L. (2014). Innovation in the public sector: A systematic review and future research agenda. *Public Administration Review*, 94(1), 146-166.
- Dickinson, H. (2016). From new public management to new public governance: the implications for a 'new public service. In J. Butcher, & D. Gilchrist (Eds.), *The three sector solution: delivering public policy in collaboration with no-for-profits and business*. Canberra: ANU Press.
- Diefenbach, T. (2009). New public management in public sector organizations: the dark sides of managerialistic 'enlightenment'. *Public Administration*, 87(2), 892-909.
- Dinham, S., & Scott, C. (2000). Moving into the third, outer domain of teacher satisfaction. *Journal of Educational Administration*, 38(4), 379-396.
- Dumont, H., Istance, D., & Benavides, F. (2010). *The Nature of Learning: Using Research to Inspire*. Paris: OECD Publishing.
- Earley, P., & Greany, T. (2017). *School Leadership and Education System Reform*. London: Bloomsbury Academic.
- Egan, T., Yang, B., & Bartlett, K. (2004). The effect of organizational learning culture and job satisfaction on motivation to transfer learning and turnover intention. *Human Resource Development Quarterly*, 15(3), 279-301.
- Ehren, M., Altrichter, H., Mcnamara, G., & O'Hara, J. (2013). Impact of school inspections on improvement of schools - describing assumptions on causal mechanisms in six European countries. *Educational Assessment, Evaluation and Accountability*, 25(1), 3-43.
- Eisenhardt, K., & Graebne, M. (2007). Theory Building From Cases: Opportunities And Challenges. *Academy of Management Journal*, 50(1), 25-32.
- Evans, L. (2000). *Teacher morale, job satisfaction and motivation*. London: Paul Chapman Publishing.
- Fernandez, S., & Rainey, H. (2006). Managing Successful Organisational Change in the Public Sector. *Public Administration Review*, 66(2), 168-176.
- Fullan, M. (2011). *Change Leader: Learning to Do What Matters Most*. San Francisco: Jossey-Bass.

- Fullan, M., & Quinn, J. (2016). *Coherence: The right drivers for change in schools, districts, and systems*. Thousand Oaks: Corwin.
- Gandolfi, F. (2006). Can a School Organization be Transformed into a Learning Organization? *Contemporary Management Research*, 2(1), 57-72.
- Gerrish, E. (2015). The Impact of Performance Management on Performance in Public Organizations: A Meta-Analysis. *Public Administration Review*, 76(1), 48-66.
- Giles, C., & 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.
- Gronhaug, K., & Stone, R. (2012). The learning organisation: An historical perspective, the learning process, and its influence on competitiveness. *The Learning Organisation*, 22(3), 261-275.
- Hamzah, M., Yakop, F., Nordin, N., & Rahman, S. (2011). School as Learning Organisation: The Role of Principal's Transformational Leadership in Promoting Teacher Engagement. *World Applied Science Journal*, 14, 58-63.
- Harris, A., & Jones, M. (2018). Leading Schools as Learning Organizations. *School Leadership & Management*, 38(4), 351-354.
- Ho Park, J. (2008). Validation of Senge's learning organization model with teachers of vocational high schools at the Seoul megalopolis. *Asia Pacific Education Review*, 9(3), 270-284.
- Hofman, R., Dijkstra, N., & Hofman, W. (2009). School self-evaluation and student achievement. *School Effectiveness and School Improvement*, 20(1), 47-68.
- Homberg, F., & McCartey, D. (2016). A Meta-Analysis of the Relationship between Public Service Motivation and Job Satisfaction. *Public Administration Review*, 75(5), 711-722.
- Kardos, S., & Johnson, S. (2007). On their own and presumed expert: New teachers' experiences with their colleagues. *Teachers College Record*, 109(9), 2083-2106.
- Kim, Y., & Han, S. (2015). Assessing the effects of learning organization characteristics in Korean non-profit organizations: Focusing on the association with perceived financial performance and employee satisfaction. *International Review of Public Administration*, 20(2), 177-193.

- Klassen, R., & Chiu, M. (2010). Effect on teachers' self-efficacy and job satisfaction: Teacher gender, years of experience, and job stress. *Journal of Educational Psychology, 102*(3), 741-756.
- Kroll, A. (2015). Drivers of performance information use: Systematic literature review and directions for future research. *Public Performance & Management Review, 38*(3), 459-486.
- Kruse, S., Louis, K., & Bryk, A. (1995). An emerging framework for analyzing school-based professional community. In K. Louis, & S. & Kruse (Eds.), *Professionalism and Community: Perspectives on Reforming Urban Schools*. Long Oaks: Corwin.
- Kuipers, B., Higgs, M., Kickert, W., Tummers, L., Grandia, J., & Van der Voet, J. (2014). The Management of Change in Public Organisations. *Public Administration, 92*(1), 1-20.
- Lee, H.L. (1997). *National Education*. Retrieved from:
<http://www.moe.gov.sg/speeches/1997/170597.htm>.
- Lee, K., Carswell, J., & Allen, N. (2000). A meta-analytic review of occupational commitment: Relations with person- and work related variables. *Journal of Applied Psychology, 85*(5), 799-811.
- Manning, N. (2001). The legacy of New Public Management in developing countries. *International Review of Administrative Sciences, 67*(2), 297-312.
- Matzler, K., & Renzl, B. (2006). The relationship between interpersonal trust, employee satisfaction, and employee loyalty. *Total Quality Management & Business Excellence, 17*(10), 1261-1271.
- Ministry of Education, Culture and Science of the Netherlands. (2013). *Teacher agenda 2013-2020. The teacher makes the difference*. The Hague: Ministry of Education, Culture and Science of the Netherlands.
- Nakpodia, E. (2009). The concept of the university as learning organization: Its functions, techniques and possible ways of making it effective. *Journal of Public Administration and Policy Research, 1*(5), 79-83.
- Norwegian Ministry of Education and Research. (2005). *Competence for Development. Competence Development Strategy in Basic Education 2005-2008*. Oslo: Norwegian Ministry of Education and Research.
- OECD. (2013). *Synergies for Better Learning*. Paris: OECD Publishing.

- OECD. (2014). *TALIS 2013 Technical Report*. Paris: OECD Publishing.
- OECD. (2018). *Developing Schools as Learning Organisations in Wales*. Paris: OECD Publishing.
- Osborne, S. (2006). The New Public Governance? *Public Management Review*, 8(3), 377-386.
- Osborne, S. (Ed.). (2013). *The New Public Governance?: Emerging Perspectives on the Theory and Practice of Public Governance*. London: Routledge.
- Pepe, A., Addimano, L., & Veronese, G. (2017). Measuring Teacher Job Satisfaction: Assessing Invariance in the Teacher Job Satisfaction Scale (TJSS) Across Six Countries. *European Journal of Psychology*, 13(3), 396-416.
- Plowman, D., Solansky, S., Beck, T., Baker, L., Kulkarni, M., & Travis, D. (2007). The role of leadership in emergent, self-organisation. *The Leadership Quarterly*, 18(4), 341-356.
- Pollitt, C., & Bouckaert, G. (2011). *Public Management Reform: A Comparative Analysis – New Public Management, Governance, and the Neo-Weberian State*. Oxford: Oxford University Press.
- Potts, J. (2009). The curious problem of too much efficiency and not enough waste and failure. *Innovation*, 11(1), 34-43.
- Retna, K., & Ng Tee, P. (2016). The application of learning organization to enhance learning in Singapore schools. *Management in Education*, 30(1), 10-18.
- Retna, K., & Tee, N. (2006). The Challenges of Adopting the learning Organization Philosophy in a Singaporean School. *International Journal of Educational Management*, 20(2), 140-152.
- Rose, R., Kumar, N., & Pak, O. (2009). The effect of organisational learning on organisational commitment, job satisfaction and work performance. *The Journal of Applied Business Research*, 25(6), 55-65.
- Schlechty, P. (2009). *Leading for Learning: How to Transform Schools into Learning Organizations*. San Francisco: Jossey-Bass.
- Schleicher, A. (2012). *Preparing Teachers and Developing School Leaders for the 21st Century: Lessons from around the World*. Paris: OECD Publishing.
- Schleicher, A. (2018). *Implementing Education Policies - Schools as Learning Organisations*. (OECD, Producer). Retrieved from https://www.youtube.com/watch?time_continue=25&v=hVDmF8XIWV4.

- Schleicher, A. (2018). *World Class: How to build a 21st-century school system*. Paris: OECD Publishing.
- Schrag, F. (1992). In Defense of Positivist Research Paradigms. *Educational Research*, 21(5), 5-8.
- Senge, P. (1990). *The Fifth Discipline: The Art and Practice of the Learning Organisation*. New York: Currency Doubleday.
- Senge, P., Cambron-McCabe, N., Lucas, T., Smith, B., & Dutton, J. (2012). *Schools That Learn*. New York: Crown Business.
- Silins, H., & Mulford, B. (2004). Schools as learning organizations: Effects on teacher leadership and student outcomes. *School Effectiveness and School Improvement*, 15(3-4), 443-466.
- Silins, H., Mulford, B., & Zarins, S. (2002). Organisational learning and school change. *Educational Administration Quarterly*, 38(5), 613-642.
- 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.
- Simons, M., & Masschelein, J. (2008). From Schools to Learning Environments: The Dark Side of Being Exceptional. *Journal of Philosophy of Education*, 42(3-4), 687-704.
- Stoll, L., & Fink, D. (1996). *Changing our schools. Linking school effectiveness and school improvement*. Buckingham: Open University Press.
- Stoll, L., Bolam, R., McMahon, A., Wallace, M., & Thomas, S. (2006). Professional learning communities: a review of the literature. *Journal of Educational Change*, 7(4), 221-258.
- Thomas, D. (2006). A General Inductive Approach for Analyzing Qualitative Evaluation Data. *American Journal of Evaluation*, 27(2), 237-246.
- Trilling, B., & Fadal, C. (2009). *21st Century Skills: Learning for Life in Our Times*. San Francisco: John Wiley & Sons.
- Tyack, D., & Cuban, L. (1995). *Tinkering Toward Utopia: A Century of Public School Reform*. Cambridge: Harvard University Press.
- Vandenabeele, W. (2009). The mediating effect of job satisfaction and organizational commitment on self-reported performance: more robust evidence of the PSM–performance relationship. *International Review of Administrative Sciences*, 75(1), 11-34.
- Viennet, R., & Pont, B. (2017). *Education policy implementation: A literature review and proposed framework*. Paris: OECD Publishing.

- Walker, R. (2006). Internal and External Antecedents of Process Innovation: A review and extension. *Public Management Review*, 16(1), 21-44.
- Waslander, S., Hooge, E., & Drewes, T. (2016). Steering Dynamics in the Dutch Education System. *European Journal of Education*, 51(4), 477-494.
- Welsh Government. (2017). *Education in Wales: Our National Mission*. Cardiff: Welsh Government.
- Zederayko, G. (2000). Variables in schools becoming learning organizations. *Graduate Student Theses, Dissertations, & Professional Papers*, 10598. The University of Montana.
- Zellars, K., & Perrewe, P. (2011). Affective personality and the content of emotional social support: coping in organizations. *Journal of Applied Psychology*, 86(3), 459-467.

CHAPTER 2. A REVIEW OF THE (SCHOOL) AS A LEARNING ORGANISATION LITERATURE¹

¹ The text of this chapter has been published in amended form in Kools, M. & Stoll, L. (2016). What Makes a School a Learning Organisation? *OECD Education Working Paper, 137*. Paris: OECD Publishing; and in Stoll, L. & Kools, M. (2017). The school as a learning organisation: a review revisiting and extending a timely concept. *Journal of Professional Capital and Community, 2*(1), 2-17.

2.1 Introduction

This chapter consists of a multi-disciplinary literature review on the concept of the learning organisation and the school as a learning organisation in particular. It includes other relevant literatures, like those on organisational change, organisational behavior, (adult) learning theories and school effectiveness and improvement literatures, to define how these relate to and could enrich the school as a learning organisation (SLO) concept. This chapter as such is a first step towards answering the first sub-question of this study, “*how can a school as a learning organisation be defined and conceptualized?*” – an effort that will be continued in Chapter 3.

The chapter starts with a discussion on some of the different perspectives of the learning organisation that have emerged from the literature (Section 2.2). The discussion aims to inform the reader on the commonalities and differences among the different interpretations and definitions of the learning organisation. The following section repeats this exercise, however this time the investigation relates to the SLO concept (Section 2.3). This is done as change evidently is a multi-level and multi-faceted phenomenon and is indicative of the often-discussed differences between the private and public sectors (Kuijpers, et al., 2014; Barrados & Mayne, 2003). The drivers for organisational change in the public sector are different from those in the private sector, emanating as they do in part from the political system. It can be anticipated that forms of organisational change in the public sector will be distinctive for this reason as well as for reasons to do with the specific nature of the activities undertaken in different sub-sectors: public administration, social security, education, and health and social work (OECD, 2010).

Watkin’s and Marsick’s integrated learning organisation model (1996; 1999; Yang, Watkins, & Marsick, 2004), which the analysis of the previous (Section 2.2) shows to be among the clearest and most holistic learning organisation models, will be used to reflect on and ‘benchmark’ some of the school as learning organisation definitions that have been proposed in the SLO literature throughout the years. The search for literature (i.e. books, academic articles and dissertations) on the SLO was conducted in the English language through 1) focused searches of nine electronic databases using the search terms ‘school as learning organisation’ and ‘learning school’; and 2) contacts with leading scholars in this area of work have led to the identification of seven additional publications bringing the total to thirty-two.

The chapter continues by exploring some of the most frequently mentioned assessment instruments on the (school as) learning organisation (Section 2.4) as these can serve as powerful tools for schools to develop into learning organisations – and as such provides further insight into this study’s first sub-research question.

This analysis is followed by an examination of the criticism to the learning organisation in general and in a school context (Section 2.5). It is of great relevance to look into these ‘critical voices’ to judge whether they hold ground and if so whether they could point towards areas for further development of the SLO concept. The last section concludes by summarizing the analysis of the chapter.

2.2 Defining the learning organisation

The concept of the learning organisation plays a pivotal role in contemporary management theory and practice (Nakpodia, 2009; Gronhaug & Stone, 2012) and has done so for several decades. The concept started gaining popularity in the management literature in the late 1980s but became more widely used following Senge’s best-seller *The Fifth Discipline: The Art & Practice of The Learning Organization* (1990). Senge defined a learning organisation as:

“an organisation where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continuously learning to see the whole together”
(p. 3).

Simply stated, it is a type of organisation that has the ability to change and adapt continuously to new environments and circumstances, through learning.

During the last 25 years, organisational researchers have focused their work on conceptualizing the learning organisation, identifying characteristics of such organisations that have the capacity to continuously learn, adapt and change. The learning organisation literature however is disparate and there are many different definitions of the concept. Some scholars, though not many, have aimed to create order in this ‘scholarly chaos’ by defining categories of the different approaches or perspectives to defining the construct (DiBella, 1995; Yang, Watkins, & Marsick, 2004; Örtenblad, 2004).

Among these are Yang, Watkins and Marsick (2004) who provide us with a clear and useful categorisation of four different perspectives that is strongly rooted in the learning organisation literature: 'systems thinking', the 'learning perspective', the 'strategic perspective' and the 'integrated perspective'. These will be discussed and elaborate upon in the text below.

2.2.1 'Systems thinking'

'Systems thinking' is by various scholars considered the conceptual cornerstone of the learning organisation concept. The term learning organisation stems from the notion of 'learning system' discussed by Revans first in 1969 and Schön in 1970 (1969; 1970). There are earlier precursors, notably Gregory Bateson, who in turn had based their thinking on 'general systems theory' (Pedler, 1995) which was created by Karl Ludwig von Bertalanffy (1934). General systems theory is an interdisciplinary practice that describes systems with interacting components, applicable to biology, cybernetics, and other fields. By the 1960s, systems thinking began to be recognized as a paradigmatic effort at scientific integration and theory formulation on the trans-disciplinary plane (Laszlo & Krippner, 1998). Around that time researchers also began to analyse organisations from this systems perspective.

The systems view of organisations draws from the concept of an organisation as a system of interacting sub-systems and components set within the wider system and environments that provide to the system and receive its outputs (Senior & Swailes, 2010). The two basic, opposing types are open and closed systems. Even though in practice no work organisation is a completely closed system, in the past several organisational theories have assumed this view, most prominently the bureaucracy management theory which became the model structural design for many of today's organisations (Robbins, Bergman, Stagg, & Coulter, 2006). Closed or less open systems are less influenced by and have less interaction with their environment, which limits their ability to discover changes that might influence them. In other words, closed or less open organisations have less ability to learn (Portfeld, 2006).

A learning organisation is very much an open system, as many researchers have pointed out (Senge, 1990; Örtenblad, 2002). The characteristics of open systems are their relation to and interaction with the environment, as well as the ability to scan and discover changes in that environment (Birnbaum, 1988; Robbins, Bergman, Stagg, & Coulter, 2006). A view of organisations as open

systems emphasizes alignment between the internal dynamics of an organisation (how employees act and interact) with the external marketplace in which the organisation lives and competes. Alignment is a state of congruence between organisational sub-elements and their environment. Because the external environment changes, elements of the system must respond in order to restore the equilibrium (Spector, 2006; Robbins, Bergman, Stagg, & Coulter, 2006).

This process, also called homeostasis, is self-regulative and it means that learning organisations have the ability to learn from the external environment. However, the relation and interaction with the environment is mutual and inter-dependent in a dialectic way and as a result, learning organisations influence and help shape the external environment as well (Portfeld, 2006).

As mentioned earlier, systems thinking is by various scholars considered the conceptual corner stone of the learning organisation. The best known among these without a doubt is Senge who as mentioned with his best-seller *The Fifth Discipline* has had a great influence on the thinking on the learning organisation. Senge (1990) defined learning organisations as those where people continuously expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continuously learning to see the whole together. He defined the learning organisation as one that possesses not only an adaptive capacity, but also a ‘generative’ capacity, i.e. the capacity to create alternative futures. He identified five disciplines that a learning organisation should possess:

- Team learning – emphasis on the learning activities of the group rather than the development of team process.
- Shared vision – ability to unearth shared “pictures of the future” that foster genuine commitment and enrolment rather than compliance.
- Mental models – deeply held internal images of how the world works.
- Personal mastery – continually clarifying and deepening personal vision, focusing energies, developing patience, and seeing reality rather objectively.
- Systems thinking – the ability to see the bigger picture, to look at the interrelationships of a system as opposed to simple cause-effect chains; allowing continuous processes to be studied rather than single snapshots.

The fifth discipline, i.e. systems thinking, shows us that the essential properties of a system are not determined by the sum of its parts but by the process of interactions between those parts (Yang, Watkins, & Marsick, 2004).

Various other scholars share Senge's opinion and give systems thinking a central role in their thinking on the concept of the learning organisation. Worrell (1995) for example described the learning organisation as:

“an organisational culture in which individual development is a priority, outmoded and erroneous ways of thinking are actively identified and corrected, and the purpose and vision of the organization are clearly understood and supported by all its members. Within this framework, the application of systems thinking enables people to see how the organization really works; to form a plan; and to work together openly, in teams, to achieve that plan” (p. 352).

2.2.2 The 'learning perspective'

The 'learning perspective' is a notion of the learning organisation that is closely linked to organisational learning. Organisational learning as the study of learning processes of, and within organisations was introduced in the late 1950s and 1960s by authors such as Argyris (1957; 1964), March and Simon (1958), Crozier (1964). It however was only until the 1990s that the organisational learning idea became a common concept in organisational theory (Moraga, 2006).

Theories of organisational learning attempt to understand the processes, which lead to or prevent changes in organisational knowledge, as well as the effects of learning and knowledge on behaviors and organisational outcomes. Organisational learning is embedded in different schools of thought, for example sociology, psychology, social anthropology, organisational theory, management, information theory and system dynamics, and industrial economy.

Possibly one of the defining contributions for the learning organisation literature was by Schön (1973) who provided a theoretical framework linking the experience of living in a situation of increasing change with the need for learning. “The loss of the stable state means that our society and all of its institutions are in continuous processes of transformation ... We must learn to

understand, guide, influence and manage these transformations. We must make the capacity for undertaking them integral to ourselves and to our institutions” (p. 28).

In the seventies Argyris and Schön (1978) published their seminal book *Organisational learning: a theory in action perspective* that was the first to propose a model to facilitate organisational learning, others have followed in the tradition of their work. They defined organisational learning as “the detection and correction of error” where learning can take place in three forms: single-loop, double-loop and deuterio learning. Single-loop learning takes place when errors are detected and firms carry on with their ongoing policies and goals. In double-loop learning, in addition to detection and correction of errors, the organisation is involved in the questioning and modifications of existing norms, procedure, policies and objectives, i.e. changing the organisational knowledge base (Dodgson, 1993). Deuterio learning occurs when the firm learns how to carry out single and double-loop learning, for example, by identifying the processes and structures that facilitate learning.

Much of the literature on organisational learning points to the importance of social interaction, context and shared cognitive schemes for learning and knowledge creation (Argyris & Schön, 1978; Brown & Duguid, 1998; Örténblad, 2002). These authors note that human knowledge is subjective and tacit, and cannot be easily codified and transmitted independent of the knowing subject. Hence, its transfer requires social interaction and the development of shared understanding and common interpretive schemes.

Having its roots in organisational learning theories, learning organisation theory has been commonly misinterpreted, misunderstood and mixed up with it (Moraga, 2006). However, both touch on different ideas and various scholars have taken the time to clarify these differences. The literature on organisational learning has concentrated on the detached collection and analysis of the processes involved in individual and collective learning inside organisations; whereas the learning organisations literature has an action orientation, and is geared toward using specific diagnostic and evaluative methodological tools which can help to identify, promote and evaluate the quality of learning processes inside organisations (Easterby-Smith & Araujo, 1999). Nevertheless, according to Tsang (1997) there is a simple relationship between the two – “a learning organization is one, which is good at organizational learning” (p. 75).

Pedler, Burgoyne and Boydell (1989) were arguable the first to give so much prominence to learning (theory) in their formulation of the learning organisation. In their influential article of 1989 *The Learning Company* they described the learning company, or learning organisation as “an organization that facilitates the learning of all its members and continually transforms itself” (p. 1).

In a later report (in 1991) the definition was extended by adding the words “in order to meet its strategic goals”. Pedler, Burgoyne and Boydell (1991) depict the ‘learning company’ as a vision of what might be possible. It is not brought about simply by training individuals; it can only happen as a result of learning at the whole organisation level. The writers note that a learning company is one that facilitates the learning of all its members and continuously transforms itself. They defined eleven areas (characteristics) through which this occurs: 1) a learning approach to strategy; 2) participatory policy making; 3) information for learning at employee’s fingertips; 4) formative accounting and control; 5) internal exchange of ideas and information; 6) reward and flexibility; 7) enabling structures with supportive systems; 8) boundary workers as environmental scanners watching for change outside the organisation; 9) inter-company learning; 10) a learning climate; and 11) self-development opportunities for all.

Another example fitting the learning perspective is provided by Watkins and Marsick (1993) who defined the learning organisation as “one that learns continuously and transforms itself” (p. 8), a definition they would later refine as will be discussed below.

Yang, Watkins and Marsick (2004) note that the learning perspective provides a comprehensive aspects of learning at all levels of the organisations but at the same time (on its own) fails to provide a parsimonious construct of the concept. Like the systems perspective, the learning perspective captures a principle but fails to provide any operational guidance to those wanting to transform their organisation into a learning organisation.

2.2.3 The ‘strategic perspective’

The ‘strategic perspective’ responds to this lack of operational guidance. According to the strategic approach to the learning organisation, a learning organisation requires an understanding of the strategic internal drivers necessary for building learning capacity. Garvin (1993) defines a learning organisation as “an organisation skilled at creating, acquiring, and transferring knowledge, and at modifying its behaviour to reflect new knowledge and insights” (p. 80). Rowden (2001) notes that

in learning organisations, which he refers to as ‘changeable organisations’, people are able to change fast, but also they are able to manage knowledge. For such learning organisations, typical characters are: constant readiness, continuous planning, improvised implementation and action learning.

This perspective emphasises the search for new ideas and better ways of doing things through exploration and exploitation (March, 1991), highlighting the importance of innovation and inquiry for the learning organisation concept.

Strategy is seen as an integral part of the learning process for a learning organisation because it focuses on the organisation’s development of core competencies, both in the present and in the future (Millet, 1998). Strategic management has been a dominant force in the organisational change literature since the 1950s and the influence on the learning organisation concept is evident. In Garratt’s (1987) learning organisation model for example top-managers have a central role in defining the strategy of the learning process. Garratt saw top-managers as instigators of information flows coming from a double-loop (the external environment/policy loop and the internal operations loop), synthesizing those flows, and allowing learning and development through the adaption to the change as a whole. Directors are the ‘business brains’ in his model of the learning organisation.

Most scholars that followed have argued for a more distributed form of leadership. Goh (1998) for example synthesized the management practices and policies related to the construct. He argued that the learning organisation has five building blocks:

- Clarity and support for mission and vision.
- Shared leadership and involvement.
- A culture that encourages experimentation.
- The ability to transfer knowledge across organisational boundaries.
- Teamwork and cooperation.

Goh further notes that these building blocks require two main supporting foundations: an effective organisational design that is aligned with and supports these building blocks; and the appropriate employee skills and competencies needed for the tasks and roles described in these strategic building blocks.

Like Goh, those scholars that support the strategic approach to the learning organisation have attempted to provide clear definitions of the learning organisation, with many of these providing clear descriptors of what they considered to be the key managerial practices or building blocks (i.e. prerequisites) for becoming a learning organisation (Garvin, 1993; Phillips, 2003). These strategic building blocks can serve as practical guidelines for operational and managerial practices (Yang, Watkins, & Marsick, 2004).

A weakness in this approach may be that, as also argued by Yang, Watkins and Marsick (2004), this perspective emphasises the macro-level and thus neglects some of the commonly defined elements of the learning organisation, such as individual learning or collaborative learning.

2.2.4 The 'integrative perspective'

From the above it should be clear that the interpretations of the learning organisation concept vary. Despite these differences however some common characteristics can be identified. First, scholars seem to agree that the learning organisation is a necessity and is implicitly or explicitly argue the concept to be suitable for any organisation — irrespective of culture and branch. More and more organisational scholars have come to realise that an organisation's learning capability will be the only sustainable competitive advantage in the future (Örtenblad, 2002; Yang, Watkins, & Marsick, 2004; OECD, 2010). Second, most scholars see the learning organisation as a multi-level concept and define the learning organisation as 'organic' and in terms of the interrelations between individual behaviours, team organisation and organisational practices and culture (OECD, 2010).

Thirdly, there is an emphasis in the literature on the importance of the beliefs, values and norms of employees for sustained learning. The emphasis on the importance of creating a 'learning atmosphere' (Rothwell, 2002), 'learning culture' (Gephart, Marsick, Van Buren, & Spiro, 1996) or 'learning climate' (Örtenblad, 2002) is frequently discussed in this context. 'Learning to learn' as such is a key factor in becoming a learning organisation (OECD, 2010).

These common characteristics are best reflected in the fourth perspective proposed by Yang, Watkins and Marsick (2004), 'the integrative perspective'. In their analysis they refer (solely) to the updated definition of the learning organisation by Watkins and Marsick (1996) which defines a learning organisation as one in which "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).

Their proposed organisational model that is given shape through the *Dimensions of the Learning Organisation Questionnaire* (DLOQ) identifies seven action imperatives or 'dimensions' that characterise companies travelling toward becoming a learning organisation at individual, team and organisational levels:

- Continuous learning, represents an organisation's effort to create continuous learning opportunities for all its members.
- Inquiry and dialogue, refers to an organisation's effort in creating a culture of questioning, feedback and experimentation.
- Team learning, reflects the 'spirit of collaboration and the collaborative skills that undergird the effective use of teams.
- Embedded system for capturing and sharing learning, indicated the efforts to establish systems to capture and share learning.
- Empowerment, signifies an organisation's process to create and share collective vision and get feedback from its members about the gap between the current status and the new vision.
- System connection, reflects global thinking and actions to connect the organisation to its internal and external environment.
- Strategic leadership, shows the extent to which leaders 'think strategically about how to use learning to create change and to move the organisation in new directions or new markets' (Yang, Watkins, & Marsick, 2004).

Though Yang, Watkins and Marsick (2004) provide only one example for the integrative perspective in their article, other scholars – though not many, have taken a similar approach of reviewing the literature to come up with their own integrated model of the learning organisation (DiBella, 1995; Easterby-Smith & Araujo, 1999; Argyris, 1999; Örténblad, 2002).

The integrative perspective seems to consolidate the strengths of the prior perspectives. The seven action imperatives in Marsick and Watkins' model for example serve as building blocks and provide guide companies in their efforts towards becoming a learning organisation. The integrative perspective also places learning – at individual, team and organisational levels – at the centre and recognises the importance of pro-active and reflective engagement with the external environment.

The integrative perspective as such has helped in bringing further clarity to the learning organisation concept, with particular reference to the learning organisation model of Watkins and Marsick (1996). Their integrated learning organisation model is clear and among the most comprehensive models this study has identified. In the following section this model will therefore be used to reflect on and 'benchmark' some of the SLO definitions that have been developed throughout the years.

2.3 Reviewing the school as a learning organisation literature

Though the literature on the SLO has been steadily growing since the 1990s, compared to the learning organisation literature in the private sector it is still rather limited. And just like in other sectors is there a lack of clarity around the concept. Part of the problem lies in the fact that although many scholars have placed the concept at the centre of their academic discussions, often discussing one or more of its key elements or characteristics, many have failed to clearly articulate a definition of the concept (Giles & Hargreaves, 2006; Retna & Ng Tee, 2016; Kirkham, 2005; Gunter, 1996).

This is also evident when looking at the outcome of the search for relevant publications (i.e. articles and books) of this study that included an investigation of nine prominent search engines and databases. From the 25 most frequently found publications on the 'school as learning organisation' and/or 'learning school' – the search terms used – five do not provide a definition (see Annex 2A). As such these scholars, to varying degrees, leave the reader guessing about their theoretical interpretations of the SLO concept.

There are however those scholars that have aimed to define the concept. This includes Senge et al. (2012) who 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. In a school that learns, people who traditionally may have been suspicious of one another – parents and teachers, educators and local business people, administrators and union members, people inside and outside the school walls, students and adults – recognise their common stake in the future of the school system and the things they can learn from one another” (p. 5).

Senge suggests that practicing the five disciplines of personal mastery, mental model, shared vision, team learning and systems thinking can empower schools to meet the challenges of educational reforms and improve their performance. Systemic thinking is the conceptual cornerstone of this approach that integrates the others, focusing them into a coherent body of theory and practice (Senge, 1990).

The work of Senge has inspired scholars all over the world to develop and assess schools as learning organisations using the five disciplines scale (Hamzah, Yakop, Nordin, & Rahman, 2011; Ho Park, 2008; Moloi, Grobler, & Gravett, 2006; Johnston & Caldwell, 2001). Ho Park (2008) for example interpreted the five learning disciplines the following:

- Personal mastery: at the school, teachers expand personal growth and capacity by having a strong desire to improve professionally, engaging in continual learning, and focusing on the future vision in order to make choices about their development.
- Mental models: at the school, teachers continually reflect on assumptions about schooling; openly dialogue, share views and develop knowledge about each other’s assumptions; and engage in their own work with flexibility.
- Shared vision: vision and goals of school are planned and created through a process of shared commitment, participatory activities, and consensus of all school members including students and parents; and a teacher’s personal vision is aligned with the school vision and goals.
- Team learning: at the school, various group or team activities are encouraged to address schooling issues or teacher’s professional work; teachers become committed to, skilled at, and involved in collaborative work.

- Systems thinking: teachers understand and manage their own work in an interrelationship within the school environment that includes processes of change; they consider the impact of their own work on the entire school organisation and the stakeholders' interests.

When reviewing these publications however it becomes clear that the interpretations of the key characteristics of the five disciplines differ among scholars, sometimes considerably. This suggests a lack of clarity and consensus among scholars as to how the five disciplines can best be operationalised. Though for some this flexibility – or as Örténblad (2002) would call it the “vagueness” – may be desirable, for others it diminishes its usefulness as it doesn't provide sufficient clarity and operational guidance to school leaders, teachers and others wanting to transform their school into a learning organisation.

Fitting the strategic or integrated perspective of the learning organisation (see Section 2.2), a seeming gradually growing body of scholars have aimed for providing operational guidance when developing their SLO definitions by describing the strategies and structures that would enable them to learn and react effectively in uncertain and dynamic environments (Silins, Zarins, & Mulford, 2002; Du Four, 1997; Fullan, 1995). DuFour (1997) for example views the SLO as one that devotes considerable attention to shaping the human resource management policies and procedures within the school organisation to facilitate peer learning and collaboration among colleagues. According to DuFour a SLO is one in which:

“attention is paid to the orientation of new faculty members; every teacher would be assigned to a curricular or interdisciplinary team; teachers are observed and receive feedback from peers on instruction; all teachers are expected to participate in a study group on a topic of interest to them; action research is used on an ongoing basis as a demonstration of its commitment to continuous improvement; all teachers would be called upon at several different times in their careers to serve on school improvement task forces; staff members share their insights and findings regarding teaching and learning with their colleagues; and there is a collaborative structure with sufficient time for collaboration” (p. 83-85).

DuFour further (in line with the learning organisation strategic perspective) emphasises the importance of strategic leadership for creating such conditions; a view that is shared by several

other SLO scholars (Brandt, 2003; Coppieter, 2005). For this to happen several scholars also place much importance on to the need of establishing a shared vision – a key characteristic or ‘dimension’ of the (school as) learning organisation as proposed by Watkins and Marsick (1996; 1999). When benchmarking the identified publications against this dimension, most of the identified publications highlight the importance of having a compelling, shared vision to shape the organisation and give a sense of direction to change and innovation efforts (Table 2.1).

However, a point of criticism is that in many cases – and this includes the work of Watkins and Marsick (1996), little or no guidance is provided to what this vision is to entail and who it should apply to. This is a shortcoming in the literature that we will come back to in detail in Chapter 3.

Schechter (2008) provides us with another clear, but rather focused view of what he considers the most important processes and structures of SLOs. Fitting the organisational learning perspective, he defined a SLO as one that:

“develops processes, strategies, and structures that would enable them to learn and react effectively in uncertain and dynamic environments. These schools institutionalize learning mechanisms in order to revise their existing knowledge. Without such mechanisms, a learning organization is unlikely to emerge” (p. 155-156).

The importance placed on organisational learning mechanisms, or using the terminology of Watkins’ and Marsick’s (1996) “embedded systems for capturing and sharing learning” is common in the SLO literature; about half of the selected publications explicitly recognise the importance of such systems (mechanisms) for capturing and sharing learning as a key feature of a SLO (Schechter & Mowafaq, 2013; Schechter, 2008; Bowen, Rose, & Ware, 2006; Coppieter, 2005). Coppieter (2005) for example argues for the need for effective and balanced feedback systems which he considers to be at the core of the knowledge base of a dynamic system – which the SLO is.

Table 2.1. SLO literature benchmarked against Watkins' and Marsick's DLOQ

Literature on SLO	Empowerment towards shared vision	Create continuous learning opportunities	Promotes team learning & collaboration	Promotes inquiry & dialogue	Embedded system for capturing & sharing learning	Connected to the environment	Strategic leadership for learning
1 Higgins et al. (2012)			+	++	+		++
2 Schechter and Mowafaq (2013)			++		++	+	
3 Schechter (2008)			++		++	+	
4 Keefe and Howard (1997)	+	+	++	++	+		++
5 Fullan (1995)	++	++	++	++		++	+
6 Harris and Tassel (2005)	+	++	++	++		++	+
7 Park (2008)	++	++	++	++		++	
8 Schechter and Mowafaq (2012)			++		++	+	
9 Silins, Zarins and Mulford (2002)	++	++	++	++	++	++	++
10 Paletta (2011)	++	++	++	++	++	+	
11 Kirkham (2005)		++		+			++
12 Retna and Tee (2006)	++	++	++	++		++	++
13 Wallace et al. (1997)	++	++	++	++	+	++	++
14 Diggins (1997)	+	+	+			+	+
15 Gunter (1996)	+	++	++	++	+	+	
16 Nixon et al. (1996)	++	++	++	++	++	++	
17 Alavi and McCormick (2004)	++	++	++	++		++	
18 Bowen, Rose and Ware (2006)	++	+	++	++	+	++	
19 Kerka (1995)	+	++	+	++		+	+
20 Benjamin (2009)	++	++	++	++	++	++	++
21 Hamzah et al. (2011)	++	++	++	+		+	++
22 Coppieters (2005)	++	+	+	++	++	+	
23 Mloi et al. (2006)	++	++	++	++	++	++	+
24 Brandt (2003)	++	++	+	++	++	++	
25 Clarke (2005)	+	+	++	++	++	+	++
Additional publications identified by leading experts							
26 Schlechty (2009)	++	++	++	++	++		
27 Davidoff and Lazarus (2002)	++	++	++	++	++	++	++
28 Middlewood et al. (2005)	++	++	++	++	++	++	++
29 Leithwood, Leonard and Sharatt (1998)	++	++	++	++	+	++	++
30 Louis and Kruse (1998)	++	++	++	++	++	++	+
31 Mitchell and Sackney (1998)	++	++	++	++	++		
32 Senge et al. (2012)	++	++	++	++	++	++	++

Note: ++ stands for good/excellent fit; + means partial fit.

The prominence scholars place on the establishment of systems for capturing and sharing learning, either or not by extending the borders of the learning environment, however varies. While Schechter's and Mowafaq's (2013) view of the SLO is focused mainly on the establishment of learning mechanisms (i.e. systems for capturing and sharing learning), as well as on the promotion of team learning and collaboration, most scholars provide a more holistic view of the processes, strategies and structures shaping a SLO (Bowen, Rose, & Ware, 2006; Schlechty, 2009; Silins, Zarins, & Mulford, 2002; Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012).

One such example of a clear and holistic, and therefore useful definition that provides the necessary operational guidance is provided by Watkins and Marsick (1996; 1993) who as mentioned consider a learning organisation one in which 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. Their model's seven action-oriented dimensions can be interpreted in terms of what schools must change to become learning organisations (Watkins & Marsick, 1999) and has inspired the work of one of the scholars identified through our search of the SLO literature, i.e. Benjamin (2009). Not surprisingly Benjamin's interpretation of the SLO matches up perfectly against the seven dimensions of Watkins' and Marsick' (school as a) learning organisation model (Table 2.1). Importantly, as will be discussed below, Watkins and Marsick are among those scholars that have further operationalised their view of the SLO through a questionnaire that can be used for (self-) assessment and planning purposes.

Silins, Mulford and Zarins (2002) provide a similar holistic and integrated SLO model (Table 2.1). Some eighteen years ago they investigated the concept of secondary schools as learning organisations as part of a research project involving South Australian and Tasmanian secondary schools. The findings of this considerably large-scale study (see below) informed the formulation of their definition of a SLO:

“Schools as learning organisations 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).

Through such specific references to for example the environmental scanning to inform the internal operations (systems thinking), the focus on developing shared goals (strategic perspective) or the establishment of collaborative teaching and learning environments (organisational learning perspective) these scholars have built on the strengths of the various learning organisations perspectives. Their model matches up well to seven action-oriented dimensions of Watkins' and Marsick' learning organisation model (Table 2.1). As this example shows and was also revealed by our analysis of the learning organisation literature (Section 2.2), integrated models are often characterised by their clarity and provide the necessary operational guidance to those wanting to transform their school into a learning organisation – and as such a similar path will therefore be pursued for the development of our own SLO model in Chapter 3.

In sum, the above has given an insight into the various definitions of the SLO that have been developed during the last 25 years. Though the SLO literature is not as vast as the general learning organisation literature they have in common that the scholarly interpretations of the concept vary, sometimes considerably. Some provide holistic and integrated definitions and models of the SLO – the path we will pursue for developing our own SLO model, while others are much more limited in scope. Only about a third of the identified SLO scholars propose a definition and/or model that can be considered truly holistic and integrated in nature; from our sample of thirty-two publications only ten match up to each of the seven learning organisation dimensions proposed by Watkins and Marsick (1996) (see Table 2.1).

However, despite the differences several common characteristics of the SLO emerge from the literature. First, similar to the learning organisation literature, scholars seem to agree that the SLO is a necessity for dealing with the rapidly changing external environment. Implicitly or explicitly they argue that the concept is suitable to any school organisation, regardless of the context in which the school operates. The latter is exemplified by operationalization of the concept in a wide range of countries, including Australia (Silins, Zarins, & Mulford, 2002), England and Wales (Gunter, 1996; Kirkham, 2005), Iran (Ghahramanifard, Pashaei, & Mehmandoust, 2013), Israel (Schechter & Mowafaq, 2013), Korea (Ho Park, 2008), Malaysia (Hamzah, Yakop, Nordin, & Rahman, 2011), South-Africa (Moloi, Grobler, & Gravett, 2006) and the United States of America (Higgins, Ishimaru, Holcombe, & Fowler, 2012; Harris & van Tassell, 2005).

Second, like the learning organisation in general, the SLO is defined as ‘organic’ and closely connected to the 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 in education. From our sample of SLO publications almost all scholars highlight the need for promoting team learning and collaboration, and continuous (individual) learning (Table 2.1), but they go further than this 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 more strongly than Watkins and Watkins (1999) and many other SLO scholars have done for recognising the importance of exploring new ways of doing things and striving for sustainable innovations in educational practice. Importantly, information and communication technologies (ICTs) are not always discussed in this context, while they are widely considered a powerful driver of educational change and innovation (OECD, 2013; Istance & Kools, 2013).

Fourth, again similar to the learning organisation literature in general, much of the SLO literature emphasises the importance of on the one hand the beliefs, values and norms of employees for continuous and collaborative learning. On the other hand, it emphasises the processes, strategies and structures to creating the conditions for such learning, experimentation and innovation to flourish. Several scholars have as discussed brought these together in holistic, integrated SLO models. Our analysis of the learning organisation and SLO literatures suggests that such integrated models have the greatest potential for advancing the SLO in research and practice because of the clarity and operational guidance they provide to those considering developing their schools into learning organisations.

The following section continues the exploration of SLO models by exploring some of the most frequently mentioned assessment instruments on the (school as) learning organisation and the empirical evidence they have generated – and as such provide further insight into this study’s first sub-question, “*how can a school as a learning organisation be defined and conceptualized?*”

2.4 Measuring the (school as a) learning organisation

2.4.1 Assessing the learning organisation

Research evidence on the learning organisation has as discussed been building since the early 1990s. While some of the literature has provided evidence on the existence of the learning organisation through case study analysis (Smith & Tosey, 1999; Garvin, 1993), increasingly scholars have proposed measurement instruments that can be used for a quantitative assessment of an organisation's characteristics and the extent to which they match up to the learning organisation concept.

Tannenbaum (1997) was one of the earlier scholars that developed a measurement instrument on the basis of scientific research and tested it with scientific methods. Tannenbaum's *Learning Environment Survey* as its name suggests focuses on the learning environment, i.e. the organisational features and culture. Survey results from over 500 people in seven organisations, coupled with data from diagnostic interviews, revealed that each organisation has a unique learning profile and relies on different sources of learning to develop individual competencies. Those organisations with stronger learning environments appeared to demonstrate greater organisational effectiveness. Eight different dimensions of a learning environment were identified: 1) awareness of the 'big picture'; 2) assignment of tasks that provide the opportunity to learn; 3) tolerant of mistakes; 4) high performance expectations/accountability; 5) minimal situational constraints; 6) open to new ideas; 7) supportive supervisors/co-workers; and 8) supportive training policies/practices.

Tannenbaum's analysis showed that continuous learning appears to be related to organisational effectiveness. He concluded that supervisors play a critical role in facilitating or hindering continuous learning. Individuals who attributed a greater percentage of their learning to supervisors reported stronger self-competence and greater satisfaction with development than individuals who reported a greater reliance on professional colleagues.

He also concluded that there is not one 'best way' to enhance continuous learning – it depends on a variety of factors. Instead, it needs to be viewed within the context of the company's overall human resource strategy (Schuler, 1992). Lastly, Tannenbaum argued for the need for regular

diagnosis of the organisation. He noted that only by periodically examining their policies, practices, strategies, and culture can organisations hope to develop interventions that will capitalize on their strengths and mitigate their weaknesses (Tannenbaum, 1997).

Another often cited and probably one of the most comprehensive assessment instruments is the mentioned *Dimensions of the Learning Organisations Questionnaire* (DLOQ) developed by Watkins and Marsick (1996; Watkins & Dirani, 2013). The DLOQ was developed to measure important shifts in an organisation's climate, culture, systems and structures that influence whether individuals learn. The 42 items of the survey concern the kinds of beliefs and behaviours of organisational members related to seven dimensions of a learning organisation mentioned earlier (see Section 2.2.4). Respondents indicate the degree to which they perceive these practices occur, using a 6-point scale ('almost always' to 'almost never'). The items are organized by level – individual, team, and organisation.

In Yang, Watkins and Marsick (2004) a further 12 items were added to the DLOQ to assess the performance outcomes of learning organisations in the areas of knowledge accumulation and financial performance. Drawing on the results of a non-random sample from multiple organisations, confirmatory factor analysis was used to assess the validity of the DLOQ. Structural equation modelling was used to examine the hypothesized relations between the different dimensions of the learning organisation and organisational performance measures. For the extended model, the results showed that the 12-item measurement model for the constructs of financial performance and knowledge performance fitted reasonably well. The authors further concluded that the learning organisation is a multi-dimensional construct, involving a complex set of interrelationships between individuals, teams and the organisation as a whole. The authors also note that constructing a valid instrument is an ongoing process. Although the evidence shows the convergent validity of the DLOQ, the authors note that the discriminate nature of the seven dimensions needs to be fully explored.

Many scholars have given ear to this call and since its development the DLOQ has been applied in multiple contexts and cultures. A meta-analysis of the application of the DLOQ in 28 organisations in profit, non-profit, business, government, and other sectors confirms the relationship between the dimensions of a learning organisation and overall knowledge- and financial performance (Watkins & Dirani, 2013).

These studies like most of the empirical research that is based on quantitative assessment instruments are concerned with testing construct validity (OECD, 2010) and are as mentioned often small in scale. Although valuable in their own right this leaves us with a gap in research knowledge of the advance of the learning organisation concept in private and public organisations.

2.4.2 A small, but growing number of school as a learning organisation assessment instruments

Turning to the assessment of schools that can be considered learning organisations, a similar pattern emerges. Since the early 1990s several scholars have explored the existence of SLOs through qualitative case study analysis (Giles & Hargreaves, 2006; Johnston & Caldwell, 2001). Increasingly however, following and building on the examples of their peers working in other sectors, SLO scholars have proposed assessment instruments to define to what degree contemporary schools correspond to the learning organisation ideal.

Among those several have looked towards the work of Senge (1990; 2012) as a source of inspiration (Ho Park, 2008; Moloi, Grobler, & Gravett, 2006). Moloi, Grobler and Gravett (2006), for example, used the five learning disciplines as the theoretical framework for their study of public schools in the Vanderbijl Park-North District of the Gauteng Province of South Africa. The purpose of the study was to investigate the essential features of learning organisations, the perceptions of educators towards these and guidelines that could be provided to schools for coping with the demands of continuous learning and adaptation in a turbulent environment. Structured questionnaires consisting of 88 items were distributed to a random sample of 50 (20 primary and 30 secondary) schools and were completed by educators at different levels of the organisations. A key finding was that the learning disciplines were fundamental to two factors: a collaborative culture and personal beliefs about educator commitment. The study showed that schools in the Gauteng Province of South Africa can transform into learning organisations by cultivating a climate which develops the kind of collaborative culture and beliefs that stimulate educator commitment.

Several scholars have also used the earlier mentioned DLOQ developed by Marsick and Watkins (1996; 1993) to explore its suitability for exploring the organisational features of schools as learning organisations (Benjamin, 2009; Khan, Tanveer, & Saleem, 2013; Nazari & Akmaliah Lope Pihie, 2012; McCharen, Song, & Martens, 2011). The comprehensiveness of the DLOQ and its proven applicability in various context, cultures and types of organisations (Watkins & Dirani, 2013;

Moilanen, 2005), including school organisations, also suggests the value of using the DLOQ in schools. Confirmatory factor analysis by Benjamin (2009), however, concludes that a one-factor model is an adequate fit. This is in contrast to Yang, Watkins and Marsick (2004) whose analysis supports a seven-factor model. As for other SLO assessment instruments, more research would seem needed to further validate the DLOQ within a school context.

Another example of a quantitative assessment instrument that aims to measure the characteristics of SLOs is the *School Success Profile-Learning Organization (SSP-LO) survey*. The SSP-LO survey was designed by Bowen, Rose and Ware (2006) more than a decade ago and is increasingly cited in the literature (Berkowitz, Bowen, Benbenishty, & Powers, 2013; Jaafari, Karami, & Soleimani, 2012; Niroo, Haghani, & Hossein Nejjhad, 2013). The SSP-LO questionnaire consists of two aspects of ‘actions’ and ‘feelings’. ‘Actions’ are based on behaviours, and mutually functional patterns of members in a SLO, which provide opportunities to educate, to explain responsibilities, and collective attempts to manage organisational objectives. The components of actions are: 1) team orientation; 2) innovation; 3) co-operation; 4) information circulation; 5) error sustainability; and 6) result-based.

‘Feelings’ are defined as collective modes including positive respect, positive sensations, and attitude among members of the organisation which appear through their acts and interpersonal relationships. The components of this aspect are: 1) common goals; 2) respect; 3) solidarity; 4) confidence; 5) mutual protection; and 6) optimism (Bowen, Rose, & Ware, 2006). Various studies internationally confirm the theoretical framework, with the SLO containing two aspects of actions and feelings, each of which possess six components.

A shortcoming of most of these studies and assessment instruments is their small-scale application. These studies mostly deal with validating the construct of the SLO and as such do not allow for gaining a better understanding on the spread of SLOs across school systems and/or its effectiveness as defined in enhancing student outcomes or HR outcomes.

Some studies, however, have been more extensive. The Leadership for Organisational Learning and Student Outcomes study is one such example (Silins, Zarins, & Mulford, 2002; Silins & Mulford, 2004). It involved 2000 principals and teachers in a random sample of 96 South Australian and Tasmanian secondary schools. The first phase of this project identified the school and leadership

characteristics and processes associated with high schools operating as learning organisations. For this the *Organisational Learning and Leadership Questionnaire* was developed drawing on school and non-school literature on organisational learning. Seven identified constructs of the SLO formed the base for the development of the questionnaire: 1) employed processes of environmental scanning; 2) developed shared goals; 3) established collaborative teaching and learning environments; 4) encouraged initiatives and risk taking; 5) regularly reviewed all aspects related to and influencing the work of the school; 6) recognised and reinforced good work; and 7) provided opportunities for continuing professional development.

Teachers and principals were asked to respond to items representing these seven dimensions on a self-reported five-point Likert type scale ranging from ‘strongly disagree’ (1) to ‘strongly agree’ (5). Although the seven factors structure of the Organisational Learning and Leadership Questionnaire was not supported by the study findings (instead a four-factor, nested model was identified), the study’s findings revealed the high-reliability of the questionnaire.

In addition, some scholars, educators and policy makers have designed self-assessment instruments around the SLO concept with the aim of inspiring and supporting all those involved (teachers, school leaders, students, parents, etc.) in working towards this ideal. These instruments are part of a larger trend in education policy and practice over the last two decades that focusses on stimulating school self-assessment, reinforced by supra-national bodies such as the European Union and OECD (Ehren, Altrichter, Mcnamara, & O’Hara, 2013; OECD, 2013; Hofman, Dijkstra, & Hofman, 2009).

An example of such is the *Learning Organisation Developmental Model* in the Netherlands (School has the Initiative, 2014). The SLO is one of the seven objectives under the country’s ‘Teachers Agenda 2013-2020’. To support the implementation of the strategy this model was developed that consists of five dimensions: 1) the right course; 2) the right start; 3) the right feedback; 4) the right development; and 5) the right differentiation. The model is unique in that it provides clear descriptors of the desired behaviour for each of five levels in relation to each of the five dimensions. These descriptors of desired behaviours are intended to support school leaders, teachers and others involved in the self-assessment of their school and inform the following school improvement efforts. A first evaluation suggested the model served its purpose and provided Dutch school leaders and/or human resource managers with a means for self-evaluation and improvement planning

(Ministry of Education, Culture and Science of the Netherlands, 2014). It is not known whether this also applies to the other members of the school organisation.

To conclude, these assessment instruments and the empirical evidence they have generated at first sight would seem to support our earlier findings that the interpretation of the school as learning organisation vary among scholars, educators and policy makers. A careful analysis of the underlying models and indicators reveals they share many commonalities. This is also evidenced by the fact that the School Success Profile-Learning Organization Survey (Bowen, Rose, & Ware, 2006) and the Organisational Learning and Leadership Questionnaire (Silins, Zarins, & Mulford, 2002) match well with each of the seven dimensions of the learning organisation model of Watkins and Marsick (Table 2.2).

Table 2.2 SLO assessment instruments against Watkins’ and Marsick’s DLOQ

SLO assessment instruments	Empowerment towards a shared vision	Continuous learning	Promotes team learning & collaboration	Promotes inquiry & dialogue	Embedded system for capturing & sharing learning	Connected to the larger learning system	Strategic leadership for learning
DLOQ - Watkins and Marsick and Watkins (1996)	++	++	++	++	++	++	++
SSPLO - Bowen, Rose and Bowen (2005)	+	+	++	++	+	++	++
Organisational Learning and Leadership Questionnaire - Silins, Zarins and Mulford (2002)	++	++	++	++	++	++	++
Developmental Model Learning Organisation - School has the Initiative (2014)	+	++		++	++	+	++

Note: ++ stands for good/excellent fit; + means partial fit.

Apart from the use of descriptors, the Development Model Learning Organisation (School has the Initiative, 2014) differs from the other instruments in that it has fewer indicators (11 for Level 5), making it also less comprehensive in nature. In particular the model devotes less attention to the importance of “promoting team learning and collaboration”, compared to the other instruments. A detailed analysis of the framework of indicators however still shows that, despite its relatively small size, it still matches quite well with Watkins’ and Marsick’s (school as a) learning organisation model.

These findings further support using an integrated approach to developing our own SLO model and also for using Watkins’ and Marsick’ (school as a) learning organisation model as a theoretical

foundation – though recognizing some of the identified shortcoming and areas for further refinement of the model to make it best suited to contemporary school organisations that are, or aspire to become learning organisations (see Sections 2.2 and 2.3).

For this purpose, the following section discusses the more ‘critical voices’ to (school as) learning organisation literature to judge whether they hold ground and if so whether they could point towards areas for further development of the SLO concept.

2.5 Critics of the learning organisation and school as a learning organisation

2.5.1 Critics of the learning organisation

Despite the growing theoretical support for the learning organisation and some real-life examples notwithstanding, some critics claim “this emperor has no clothes” and are sceptical this will ever be the case. In the literature the learning organisation is often presented as a model or ideal of what an organisation can become when people put aside their habitual ways of thinking and remain open to new ideas and methods – when everyone throughout the organisation is continuously learning. Watkins and Golembiewski (1995) have referred to the learning organisation as “a tentative roadmap, still indistinct and abstract”, a “never ending journey”. Critics have noted that many of these normative learning organisation definitions, despite being practitioner-oriented, often lack in clarity and are excessively broad and therefore are not that useful for researchers and practitioners (Örtenblad, 2002; Popper & Lipshitz, 2000; Daft & Huber, 1987).

Many scholars emphasise the difficulty or even impossibility of describing what a complete learning organisation looks like. They argue that learning organisations change continuously or that each learning organisation must be different in order to fit the specific organisation (Pedler & Aspinwall, 1998).

Örtenblad (2004; 2002) discussed how this ‘vagueness’ in concept (a term he uses in a neutral meaning) can be considered in both positive and negative ways. He notes that a vague concept in fact can be beneficial to managers. With the help of ambiguous language, managers can satisfy different subgroups that have different and sometimes even contradicting interests (Astley & Zammuto, 1992), how it can help easily adapt the concept to different contexts (Scarborough &

Swan, 2001) and can in fact be a good condition for creativity by opening up thinking instead of closing it down (Astley & Zammuto, 1992).

Some will agree that this line of argumentation holds ground, however only to a certain degree. Fact is that vague ideas are difficult to implement and even more difficult to measure (Lipshitz, Popper, & Oz, 1996). The lack of evidence of examples of organisations illustrating, in an empirical verifiable manner, the implementation of learning organisation theory is also cited as a reason for discrediting the conceptual validity or practical usefulness of the concept (Fischer, 2003).

How does one know whether the organisation is a learning organisation, or whether it is making progress towards becoming one? These are key questions for any organisation that is considering becoming a learning organisation. We share the view of Watkins and Glomiewski (1995) that this should be a never-ending journey. However, it should not be a journey where one so to speak 'can never reach the top of the mountain'. 'Staying on top' is a second challenge that organisations will have to face and for which the learning organisation concept (should) provide(s) the necessary guidance.

Some scholars share this view and have as discussed set out to clarify the learning organisation concept (Yang, Watkins, & Marsick, 2004; Örténblad, 2004; Bowen, Rose, & Ware, 2006). These scholars have attempted to provide definitions that are much clearer, often by describing the needed processes, strategies and organisational structures and therefore are arguably more useful to all those involved. Several of these scholars have also provided management aids ('building blocks', or 'characteristics' of the learning organisation) and diagnostic instruments for measuring and developing an organisation's learning capabilities.

This would seem the right way forward for advancing the learning organisation concept – in private and public organisations. The empirical evidence generated by these measurement instruments will be essential for responding to the concerns of critics about the lack of clarity and usability of the learning organisation concept in practice.

But there are other concerns that critics have raised. While many scholars agree that the concept of the learning organisation is an important one for organisational science, not all agree that the learning organisation is that positive for its members (Driver, 2002; Cooper, 1998). Some have

argued that the learning organisation may serve to bind workers to visions and purposes that do not serve their best interests, while garnering commitment for something that seems to be for the workers' own good. Without seeking to exert "coercive persuasion" (Schein, 1999) the learning organisation as a tightly woven learning community may be experienced as increased pressure for conformity by its members, who may question whether they are learning to transform the organisation or rather learning to be transformed by the organisation (McHugh, Groves, & Alker, 1998).

Some scholars have further noted that the embrace of the concept of distributed leadership that emerged in parallel to the learning organisation was under-theorized and often neglected issues of practice and issues of power (Caldwell, 2010). Easterby-smith (1997) noted (seemingly somewhat ironically) that unless learning organisations are exceptional places – unlike other organisations where top-managers monopolise meaning creation and learning processes in organisations (Daft & Weick, 1984) – the question can legitimacy be asked whether or not the learning organisation is a humanistic and democratic as its proponents claim.

In sum, many of these critics argue that in a learning organisation, whether or not in a school context, its members are at risk of becoming subjects to pressure, manipulation and to serving the interest of a powerful elite group, presumably the same group the learning organisation is designed to replace.

Not to denounce the valuable arguments raised by these critics, it is important to note that at the very least, agreeing with Driver (2002), the learning organisation is not necessarily a type of organisation that offers a higher potential for such abuse than any other. Taking a more positive and indeed humanistic view of the learning organisation, the strong emphasis placed on elements such as distributed leadership, the promotion of collaboration and communication, and trust and respect among all members throughout the organisation in fact should limit or ideally even prevent the abuse of power by management. Based on the learning organisation literature one can in fact argue that the abuse of power per definition disqualifies the organisation from being a learning organisation.

In addition, some form of control or accountability to see whether the organisation and its members are working towards achieving its vision or purpose (Robbins, Bergman, Stagg, & Coulter, 2006)

are the very conditions that allow it to survive and thrive. Controls or accountability mechanisms play an important role in ensuring the organisation receives the feedback and information necessary for engaging in a cyclical process of trial-and-error learning that provides opportunities to reconceptualise future actions.

Further, although distributed leadership, negotiated control, shared visioning, team work and transparency are some of the key characteristics, or as one may prefer to call them “humanistic and democratic virtues” of the learning organisation that can empower all employees within them, management or school leaders still have an important role to play. For example, in establishing an organisational culture that promotes and facilitates the learning of all its members (Moraga, 2006; Coppieter, 2005; Brandt, 2003). To fulfil this role adequately managers and school leaders have a legitimate need for a certain amount of authority to take action, and accountability mechanisms to provide them with the right information to do so.

Finding the right balance between managerial and employee control and leadership would seem to be where the challenge lies. And this is where Driver (2002) provides us with some very useful questions: How do employees perceive the distribution of power and leadership in their organisation? What influence do employees have in defining these controls (‘negotiated control’)? How do control mechanisms enhance employee learning? The latter question can be extended to the learning of the organisation as a whole.

2.5.2 Critical voices and challenges to realising a school as a learning organisation

This study suggests relatively few scholars have directed their criticism towards the SLO specifically compared to those on the concept in general. Many of the critical notes mentioned above however also apply to the SLO. For example, the lack of clarity or vagueness of the SLO concept has as mentioned hampered the advance of the concept in both research and practice (see Section 2.3).

Further, though a growing number scholars, practitioners and policy makers are drawn by the intuitive appeal of the SLO, the evidence base on its effectiveness – though emerging – is still limited to date (Schleicher, 2012). This issue will be discussed in detail in Chapters 7 and 8.

There are other concerns that critics have raised. These relate to the conventional structures in which schools operate (Timanson & Da Costa, 2016; Giles & Hargreaves, 2006). Mass school education over the past century, in most western countries, has successfully created a generation with a reductionist/functionalist, individualist, moral relative organisational paradigm that expects good organisation to be naturally evidenced in controlling, bureaucratic type structures. It is therefore not surprising that schools, populated, staffed, managed, directed and subject to governmental policy generated by such people, are not learning organisations and have difficulty becoming learning organisations. Schools have for example struggled to facilitate collaborative learning' among staff as they are limited in their ability to create the conditions for flexible learning spaces and time necessary for learning (Giles & Hargreaves, 2006).

But even when the challenges of space and time have been resolved, schools in many cases still operate in relative isolation. School systems are made up of a large collection of many small service delivery organisations that in many cases operate in relative isolation. Such conditions do not lend themselves well for extending the desired collaborative learning across school boundaries (Giles & Hargreaves, 2006) and spreading the SLO concept to other parts of the school system.

Not to denounce these critical voices and challenges to implementing the SLO concept in practice, some of the SLO literature argues for schools to cooperate with other schools and engage in partnerships to replenish and sustain its knowledge, human and social capital if they are to become sustainable learning organisations (Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012; Silins, Mulford, & Zarins, 2002). In addition, school leaders have a pivotal role in overcoming (part of) these challenges. The SLO literature is for example adamant about their role for creating the conditions for collaborative learning among staff and reaching out and building partnerships with other schools. For this they to varying degrees need the support of leaders at other levels of the system (Schlechty, 2009; Silins, Mulford, & Zarins, 2002). These are important strategies to counter the challenges provided by the conventional structures of schools and school systems.

In Chapter 3 we will further explore how these critical voices and challenges (and strategies to counter them) can inform the development of our SLO definition and theoretical model.

2.6 Discussion and conclusion

This chapter has provided an insight into the learning organisation and SLO literatures that have developed during the last 25 years in an effort to work towards answering the first sub-question of this study, “*how can a school as a learning organisation be defined and conceptualized?*” – an effort that will be continued in Chapter 3.

A first finding is that although the SLO literature is not as vast as the general learning organisation literature, they have in common that the scholarly interpretations of the concept vary, sometimes considerably. However, despite these differences some common characteristics emerge from the literature. First, scholars see the SLO as a necessity for dealing with the rapidly changing external environment, regardless of the context in which the school operates. Second, the SLO is defined as ‘organic’ and closely connected to the external environment. Third, the SLO literature is adamant about the importance of individual, group and organisational learning with inquiry, problem solving and experimentation as key drivers of change and innovation in education. Fourth, the SLO literature highlights both the beliefs, values and norms of employees for continuous and collaborative learning, as well as the processes, strategies and structures to creating the conditions for such learning, experimentation and innovation to flourish.

Several scholars have brought these common characteristics together in integrated SLO models. Our analysis suggests such integrated models have the greatest potential for advancing the SLO concept in research and practice because of the clarity and operational guidance they provide, with particular reference to the (school as a) learning organisation model of Watkins and Marsick (1999). It also supports using the seven dimensions of Watkins’ and Marsick’s model as a theoretical foundation for the development of our own SLO definition and theoretical model (in Chapter 3).

Our analysis of the literature however suggests there is scope for refinement of this model and its framework of indicators to further strengthen its applicability to contemporary school organisations. First, with many of today’s schools resembling those at the start of the 20th century and operating in often conventional and fragmented school systems, our analysis suggests there is need for more strongly emphasising new ways of doing things and striving for sustainable educational innovations. This also requires revisiting their model to see how ICTs, which many consider to be an important driver for educational change and innovation, can be brought more to the fore. Like many SLO

scholars, Watkins and Marsick have devoted little attention to the potential of ICT for innovating the teaching and learning, as well as the larger school organisation.

Responding also to the critics to the SLO, the conventional structures of schools and schools systems in which they operate also argue for more strongly emphasising the promotion of school-to-school collaborations and networked peer learning. School leaders have an important role to play in modelling and facilitating such collaborations with the external environment. We will take these issues forward in the development of our own SLO model in Chapter 3.

In addition, Watkins and Marsick, like several other SLO scholars, are clear about the process for developing a vision in that it should be a ‘shared process’ involving teachers, school leaders and other local stakeholders. Little is said however about the content of this vision which risks diluting developmental efforts and ensuring all students are provided with the skills to prepare them for life in the 21st century – schools’ core mission, whether a learning organisation or not. We aim to provide greater clarity on this issue as well in our SLO model.

Furthermore, though many of the SLO scholars are silent about support staff, and this to a large extent includes Watkins and Marsick, they should not be overlooked; a SLO depends on the joint efforts of all of its staff to blossom and continue thriving. Therefore, responding also to the concerns of the SLO becoming another vehicle of control by those in leaderships positions, our SLO model that is presented in Chapter 3 and the corresponding survey instrument (that will be developed in Chapter 4) will equally take into account the views of three groups of staff – school leaders, teachers and learning support staff – to determine whether a school can truly be considered a learning organisation, or not.

These and other issues will be elaborated upon in Chapter 3, where we continue our in-depth multidisciplinary literature review. This will allow for further refining Watkins’ and Marsick’s learning organisation model and developing our own integrated SLO definition and model that is applicable to contemporary school organisations. This effort will as mentioned support the answering of the first sub-question of this study, “*how can a school as a learning organisation be defined and conceptualized?*”.

REFERENCES

- Argyris, C. (1957). *Personality and Organization*. New York: Harper Collins.
- Argyris, C. (1964). *Integrating the Individual and the Organization*. New York: Wiley.
- Argyris, C. (1999). *On Organisational Learning*. Oxford: Blackwell.
- Argyris, C., & Schön, D. (1978). *Organisational Learning: A Theory of Action Perspective*. Reading: Mass, Addison Wesley.
- Astley, W., & Zammuto, R. (1992). Organization science, managers and language games. *Organisational Science*, 3(4), 443-460.
- Barrados, M., & Mayne, J. (2003). Can Public Sector Organisations Learn? *OECD Journal On Budgeting*, 3(3), 87-136.
- Benjamin, D. (2009). The School as Learning Organization: Validation of the DLOQ with School Staff. *PhD Thesis*. Alfred: Alfred University.
- Berkowitz, R., Bowen, G., Benbenishty, R., & Powers, J. (2013). A Cross-Cultural Validity Study of the School Success Profile Learning Organization Measure in Israel. *Children & Schools*, 35(3), 137-146.
- Bertalanffy, L. v. (1934). Untersuchungen über die Gesetzlichkeit des Wachstums. Allgemeine Grundlagen der Theorie; mathematische und physiologische Gesetzlichkeiten des Wachstums bei Wassertieren. *Arch. Entwicklungsmech*, 131, 613-652.
- Birnbaum, R. (1988). *How Colleges Work. The Cybernetics of Academic Organisation and Leadership*. San Francisco: Jossey-Bass Publishers.
- Bowen, G., Rose, R., & Ware, W. (2006). The reliability and validity of the school success profile learning organization measure. *Evaluation and Program Planning*, 29(1), 97-104.
- Brandt, J. (2003). Is this school a learning organization? 10 ways to tell. *Journal of Staff Development*, 24(1), 10-16.
- Brown, J., & Duguid, P. (1998). Organizing Knowledge. *California Management Review*, 40(3), 90-111.
- Caldwell, R. (2010). *Leadership and Learning: A Critical Reexamination of Senge's Learning Organization*. London: Springer.
- Cooper, C. (1998). *Theories of Organizational Stress*. Oxford: Oxford University Press.

- Coppieter, P. (2005). Turning schools into learning organizations. *European Journal of Teacher Education*, 28(2), 129-139.
- Crozier, M. (1964). *The Bureaucratic Phenomenon*. Chicago: Chicago University Press.
- Daft, R., & Huber, G. (1987). How organisations learn: a communication framework. *Research in Sociology of Organisations*, 5(2), 1-36.
- Daft, R., & Weick, K. (1984). Toward a model of organizations as interpretation systems. *Academy of Management Review*, 9(2), 284-295.
- DiBella, A. (1995). Developing learning organizations: A matter of perspective. *Organizational Development and Change. Academy of Management Journal, Best Papers Proceedings*, 8(1), 287-291.
- Dodgson, M. (1993). *Organizational Learning: A Review of Some Literatures*. Brighton: Science Policy Research Unit, University of Sussex.
- Driver, M. (2002). The Learning Organisation: Foucauldian gloom or Utopian sunshine? *Human Relations*, 55(1), 33-53.
- Du Four, R. (1997). The school as a learning organization: Recommendations for school improvement. *NASSP Bulletin*, 42(58), 81-88.
- Easterby-Smith, M. (1997). Disciplines of organisational learning: Contributions and critics. *Human Relations*, 50(9), 1085-1113.
- Easterby-Smith, M., & Araujo, L. (1999). Current debates and opportunities. In M. Easterby-Smith, L. Araujo, & J. Burgoyne (Eds.), *Organizational Learning and the Learning Organization*. London: Sage.
- Ehren, M., Altrichter, H., Mcnamara, G., & O'Hara, J. (2013). Impact of school inspections on improvement of schools - describing assumptions on causal mechanisms in six European countries. *Educational Assessment, Evaluation and Accountability*, 25(1), 3-43.
- Fischer, M. (2003). Challenges and open questions raised by the concept of the learning organisation. In B. Nyhan, M. Kelleher, P. Cressey, & R. Poell (Eds.), *Facing up to the learning organisation challenge - Volume II: selected European writings*. Luxembourg: Office for Official Publications of the European Communities.
- Fullan, M. (1995). The school as a learning organization: Distant dreams. *Theory Into Practice*, 34(4), 230-235.

- Garratt, B. (1987). Learning is the Core of Organisational Survival: Action Learning is the Key Integrating Process. *Journal of Management Development*, 6(2), 38-44.
- Garvin, D. (1993). Building a learning organization. *Harvard Business Review*, 71(4), 78-91.
- Gephart, M., Marsick, V., Van Buren, M., & Spiro, M. (1996). Learning organizations come alive. *Training & Development*, 50(12), 34-36.
- Ghahramanifard, K., Pashaei, J., & Mehmandoust, H. (2013). The study of learning high schools based on “Peter M. Senge” learning. *IOSR Journal Of Humanities And Social Science*, 13(5), 81-84.
- Giles, C., & 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.
- Goh, S. (1998). Towards a learning organisation: The strategic building blocks. *SAM Advanced Management Journal*, 63(2), 15-22.
- Gronhaug, K., & Stone, R. (2012). The learning organisation: An historical perspective, the learning process, and its influence on competitiveness. *The Learning Organisation*, 22(3), 261-275.
- Gunter, H. (1996). Appraisal and the School as a Learning Organisation. *School Organisation*, 16(1), 89-100.
- Hamzah, M., Yakop, F., Nordin, N., & Rahman, S. (2011). School as Learning Organisation: The Role of Principal’s Transformational Leadership in Promoting Teacher Engagement. *World Applied Science Journal*, 14, 58-63.
- Harris, M., & van Tassell, F. (2005). The professional development school as learning organization. *European Journal of Teacher Education*, 28(2), 179-194.
- Higgins, M., Ishimaru, A., Holcombe, R., & Fowler, A. (2012). Examining organizational learning in schools: The role of psychological safety, experimentation, and leadership that reinforces learning. *Journal of Educational Change*, 13(1), 67-94.
- Ho Park, J. (2008). Validation of Senge’s learning organization model with teachers of vocational high schools at the Seoul megalopolis. *Asia Pacific Education Review*, 9(3), 270-284.
- Hofman, R., Dijkstra, N., & Hofman, W. (2009). School self-evaluation and student achievement. *School Effectiveness and School Improvement*, 20(1), 47-68.

- Istance, D., & Kools, M. (2013). OECD Work on Technology and Education: Innovative learning environments as an integrative framework. *European Journal of Education*, 48(1), 43-57.
- Jaafari, P., Karami, S., & Soleimani, N. (2012). The relationship among organizational climate, organizational learning and teachers' self-efficacy. *Procedia - Social and Behavioral Sciences*, 47, 2212-2218.
- Johnston, C., & Caldwell, B. (2001). Leadership and organisational learning in the quest for world class schools. *International Journal of Educational Management*, 15(2), 94-103.
- Khan, Z., Tanveer, M., & Saleem, I. (2013). Analyzing Learning Environment: A Comparative Study of Public and Private Sector Schools of Pakistan. *International Journal of Management & Organizational Studies*, 2(1), 49-54.
- Kirkham, G. (2005). Leading and achieving a school as learning organisation through developing middle leaders. *European Journal of Teacher Education*, 28(2), 151-163.
- Kuijpers, B., Higgs, M., Kickert, W., Tummers, L., Grandia, J., & Van der Voet, J. (2014). Managing change in public organizations: A review of the literature between 2000 and 2010. *Public Administration*, 92(1), 1-20.
- Laszlo, A., & Krippner, S. (1998). Systems Theories: Their Origins, Foundations, and Development. In S. Jordan (Eds.), *Systems Theories and A Priori Aspects of Perception*, Elsevier Science. Elsevier Science.
- Lipshitz, R., Popper, M., & Oz, S. (1996). Building learning organization: the design and implementation of organizational learning mechanisms. *Journal of Applied Behavioral Science*, 32(3), 292-305.
- March, J. (1991). Exploration and exploitation in organizational learning. *Organization Science*, 2(1), 71-87.
- March, J., & Simon, H. (1958). *Organizations*. New York: John Wiley.
- McCharen, B., Song, J., & Martens, J. (2011). School innovation: The mutual Impacts of Organizational learning and Creativity. *Educational Management Administration & Leadership*, 39, 676-694.
- McHugh, D., Groves, D., & Alker, A. (1998). Managing learning: What do we learn from a learning organization? *The Learning Organization*, 5(5), 1-14.
- Millet, B. (1998). The Dominance of Systems Theory. *International Journal of Organisational Behaviour*, 1(1), 1-12.

- Ministry of Education, Culture and Science of the Netherlands. (2014). *Progress report Teacher's Agenda 2013-2020 [Voortgangsrapportage Lerarenagenda 2013-2020]*. The Hague: MoECS.
- Moilanen, R. (2005). Diagnosing and measuring learning organisations. *Learning Organisations*, 12(1), 71-89.
- Moloi, K., Grobler, B., & Gravett, S. (2006). Educators' perceptions of the school as a learning organization in the Vanderbijlpark-North District, South Africa. *South African Journal of Education*, 22(2), 88-94.
- Moraga, E. (2006). *Cultural Learning Organisations: A management and organisational model*. Retrieved from <http://www.culturallearningorganizations.net/>
- Nakpodia, E. (2009). The concept of the university as learning organization: Its functions, techniques and possible ways of making it effective. *Journal of Public Administration and Policy Research*, 1(5), 79-83.
- Nazari, K., & Akmaliah Lope Pihie, Z. (2012). Assessing Learning Organization Dimensions and Demographic Factors in Technical and Vocational Colleges in Iran. *International Journal of Business and Social Science*, 3(3), 210-219.
- Niroo, M., Haghani, M., & Hossein Nejjhad, G. (2013). Learning School and Readiness for Change. *International Journal of Management Perspective*, 1(3), 15-22.
- OECD. (2010). *Innovative Workplaces: Making Better Use of Skills within Organisations*. Paris: OECD Publishing.
- OECD. (2013). *Innovative Learning Environments*. Paris: OECD Publishing.
- OECD. (2013). *Synergies for Better Learning*. Paris: OECD Publishing.
- Örtenblad, A. (2002). A typology of the idea of learning organization. *Management Learning*, 33(2), 213-230.
- Örtenblad, A. (2004). The learning organization: towards an integrated model. *The Learning Organization*, 11(2), 129-144.
- Pedler, M. (1995). A guide to the learning organisation. *Industrial and Commercial Training*, 27(4), 21-25.
- Pedler, M., & Aspinwall, K. (1998). *A Concise Guide to the Learning Organisation*. London: Lemos & Crane.

- Pedler, M., Boydell, T., & Burgoyne, J. (1989). Towards the learning company. *Management Education and Development*, 20(1), 1-8.
- Pedler, M., Burgoyne, J., & Boydell, T. (1991). *The Learning Company. A Strategy for Sustainable Development*. London: The Learning Company.
- Phillips, B. (2003). A four-level learning organisation benchmark implementation model. *The Learning Organization*, 10(2), 98-105.
- Popper, M., & Lipshitz, R. (2000). Installing mechanisms and instilling values: the role of leadership in organisational learning. *The Learning Organisation*, 7(3), 135-144.
- Portfeld, I. (2006). *The University; A Learning Organization? An Illuminative Review Based on System Theory*. Karlstad: Karlstad University Studies.
- Retna, K., & Ng Tee, P. (2016). The application of learning organization to enhance learning in Singapore schools. *Management in Education*, 30(1), 10-18.
- Revens, R. (1969). *The Enterprise as a Learning System*. Brussels: Fondation Industrie-Universite.
- Robbins, S., Bergman, R., Stagg, I., & Coulter, M. (2006). *Management*. Melbourne: Pearson Education Australia.
- Rothwell, W. (2002). *The Workplace Learner: How to Align Training Initiatives with Individual Learning Competencies*. New York: American Association.
- Rowden, R. (2001). The learning organization and strategic change. *Society for the Advancement of Management Journal*, 66(3), 11-16.
- Scarbrough, H., & Swan, J. (2001). Explaining the diffusion of knowledge management: The role of fashion. *British Journal of Management*, 12(1), 3-12.
- Schechter, C. (2008). Organizational Learning Mechanisms: The Meaning, Measure, and Implications for School Improvement. *Educational Administration Quarterly*, 44(2), 155-186.
- Schechter, C., & Mowafaq, Q. (2013). From Illusion to Reality: Schools as Learning Organizations. *International Journal of Educational Management*, 27(5), 505-516.
- Schein, E. (1999). *The corporate culture survival guide*. San Francisco: Jossey-Bass.
- Schlechty, P. (2009). *Leading for Learning: How to Transform Schools into Learning Organizations*. San Francisco: Jossey-Bass.

- Schleicher, A. (2012). *Preparing Teachers and Developing School Leaders for the 21st Century: Lessons from around the World*. Paris: OECD Publishing.
- Schön, D. (1970). Change and industrial society. London: Radio 4.
- Schön, D. (1973). *Beyond the Stable State. Public and private learning in a changing society*. Harmondsworth: Penguin.
- School has the Initiative. (2014). *Developmental Model Learning Organisation [Ontwikkelmodel Lerende Organisatie]*. Retrieved from http://schoolaanzet.nl/fileadmin/contentelementen/school_aan_zet/Bijlagen_bij_nieuwsberichten/Ontwikkelmodel_Lerende_Organisatie.pdf.
- Schuler, R. (1992). Strategic human resources management: Linking the people with the strategic needs of the business. *Organizational Dynamics*, 21(1), 18-32.
- Senge, P. (1990). *The Fifth Discipline: The Art and Practice of the Learning Organisation*. New York: Currency Doubleday.
- Senge, P., Cambron-McCabe, N., Lucas, T., Smith, B., & Dutton, J. (2012). *Schools That Learn*. New York: Crown Business.
- Senior, B., & Swailes, S. (2010). *Managing Organisational Change*. London: SOAS, University of London.
- Silins, H., & Mulford, B. (2004). Schools as learning organizations: Effects on teacher leadership and student outcomes. *School Effectiveness and School Improvement*, 15(3-4), 443-466.
- Silins, H., Mulford, B., & Zarins, S. (2002). Organisational learning and school change. *Educational Administration Quarterly*, 38(5), 613-642.
- 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.
- Smith, P., & Tosey, P. (1999). Assessing the learning organization: part 1 - theoretical foundations. *The Learning Organization*, 6(2), 70-75.
- Spector, B. (2006). *Implementing Organisational Change: Theory and Practice*. New Jersey: Prentice-Hall.
- Tannenbaum, S. (1997). Enhancing Continuous learning: Diagnostic Findings From Multiple Companies. *Human Resource Management*, 36(4), 437-452.

- Timanson, P., & Da Costa, J. (2016). Learning Organisations and Their Relationship to Educational Improvement. In P. Newton, & D. Burgess (Eds.), *The Best Available Evidence Decision Making for Educational Improvement*. Rotterdam: Sense Publishers.
- Tsang, E. (1997). Organizational learning and the learning organization: a dichotomy between descriptive and prescriptive research. *Human Relations*, 50(1), 57-70.
- Watkins, K., & Dirani, K. (2013). A meta-analysis of the Dimensions of a Learning Organization Questionnaire: Looking across cultures, ranks, and Industries. *Advances in Developing Human Resources*, 15(2), 148-162.
- Watkins, K., & Golembiewski, R. (1995). Rethinking organisation development for the learning organisation. *The International Journal of Organizational Analysis*, 3(1), 86-101.
- Watkins, K., & Marsick, V. (1993). *Sculpting the learning organization Lessons in the art and science of systematic change*. San Francisco: Jossey-Bass.
- Watkins, K., & Marsick, V. (1996). *In action: Creating the learning organization*. Alexandria: American Society for Training and Development.
- Watkins, K., & Marsick, V. (1999). Schools as Learning Communities. Sculpting the Learning Community: New Form of Working and Organizing. *NASSP Bulletin*, 83(604), 78-87.
- Worrell, D. (1995). The learning organization: Management theory for the information age or new age fad? *Journal of Academic Librarianship*, 21(5), 351-357.
- 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.

Annex 2A. School as a learning organisation definitions

	Author(s) & book or article	Page(s)	Definition
1	Higgins, M.C. et al. (2012). Examining Organizational Learning in Schools: The Role of Psychological Safety, Experimentation, and Leadership that Reinforces Learning. <i>Journal of Educational Change</i> , 13(1), 67-94.		No.
2	Schechter, C. & Mowafaq, Q. (2013). From Illusion to Reality: Schools as Learning Organizations. <i>International Journal of Educational Management</i> , 27(5), 505-516.	508-509	As learning organizations, schools develop processes, strategies, and structures that would enable them to learn and react effectively in uncertain and dynamic environments. These schools institutionalize learning mechanisms in order to revise their existing knowledge. Without such mechanisms, a learning organization is unlikely to emerge.
3	Schechter, C. (2008). Organizational Learning Mechanisms: The Meaning, Measure, and Implications for School Improvement. <i>Educational Administration Quarterly</i> , 44(2), 55-186.	155-156 157-158	As learning organizations, schools develop processes, strategies, and structures that would enable them to react effectively and manage change in uncertain and dynamic environments. Organisational learning can be perceived along two tracks: first, learning as an independent variable; activities, structures, and strategies performed by the organization to promote learning; put simply, the learning processes that are implemented to generate learning and second, learning as a dependent variable, detecting the outcomes of the learning process (a) through changes in shared mental models of organizational members regarding goals, desired actions, historical events, tacit assumptions, causal maps, and strategies and (b) through behavioral outcomes, such as changes in organizational standard operating procedures, routines, and performance.
4	Keefe, J. & Howard, E. (1997). The School as a Learning Organization. <i>NASSP Bulletin</i> , 81(589), 35-44.	42-43	The learning organization has formal and informal processes and structures for the acquisition, sharing, and utilization of knowledge and skills. Typically, successful learning organizations exhibit three characteristics that enable them to initiate and sustain improvement: 1. Well-developed core competencies that serve as launch points for new products and services. In schools these competencies would involve such components as teacher selection and induction, staff development, instructional strategy, student services, etc. 2. Attitudes that support continuous improvement. The cultural norms and expectations of the school must support a climate of student support and continuous improvement of the school's curriculum, instructional programs, communication structures, etc. The school climate must be positive, actively sustained, and risk-free. 3. The capability to redesign and renew. Improvement is not an event but a process that must be continuously renewed and revitalized. Schools must have a design process in place that makes this possible. The catalyst for the school learning organization and subsequent school improvement is the school management/design team.
5	Fullan, M. (1995). The school as a learning organization: Distant dreams. <i>Theory Into Practice</i> , 34(4), 230-235.		No.
6	Harris, M. & van Tassell, F. (2005). The professional development school as learning organization. <i>European Journal of Teacher Education</i> , 28(2), 179-194.	181	A Professional Development School (PDS) is a relationship between schools and universities to better prepare teacher candidates who are of high quality and safe to practice in a climate of increasing teacher shortage. PDS is a learning organization where schools share the common goals of maximizing the performance and achievement of students, preparing quality teachers and other school personnel, enhancing the professional development of novice and veteran teachers and inquiry into best practice. PDS (i) promote significant teaching and learning; (ii) create learning communities for large numbers of students; (iii) serve everybody's children, not just an elite group such as the children of university faculty; (iv) promote professional development of educators; (v) foster inquiry about teaching and learning; (vi) forge new types of partnerships between K-12 and higher education.

7	Park, J. (2008). Validation of Senge's Learning Organization Model with Teachers of Vocational High Schools at the Seoul Megalopolis. <i>Asia Pacific Education Review</i> , 9(3), 270-284.	271, 274	<p>A learning organisation is one in which people continually expand their capacity to create results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free and where people are continually learning how to learn together. Park defined Senge's five learning disciplines as:</p> <p>Personal mastery: At the school, teachers expand personal growth and capacity by having a strong desire to improve professionally, engaging in continual learning, and focusing on the future vision in order to make choices about their development.</p> <p>Mental models: At the school, teachers continually reflect on assumptions about schooling; openly dialogue, share views and develop knowledge about each other's assumptions; and engage in their own work with flexibility.</p> <p>Shared vision: Vision and goals of school are planned and created through a process of shared commitment, participatory activities, and consensus of all school members including students and parents; and a teacher's personal vision is aligned with the school vision and goals.</p> <p>Team learning: At the school, various group or team activities are encouraged to address schooling issues or teacher's professional work; teachers become committed to, skilled at, and involved in collaborative work.</p> <p>Systems thinking: Teachers understand and manage their own work in an interrelationship within the school environment that includes processes of change; they consider the impact of their own work on the entire school organization and the stakeholders' interests.</p>
8	Schechter, C. & Mowafaq, Q. (2012). Toward an Organizational Model of Change in Elementary Schools: The Contribution of Organizational Learning Mechanisms. <i>Educational Administration Quarterly</i> , 48(1), 116-153.	118	As learning organizations, schools develop processes, strategies, and structures that enable them to learn and react effectively in uncertain and dynamic environments.
9	Silins, H., Mulford, B. & Zarins, S. (2002). Organizational Learning and School Change. <i>Educational Administration Quarterly</i> , 38(5), 613-642.	616, 617	Schools that function as learning organizations in a context of rapid global change are those that have systems and structures in place that enable staff at all levels to collaboratively and continuously learn and put new earnings to use. More specifically the authors defined learning organizations as schools that employed processes of environmental scanning; developed shared goals; established collaborative teaching and learning environments; encouraged initiatives and risk taking; regularly reviewed all aspects related to and influencing the work of the school; recognized and reinforced good work; and provided opportunities for continuing professional development.
10	Paletta, A. (2011). Managing Student Learning: Schools as Multipliers of Intangible Resources. <i>Educational Management Administration Leadership</i> , 39(6), 733-750.	735	<p>The school as a learning organisation is an ideal approach to promoting an active and proactive adaptability in dynamic environments with different social expectations, including students with different backgrounds, geographic location (rural, suburban, urban) and socio-economic and cultural conditions of the community, government structures and administrative procedures in education at the local level.</p> <p>The following characteristics that turn schools into learning organizations: Continued professional development; Tendency to take risks; Honest cooperation; Shared vision; Monitoring and assessment.</p>
11	Kirkham, G. (2005). Leading and achieving a SLO through developing middle leaders. <i>European Journal of Teacher Education</i> , 28(2), 151-163.		No.
12	Retna, K. & Tee, N. (2006). The challenges of adopting the learning organisation philosophy in a Singapore school. <i>International Journal of Educational Management</i> , 20(2), 140-152.	144	In such a SLO, students, teachers, leaders and administrators are all learners. The ethos of the school is an aspiration for everyone to be efficient and effective at learning and learning how to learn together. Members of the school really want to learn and find joy and satisfaction in learning. Such a school always seeks ways to change for the better. It does so through the active learning of its members.
13	Wallace, R., Engel, D. & Mooney, J. (1997), <i>The SLO: A Guide to Vision-Based Leadership</i> . Thousand Oaks: Corwin Press.	179, 14	The SLO is one in where all stakeholders engage in the continual reflection on practice to identify ways in which the operations of the school can be improved. The main focus is on improving student learning and providing the support conditions to facilitate that goal. A

			major part of the effort must be to establish the conditions where the professionals and other stakeholders can create the sense of community as a learning organisation. Not only teachers and administrators but parents and the community members must reflect on how they can contribute to the more effective operations of the school as learning community. One of the key values of the SLO is that the organisation has the capacity to continually renew itself as it strives to fulfil its vision.
14	Diggins, P. (1997). Reflections on Leadership Characteristics Necessary to Develop and Sustain SLO Communities. <i>School Leadership & Management: Formerly School Organisation</i> , 17(3), 413-426.		No.
15	Gunter, H. (1996). Appraisal and the School as a Learning Organisation. <i>School Organisation</i> , 16(1), 89-100.		No.
16	Nixon, J., et al. (1996). <i>Encouraging Learning: Towards a Theory of the Schools as Learning Organisaion</i> . Bristol: Open University Press.	92-116	<p>The values which drive the institutional structures of the SLO are centrally concerned with participation and involvement, with the continual search for quality and with public accountability. The SLO values: vision and purpose; the search for quality (self-evaluation); accountability to the public; parent participation; and community involvement.</p> <p>It is characterised by collegial collaborative and partnership practices which express these values. These practices seek to integrate the organizational structures of schooling through systems of <i>dialogue and deliberation</i> which involve the whole staff and require participation and commitment; <i>institutions working together</i> in such a way as to provide a coherent and continuous public education service; and <i>schools, parents and the public</i> working together in partnership.</p> <p>The SLO confirms and extends the meaning of membership: <i>organising through dialogue</i>, it creates opportunities for individuals and groups to meet and talk about the ends and means of education. The organisation of the SLO is itself implicated in the processes and procedures of learning; <i>organising through partnership</i>, it brings together disparate groups to support and encourage learning including students, teachers, parents, and members of the local communities; and <i>organising for life</i>, it focuses on learning as a lifelong process and on the need for close links between institutions, including neighbouring schools and colleges.</p>
17	Alavi, S. & McCormick, J. (2004). A cross-cultural analysis of the effectiveness of the Learning Organization model in school contexts. <i>International Journal of Educational Management</i> , 18(7), 408-416.	409	The learning organizations learn to continually adapt themselves to environmental changes, detect and fundamentally correct their errors, and improve their effectiveness through collective actions. The learning organisation model proposes that continuously enhancing employees' personal mastery experiences, collective thinking and actions, systematically analyzing situations, and building shared visions are necessary to enhance the effectiveness of organizational changes and actions.
18	Bowen, G.L., Rose, R.A. & Ware, B.W. (2006). The Reliability and Validity of the School Success Profile Learning Organization Measure. <i>Evaluation and Program Planning</i> , 29, 97-104.	98, 99	Learning organizations are associated with a core set of conditions and processes that support the ability of an organization to value, acquire, and use information and tacit knowledge acquired from employees and stakeholders to successfully plan, implement, and evaluate strategies to achieve performance goals. It involves not only employees but also those served by the organization and consists of two aspects of 'actions' and 'feelings'. 'Actions' include: team orientation; innovation; cooperation; information circulation; error sustainability; and result-based. 'Feelings' are made up of: common goal; respect; solidarity; confidence; mutual protection; optimism. Networking and collaboration are key strategies in organizational learning. Schools that effectively develop a culture of organizational learning will continuously focus on solving new problems through team learning, identifying problems and proposing and implementing solutions from the inside. Schools that develop a culture of organizational learning must constantly identify and solve new problems and invent solutions, thereby institutionalizing the

			generating of new knowledge. Learning organizations plan their intervention efforts with a focus on measurable, achievable results in a few high-priority areas.
19	Kerka, S. (1995). <i>The Learning Organization. Myths and Realities</i> . Washington: Office of Educational Research and Improvement.	3	Learning organisations provide continuous learning opportunities, use learning to reach its goals, link individual performance with organisational performance, foster inquiry and dialogue, embrace the creative tension as a source of energy and renewal and be continuously aware of and interact with its environment.
20	Benjamin, D. (2009). <i>The School as Learning Organization: Validation of the DLOQ with School Staff</i> , PhD Thesis, Alfred University.	28	The seven dimensions identified as learning actions for the construct of learning organizations are: 1) continuous learning, continuous learning opportunities; 2) inquiry and dialogue, a culture of questions, feedback, experimentation; 3) team learning, collaboration and collaborative skills which support effective use of teams; 4) empowerment, the process to create and share a collective vision and get feedback from members regarding the difference between present and shared vision; 5) embedded system of collective efforts to establish and capture shared learning; 6); system connection which reflects global thinking and connects the organization to its external environment 7) strategic leadership to promote learning.
21	Hamzah, M.I.M. et al. (2011). School as Learning Organisation: The Role of Principal's Transformational Leadership in Promoting Teacher Engagement. <i>World Applied Sciences Journal (Special Issue of Innovation and Pedagogy for Diverse Learners)</i> , 14, 58-63.	58	A form of professional organisation in which all members are able to learn new skills and knowledge continuously so that they are capable of dealing with change and realising the goals of the country's education system.
22	Coppieters, P. (2005). Turning schools into learning organizations. <i>European Journal of Teacher Education</i> , 28(2), 129-139.	134	The essential characteristics of a school as learning organisation are a shared insights or vision; learning based on experience; willingness to change mental models; individual and group motivation; team learning; learning nurtured by new information; increasing the learning capacity to reach a state of continuous change or transformation.
23	Moloi, K., Grobler, B. & Gravett, S. (2006). Educators' perceptions of the school as a learning organization in the Vanderbijlpark-North District, South Africa. <i>South African Journal of Education</i> , 22(2), 88-94.	88-89	Learning organisations are characterised by their ability to: create continuous learning opportunities and systemic problem solving; promote inquiry and dialogue, making it safe for people to share openly and take risks; encourage collaboration to learn from experiences and best practices of others; embrace creative tension as a source of energy and renewal; establish systems to capture and share knowledge quickly throughout the organisation; and continuously be aware of and connect with their external environment. The basis for continuous learning is underpinned in Senge's five learning disciplines: namely, personal mastery, mental models, shared vision, team learning and systems thinking.
24	Brandt, J. (2003). Is this school a learning organization? 10 ways to tell. <i>Journal of Staff Development</i> , 24(1).		Learning organisations have an incentive structure that encourages adaptive behaviour; have challenging but achievable shared goals; have members who can accurately identify the organisation's stages of development; gather, process and act upon information in ways best suited to their purposes; have an institutional knowledge base and processes for creating new ideas; exchange information frequently with relevant external sources; get feedback on products and services; continuously refine their basic processes; have a supportive organisational culture; are 'open system' sensitive to the external environment including social, political and economic conditions.
25	Clarke, P. (2000). <i>Schools as Learning organisations, Learning Systems</i> . London: Bloomsbury.	5	Learning organizations means to move from the individualized view of schooling, where learners experience their education as a product driven along by efficiently managed schools that see results in the form of outcome performance, through to a new type of school, one that can learn from its actions and develop ways of working that re-norm the school to develop more ecologically compatible systemic practice.
26	Schlechty, P.C. (2009). <i>Leading for Learning: How to Transform Schools into Learning Organizations</i> . San Francisco: Jossey-Bass.	41; 114	Learning organization as a concept provides a way to describe a more flexible and creative mode of organization, one where working on and working with knowledge and putting knowledge to work are primary modes of operation.

			Learning organizations are formal social organizations that purposefully create, support, and use learning communities and communities of learners as the primary means of inducting new members; creating, developing, importing, and exporting knowledge; assigning tasks and evaluating performances; and establishing goals and maintaining direction. Learning organizations create and maintain networks of learning communities and use these networks as the primary means by which the work of the organization is accomplished.
27	Davidoff, S. & Lazarus, S. (2002). <i>The Learning School: An Organisation Development Approach</i> . Pretoria: Juta Academic.	49-50	Learning organisation is an organisation which has learnt how to learn about itself, and about the world within which it exists and functions. In being able to learn, a learning organisation is able to understand and make sense of its own patterns and organisational reality, and also its broader context.
28	Middlewood, D. et. al. (2005), <i>Creating a Learning School</i> . London: Sage Publications.	64	The schools that have embraced the notion of learning organization have found it a key to their success through: <ul style="list-style-type: none"> • providing a focus on learning; • regarding needs of the learner as central; • establishing an ethos of enquiry; • recognising that learning comes from many sources; • acknowledging that learning is a lifelong process and that the school is contributing to this; • schools accepting that they need to be in a constantly transformational state.
29	Leithwood, K., Leonard, L. & Sharratt, L. (1998). Conditions for Organizational Learning in Schools. <i>Educational Administration Quarterly</i> , 34(2), 243-276.		No.
30	Louis, K.S. & Kruse, S. (1998). Creating community in reform: images of organizational learning in inner-city schools, in K. Leithwood & K.S. Louis (Eds.). <i>Organizational Learning in Schools</i> . Lisse: Swets & Zeitlinger.	18	... change and improvement occur [in a learning organization] because the individuals and the groups inside the school are able to acquire, analyze, understand and plan around information that arises from the environment and from internal monitoring. ... Organizational learning as a model for school reform suggests that staff working within a school setting share a common social understanding related to the purposes of their work. The image of a learning organization evokes assumptions about the members of the school organization a participative, intrinsically motivated and engaged in learning with greater personal effort than other organizational models.
31	Mitchell, C. & Sackney, L. (1998). Learning about organizational learning, in K. Leithwood & K.S. Louis (Eds.). <i>Organizational Learning in Schools</i> . Lisse: Swets & Zeitlinger.	177	No.
32	Senge, P. et al. (2012). <i>Schools that Learn</i> . New York: Crown Business.	5	A school as learning organisation 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. In a school that learns, people who traditionally may have been suspicious of one another - parents and teachers, educators and local business people, administrators and union members, people inside and outside the school walls, students and adults - recognise their common stake in the future of the school system and the things they can learn from one another.

CHAPTER 3. DEFINING AN INTEGRATED SCHOOL AS A LEARNING ORGANISATION MODEL²

² The text of this chapter has been published in amended form in Kools, M. & Stoll, L. (2016). What Makes a School a Learning Organisation? *OECD Education Working Paper, 137*. Paris: OECD Publishing; and in Stoll, L. & Kools, M. (2017). The school as a learning organisation: a review revisiting and extending a timely concept. *Journal of Professional Capital and Community, 2*(1), 2-17.

3.1 Introduction

As previously discussed, a steadily growing body of scholars and educators has tried to define, describe and measure *the* school as a learning organisation. However, no one seems to have succeeded fully with the task in bringing clarity and a common understanding on the concept. Although achieving consensus on this is a daunting task, it may in time be achieved through further research and sustained international dialogue among scholars, policy makers and educators. This chapter intends to contribute to this effort as it presents a definition and integrated model of the school as a learning organisation (SLO). It thereby answers the first sub-question of this study, “*how can a school as a learning organisation be defined and conceptualized?*”.

The chapter starts by presenting our definition of the SLO that is informed by the (school as a) learning organisation model by Watkins and Marsick (1996; 1999) (Section 3.2), and founded on a large scale multi-disciplinary literature review and the expert opinions of a small network of international experts. The presented SLO model draws heavily from the SLO literature but also from other relevant literatures, for example the organizational behaviour, knowledge management, learning science, school improvement and effectiveness literatures. This is done as there is much to gain from building bridges to related literatures and concepts, like the well-established literature on professional learning communities (Kruse, Louis, & Bryk, 1995; Stoll, Bolman, McMahon, & Wallace, 2006) or learning environments (Simons & Masschelein, 2008; OECD, 2013). We believe this may help in working towards a common understanding of the SLO that is solidly founded in the literature and is recognisable to all parties involved, i.e. educators, policy makers, parents and others alike.

The following section (Section 3.3) provides a detailed discussion of each of the seven action-oriented dimensions and underlying elements of the SLO model. This is followed by a discussion on the four cross-cutting themes of the SLO that emerge from our analysis (Section 3.4). The chapter continues by briefly discussing the need for facilitating government policies and support structures for schools to develop into sustainable learning organisations (Section 3.5) before concluding (Section 3.6).

3.2 Towards an integrated school as a learning organisation model

The analysis of Chapter 2 supports using Watkins' and Marsick's (1996; 1999) (school as a) learning organisation model as a theoretical foundation for developing our own. However, it also suggests there is need for refinement of this model, including its framework of indicators, to further strengthen its applicability to contemporary school organisations. The following section therefore discusses each of the seven dimensions and, where necessary elaborates on and/or diverts from these.

The refined seven dimensions make up our integrated SLO model, which is defined as a school that focuses on developing and sharing a vision centered on the learning of all students; creating and supporting continuous learning opportunities for all staff; promoting team learning and collaboration among all 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.

These seven action-oriented dimensions and their underlying elements highlight both what a school aspires to be and the processes it goes through as it transforms itself into a learning organisation. Realising all seven dimensions is essential for this transformation to be complete and sustainable. In the end, the whole – realising all seven dimensions – will be greater than the sum of its parts.

3.3 Operationalising the underlying dimensions

In this section each of the seven action-oriented dimensions and their underlying elements of the SLO model will be elaborated upon. This is done by describing the literature on which these are based. The individual elements are with a few exceptions discussed one by one and are introduced as headings of sub-sections. Exceptions are made for those elements that are particularly closely related and can best be discussed together.

3.3.1 Developing a shared vision centred on the learning of all students

Developing a shared vision centred on the learning of all students

- A shared and inclusive vision aims to enhance the learning experiences and outcomes of all students
- The vision focuses on a broad range of learning outcomes, encompasses both the present and the future, and is inspiring and motivating
- Learning and teaching are oriented towards realising the vision
- Vision is the outcome of a process involving all staff
- Students, parents, the external community and other partners are invited to contribute to the school's vision

A shared and inclusive vision aims to enhance the learning experiences and outcomes of all students

When reviewing the learning organisation literature, whether or not in a school context, many scholars recognise the importance of having a shared vision to shape the organisation and give it a sense of direction (Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012; Schlechty, 2009; Silins, Mulford, & Zarins, 2002; Caldwell & Spinks, 1992). Caldwell and Spinks (1992) refer to school vision as “a mental picture ... an image of the way [members] would like the school to be in the future” (p. 37). In essence, it answers the question ‘what does a successful school look like’? The answer to this question can act as a motivating force for sustained action to achieve individual and school goals.

Where SLO scholars differ is the extent to which they describe what that vision should include, something that only few do. As discussed in Chapter 2 there is a need for clarifying what a vision of a SLO should entail. To be really shared and owned individuals need to perceive the vision and goals to include a ‘moral purpose’ (Fullan, 1999). This moral purpose should appeal to the common good of the community and becomes the core force that binds the individuals together. We share the views of SLO scholars like Schlechty (2009) and Senge et al. (2012) and those who focus on educational effectiveness (Chapman, Muijs, Reynolds, Sammons, & Teddlie, 2016) who note the importance of ensuring that all students are achieving at high levels – the moral purpose – should be part of a SLO vision. This is essential as one of the biggest challenges facing communities today is integrating those on the margins of society whose learning difficulties undermine their self-confidence. Not only is their exclusion a waste of human potential, their alienation poses a real threat to democracy. Having an inspiring and motivating vision statement that is committed to enhancing the learning of all students is therefore vitally important and the evidence shows it is also

very well possible to put into practice; excellence and equity in education are not mutually exclusive goals (OECD, 2013; 2016). Many schools and education systems around the globe have realised their vision to dramatically improve the learning outcomes of the most disadvantaged children. OECDs Programme for International Student Assessment (PISA), for example, shows that the countries that have improved student performance significantly since 2000, like Brazil, Germany, Greece, Italy, Mexico, Tunisia and Turkey, have managed to reduce the proportion of low-achieving students (OECD, 2016).

Having high expectations of all students however should not be limited to schools, but requires parents, communities and society at large to do the same if equity in learning opportunities is to prevail (Dumont, Istance, & Benavides, 2010).

The vision focuses on a broad range of learning outcomes, encompasses both the present and the future, and is inspiring and motivating. Learning and teaching are oriented towards realising the vision.

Agreeing with UNESCO's Commission on Education for the Twenty-First Century Learning (1996) each individual must be equipped to seize learning opportunities throughout life, to broaden her or his knowledge, skills and attitudes, and to adapt to a changing, complex and interdependent world. The vision as such focusses on a broad range of learning outcomes – cognitive and social and emotional outcomes – for today and the future, and supporting all students to reach above their existing level and capacity. Putting such a motivating and inspiring vision in practice requires teaching and learning to be designed and oriented towards it (OECD, 2013; Hargreaves & Fullan, 2012).

The school's vision is the outcome of a process involving all staff

Having a shared vision is more an outcome of a process than it is a starting point, and it entails an inclusive process to create ownership (Fullan, 2006). For the school's leadership to simply present a vision to the rest of the school staff may not engage people over the long run, and may even risk resistance. Watkins and Marsick (1996) therefore note that the organisation should invite people to contribute to the vision. Both individuals and groups need to spend time reflecting and talking in order to develop a truly shared vision for the organisation. This is important as organisational

change can be difficult and takes time. People who have committed to a shared vision based on shared beliefs are more likely to persist with their efforts when they confront difficulties than those whose only reason for participation is compliance with a directive from above (Schlechty, 2009; Fullan, Rincón-Gallardo, & Hargreaves, 2015).

Students, parents, the external community and other partners are invited to contribute to the school's vision

This dialogue however should not be limited to those normally working within the physical confines of the school building. Instead, to be truly shared and relevant, for students and society, the development of a vision should include external stakeholders, including parents, the community, other education institutions or companies (School has the Initiative, 2014). They have a common stake in each other's future, and successful implementation of any school vision increasingly depends on such partnerships as a means for growing social and professional capital (Hargreaves & Fullan, 2012) and for sustaining innovative change (OECD, 2013).

3.3.2 Creating and supporting continuous learning opportunities

Creating and supporting continuous learning opportunities

- All staff engage in continuous professional learning
- New staff receive induction and mentoring support
- Professional learning is focused on student learning and school goals
- Staff are fully engaged in identifying the aims and priorities for their own professional learning
- Professional learning challenges thinking as part of changing practice
- Professional learning connects work-based learning and external expertise
- Professional learning is based on assessment and feedback
- Time and other resources are provided to support professional learning
- The school's culture promotes and supports professional learning

All staff engage in continuous professional learning

Today's rapidly changing world requires schools and the people working in them to learn faster in order to deal effectively with the growing pressures of the external environment (Moloi, Grobler, & Gravett, 2006; Silins, Zarins, & Mulford, 2002; OECD, 2013; Schleicher, 2018). The kind of education needed today requires teachers to be high-level knowledge workers who constantly advance their own professional knowledge as well as that of their profession. This realisation and a

growing body of evidence that shows that teachers' professional development can have a positive impact on student performance and teachers' practice (Schleicher, 2018; Timperley, Wilson, Barrar, & Fung, 2007) has led scholars, educators and policy makers around the world, to support the notion of investing in quality career-long opportunities for professional development. The SLO as such is one that ensures the learning needs of all its staff are met as individual learning is a precursor to group and organisational learning and ultimately for schools to become learning organisations (Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012).

Notably, there has been a shift in language over the last few years. While the term 'professional development' continues to be used, there is a move towards 'professional learning' which better captures the active involvement of the educators in their own learning (Stoll, Harris, & Handscomb, 2012) and nature of adult self-regulated learning (Bransford, Brown, & Cocking, 2000) that is likely to be necessary in a world which requires teachers to be knowledge workers and schools to be learning organisations. This language change can be seen, for example, in the renaming of what was formerly the National Staff Development Council – the major professional organisation in the United States of America focusing on the professional development and learning – to Learning Forward.

Professional learning is focused on student learning and school goals

To be effective the professional learning of teachers and other staff must be seen as a long-term continuous inquiry process spanning their professional life cycle and focused on school goals and student learning (Darling-Hammond, Hyler, & Gardner, 2017; Timperley, Wilson, Barrar, & Fung, 2007). In particular, there is increasing emphasis on using the problems students face in their learning as the starting point for inquiry-led professional learning, which also supports the importance of evaluating the impact of professional learning (Halbert & Kaser, 2013).

New staff receive induction and mentoring support

Several SLO scholars have pointed to the importance of induction and mentoring programmes for new teachers and assigning them to experienced teachers to provide them with invaluable assistance as they face their first students and for advancing their professional development (Schlechty, 2009; Du Four, 1997). But mentoring should not be limited to those new to the profession; rather it should

support professionals throughout their careers. Mentoring as a practice over the career of a teacher and school leader can have a positive effect on both morale and practice (Kessels, 2010; Ingersoll & Strong, 2011; Thompson, Goe, Paek, & Ponte, 2004). The introduction of new curricula or new pedagogical practices typically require teachers to engage in extended learning and trial and error, which can benefit from close relationships with colleagues who have had prior training and experience in the new practice.

Staff are fully engaged in identifying the aims and priorities for their own professional learning

In a SLO staff are fully engaged in identifying the aims and priorities for their own professional learning – in line with school goals and student learning needs as reflected in the school’s development plan (Education Scotland, 2015; School has the Initiative, 2014; Du Four, 1997).

Professional learning is based on assessment and feedback

Effective professional learning and growth however also depends on regular assessment and feedback and when shaped in a structured and purposeful manner it can have a strong positive influence on teachers’ professional development and their daily practice (Hattie & Timperley, 2007). When teachers seek, or are at least open to feedback from school leaders, other teachers or students it can greatly enhance their professional development and their performance (Hattie, 2009). For this to happen however assessment and feedback need to take place in an atmosphere of trust and a culture that supports learning. The school’s leadership has a clear role in establishing such a culture.

Assessment and providing feedback should also be built into the daily practice of staff. Appraisals are a means to help ensure the alignment of professional learning with school goals, but it is not the tool per se that counts most in helping the professional learning of staff (Darling-Hammond, Hyler, & Gardner, 2017). Other approaches like more regular classroom observation by peers, mentoring or team teaching may be more effective for increasing professional learning of staff, especially where colleagues support each other in problem solving (Higgins, Ishimaru, Holcombe, & Fowler, 2012).

Professional learning challenges thinking as part of changing practice

Such collaborative learning approaches may be helpful in challenging educators' thinking and assumptions about their practice, which is an important feature of effective professional learning (Timperley, Wilson, Barrar, & Fung, 2007). Effective professional learning promotes reflection and analysis around the underpinning rationale and evidence for new practices (Darling-Hammond, Hyler, & Gardner, 2017), providing intentional interruption of previous assumptions. Such reflection, analysis and challenge to thinking patterns – existing mental models in terms of learning organisations (Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012) – is necessary to bring about and embed change and innovations.

In Japan, for example, which is considered one of OECDs stronger performing education systems (OECD, 2016), many teachers engage in professional learning activities through highly structured processes that include observing and commenting on colleagues' classes, known as Jigyoukenkyuu or 'lesson study'. In Japan, all teachers participate in regular lesson studies in their schools. The Japanese tradition of lesson studies in which groups of teachers review their lessons and learn how to improve them, in part through analysis of student errors, provides one of the most effective mechanisms for teachers' self-reflection, as well as being a tool for continuous improvement. Since the structure of the East Asian teaching workforce includes opportunities to become a master teacher and move up a ladder of increasing prestige and responsibility, it also pays for the good teacher to become even better (OECD, 2010).

Professional learning connects work-based learning and external expertise

This example also brings to the fore the importance of collective working and learning, which will be discussed in the following section, and of embedding professional learning into the workplace. Although learning opportunities outside the school premises, for example formal education courses at universities or participation in workshops, can play an important role in the professional learning of individual staff, research evidence clearly points to the importance of ensuring professional learning opportunities are sustainable and embedding them into the workplace (Fullan, Rincón-Gallardo, & Hargreaves, 2015; Örténblad, 2004).

Strong performing education systems, like those of Singapore and Japan, have institutionalised this practice and have put the majority of professional learning resources as close to the point of use as

possible. In Singapore, for example, teachers are entitled to 100 hours of professional learning each year. The majority of this is provided on-site, in the schools where teachers work and is directed at the specific goals and problems teachers and school leaders are addressing in those schools. Each school has a fund for professional learning that it can use to address specific knowledge and skills needs (OECD, 2015).

The school's culture promotes and supports professional learning. Time and other resources are provided to support professional learning

The SLO literature is adamant about the need to allocate sufficient time, finances and mentoring support and/or the removal of any (other) potential barriers to professional learning. A school culture that promotes and supports professional learning is a precondition for this to happen (Bowen, Rose, & Ware, 2006; Watkins & Marsick, 1999). The evidence suggests that such a supporting culture is yet not well established in schools today. TALIS 2013 for example, showed that more than half (51%) of the teachers in participating countries reported that their work schedule conflicts with professional development. In addition, about a third (32%) reported a lack of support from their employer as a barrier to their professional development, and more than two out of five (44%) noted that professional development is too expensive (OECD, 2014).

There can be no organisational learning without individual learning, but individual learning must be shared and used by the organisation and its members (Yang, Watkins, & Marsick, 2004; OECD, 2010) which brings us to the next dimension of the SLO model – promoting team learning and collaboration.

3.3.3 Promoting team learning and collaboration

Promoting team learning and collaboration

- Collaborative working and collective learning – face-to-face and through ICTs – are focused and enhance learning experiences and outcomes of students and/or staff practice
- Staff reflect together on how to make their own learning more powerful
- Staff learn how to work together as a team
- Staff feel comfortable turning to each other for consultation and advice
- Trust and mutual respect are core values
- The school allocates time and other resources for collaborative working and collective learning

Collaborative working and collective learning – face-to-face and through ICTs – are focused and enhance learning experiences and outcomes of students and/or staff practice

Neuroscience confirms that we learn through social interaction (Dumont, Istance, & Benavides, 2010) as knowledge is socially constructed, and socio-cultural theories also highlight the importance of learning through participating in communities of practice, thereby emanating what learning science informs us about effective learning of students. A SLO therefore encourages collaborative working and collective learning among its staff – face-to-face and/or using ICT.

Staff reflect together on how to make their own learning more powerful

Schools are rife with team activity. Teacher subject groups, staff development teams, site teams and team-teaching shape the everyday life in contemporary schools. This makes teaching more than a process experienced by professionally isolated individuals in their respective classrooms. Instead joint reflection enables a professional growth process in which teachers learn from and with each other by sharing of knowledge and expertise (Louis & Kruse, 1998; Schechter, 2008). Team learning isn't collaborative learning, per se, but rather the collective learning shared among people. A consequence of collective learning is the establishment of professional learning communities in which members focus on the learning of students rather than on teaching, work collaboratively, and hold themselves accountable for results (Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012). Collective responsibility is a key characteristic of professional learning communities (Stoll, Bolman, McMahon, & Wallace, 2006). Strong professional learning communities deal with change more effectively and are places where people care for each other as individuals, and commit to the

vision the organisation is pursuing, as well as pursuing technical tasks of analysis and improvement together.

Staff learn how to work together as a team

In a SLO, staff learn to work together and learn collectively – face-to-face and/or using ICT – with peer networking playing an important role in enhancing teacher and school leader professionalism (OECD, 2013; Schlechty, 2009). An example in point is Foundation LeerKRACHT in the Netherlands. Foundation leerKRACHT (the Dutch word for teacher) which was established in 2012 aims to implement a bottom-up school improvement programme for schools, reaching more than 5000 Dutch primary and secondary schools (out of a total of 8 700) by 2020; and reshape national education policy to create a body of high-quality teachers and encourage schools to create a culture of continuous improvement. Three improvement processes are central to the programme: classroom observation and feedback conversations; joint lesson planning; and board sessions. These board sessions are based on the LEAN movement in the manufacturing industry, where small teams hold daily stand-up meetings to improve quality. The approach is underpinned by forum meetings with ‘Foundation leerKRACHT schools’ in the region and by visits to companies that have a continuous improvement culture (OECD, 2016).

Staff feel comfortable turning to each other for consultation and advice

In SLOs staff have a positive attitude towards collaboration and team learning or as Senge et al. (2012) notes it there is a willingness as a recurring group of people to think and act together as a living system. However, for team learning and collaboration to thrive, relationships between staff need to be based on trust and respect as is highlighted in the literature on both learning organisations and professional learning communities (Silins, Zarins, & Mulford, 2002). Drawing on Australian data from the Leadership for Organisational Learning and Student Outcomes project (see Section 2.4.2) Silins, Mulford and Zarins found that having a trusting and collaborative climate within a school positively impacted on student outcomes such as engagement and participation in school. Organizational behaviour scholars have also found that when people feel that one can safely speak up and ask for help from their colleagues this may lead to important organizational outcomes such as decreased numbers of errors and improved organizational systems and processes indicative of organization level learning (Edmondson, 2003; Higgins, Ishimaru, Holcombe, & Fowler, 2012).

Trust and mutual respect are core values

Trust and mutual respect are therefore core values of a SLO; they form the foundation for co-operation between individuals and teams. They enable the kind of challenge which can push people's learning further through conversation (Earl & Timperley, 2008). When people trust and respect each other, other means of governance and control can be minimised (Cerna, 2014). Creating an organisational culture of trust and respect in which team learning and collaboration can thrive naturally involves most, if not all, members of the organisation.

The school allocates time and other resources for collaborative working and collective learning

Trust and respect are also reflected in the allocation of time and other resources, such as a weekly schedule of regular hours devoted to team meetings or learning sessions, and time for colleagues to observe each other and engage in networked learning (Silins, Mulford, & Zarins, 2002; OECD, 2013; Du Four, 1997). A SLO as such ensures sufficient time and other resources are allocated for collaborative working and collective learning to thrive.

3.3.4 Establishing a culture of inquiry, exploration and innovation

Establishing a culture of inquiry, exploration and innovation

- Staff engage in forms of inquiry to investigate and extend their practice
- Students are actively engaged in inquiry
- Inquiry is used to establish and maintain a rhythm of learning, change and innovation
- Staff have open minds towards doing things differently
- Staff want and dare to experiment and innovate in their practice
- The school supports and recognises staff for taking initiative and risks
- Problems and mistakes are seen as opportunities for learning

Staff engage in forms of inquiry to investigate and extend their practice

More than 25 years ago Goodlad (1994) noted that the intellectual habits of critical reflection and action about one's calling, and daily work are the mark of a professional continuously engaged in self-improvement which ultimately leads to the improvement in learning of students. In line with this, one of the marks of any professional in a SLO is the ability to reflect critically on both one's profession and one's daily work, to be continuously engaged in self-improvement that will lead to

improvement in students' learning (Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012; Silins & Mulford, 2004).

Students are actively engaged in inquiry

In a school that is a learning organisation inquiry is not limited to school staff but instead extends to the teaching and learning of its students; making them agents of change in their learning (Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012). Inquiry can for example involve students as researchers. In a study of patterns of involvement, four different patterns emerged: students as data sources, as active respondents, as co-researchers (with teachers), and as researchers (Fielding, 2001). Fielding concluded that when students are at the level of researchers, initiating the research and dialogue with teachers, potential exists for them to be true agents of change.

Inquiry is used to establish and maintain a rhythm of learning, change and innovation

A SLO as such uses inquiry to establish and maintain a rhythm of learning that is geared towards change and innovation of educational practice. This is not a linear or mechanistic process, as Earl and Katz (2006) explain. Rather, it involves an iterative organisational learning process of 'thinking in circles' (O'Connor & McDermott, 1997) where a series of decisions, actions and feedback loops guide the process.

Staff have open minds towards doing things differently, and want and dare to experiment and innovate in their practice

To be able to do this within an organisation requires a pervasive spirit of inquiry, experimentation and openness to doing things differently. This mind set is critical for schools that want to become learning organisations. As 21st century educational challenges are frequently adaptive (Heifetz & Linsky, 2002) they can't be solved by authoritative expertise or usual operating procedures. Rather, as Heifetz and Linsky explain: "We call these adaptive challenges because they require experiments new discoveries, and adjustments from numerous places in the organization or community. Without learning new ways – changing attitudes, values, and behaviours – people cannot make the adaptive leap necessary to thrive in the new environment. The sustainability of change depends on having the people with the problem internalize the change itself" (p. 13). Effective organisations are

selective and deliberate in planning and integrating new approaches and experimental action plans that are consistent with their vision and goals (Fullan, 2000).

Problems and mistakes are seen as opportunities for learning

“Failure is instructive. The person who really thinks learns quite as much from his failures as from his successes.” — John Dewey (1933)

Some initiatives and experiments will fail, while others will succeed. The idea that people and the organisations in which they work should learn from mistakes and failure has considerable popular support – and even seems obvious. However, organisations that systematically and effectively learn from failure are rare (Cannon & Edmondson, 2005). Unfortunately, this also applies to many schools around the globe. This is not due to a lack of commitment to learning, but often rather by viewing mistakes or failure of experiments in the wrong way or being afraid to make mistakes due to fear in high accountability systems (Stoll & Temperley, 2009) where experimentation tends to give way to drilling students for tests and a focus on memorisation rather than understanding (Sahlberg, 2010). Problems and mistakes aren't always bad; in fact, they may be inevitable and if wisely used even desirable to making progress.

To diminish fear and risk aversion, Cannon and Edmondson (2005) note that organisations should ensure the “identification of failure”, “analyse failure” and then “pursue deliberate experimentation”. They propose a number of practices to ensure failures are learned from. For example, psychological safety can be reinforced through organisational policies such as blameless reporting systems, training in coaching skills, and making problems and failures public as a means for learning. Their messages resonate with the SLO literature (Silins, Mulford, & Zarins, 2002; Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012).

The school supports and recognises staff for taking initiative and risks

To benefit from a spirit of inquiry, experimentation and innovation and learn from failure, professionals need to tolerate ambiguity, avoid snap judgements, consider different perspectives, and pose increasingly focused questions. It also demands that people representing different perspectives are heard and respected without fear of judgment or reprisal (Aron, 2000; Halbert & Kaser, 2013). Teachers in SLOs show a tendency to cooperate rather than compete, and they work

in a safe environment, free of negative criticism. Here collegiality is nurtured through honest learning conversations and open disagreement, combined with supportive and trusting relationships. The SLO thus supports and protects those who initiate and take risks, and rewards them for it (Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012; Paletta, 2011).

3.3.5 Embedding systems for collecting and exchanging knowledge for learning

Embedding systems for collecting and exchanging knowledge for learning

- Systems are in place to examine progress and gaps between current and expected impact
- Structures for regular dialogue and knowledge exchange are in place
- Examples of practice – good and bad – are made available to all staff to analyse
- Sources of research evidence are readily available and easily accessed
- Staff have the capacity to analyse and use multiple sources of data for feedback, including through ICT, to inform teaching and allocate resources
- The school development plan is evidence-informed, based on learning from self-assessment, and updated regularly
- The school regularly evaluates its theories of action, amending and updating them as necessary

Systems are in place to examine progress and gaps between current and expected impact

SLOs develop processes, strategies and structures that allow the schools to learn and react effectively in uncertain and dynamic environments. They institutionalise learning mechanisms in order to revise existing knowledge. Without such mechanisms, a SLO cannot thrive (Schechter, 2008; Watkins & Marsick, 1999).

Knowledge exchange and collective identity are powerful forces for positive change. In line with their vision and goals, SLOs therefore create systems to measure progress and gaps between current and expected performance. Effective use of data by teachers, school leaders and support staff has become a central tenet in school improvement processes, to inform wise decision making (Schildkamp, Karbautzki, & Vanhoof, 2014) and develop professional capital (Hargreaves & Fullan, 2012), as well as to raising test scores, reducing the achievement gap, and changing school culture.

Structures for regular dialogue and knowledge exchange are in place

SLOs have systems in place to ensure they are ‘information-rich’ or, more appropriately, ‘knowledge-rich’. Information is not knowledge; it takes social processing in the school context to

bring information to life. As noted above (in the dimension promoting team learning and collaboration) only through sharing, exchange, conversations and collaboration can relevant knowledge and readiness for change to be developed. So, for such practices to emerge, SLOs need to create the structures for regular dialogue and knowledge sharing among staff and others, such as parents, community members and businesses, when appropriate (Fullan, Cuttress, & Kilcher, 2005; Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012).

Technology plays an important role in this; it has the potential to revolutionise learning, as well as the school organisation, in many different ways. It has, for example, become a powerful tool for assessment and improvement planning as it makes it possible to access and analyse student achievement data on an ongoing basis, take corrective action, and share best solutions (Fullan, Cuttress, & Kilcher, 2005; Kamylyis, Punie, & Devine, 2015). Another application of technology is in the form of management information systems that allow for storing and easy access to data that can fuel new organisational routines to foster continuous improvement within schools.

Examples of practice – good and bad – are made available to all staff to analyse

When schools and school systems increase their collective capacity to engage in ongoing assessment for learning, major improvements can be achieved. Other aspects of evaluation cultures are also important, including: school-based self-assessment, meaningful use of external accountability data, and what Jim Collins (2001) found in “great organisations”, namely a commitment to “confronting the brutal facts”. A SLO makes its lessons learned – good or bad – available to all staff.

Sources of research evidence are readily available and easily accessed

Using another form of evidence – external research findings – to improve day-to-day practice has become a hot topic in many countries (Hattie, 2012), although TALIS 2013 results highlight that it is far from common practice among teachers in many countries. If undertaken as part of a process of reflective and collaborative learning, teachers’ engagement with research evidence can both help teachers improve their practice and promote better learning outcomes among their students (Louis, Leithwood, Wahlstrom, & Anderson, 2010; OECD, 2014). Many schools find it difficult to become ‘research engaged’ because staff lack the necessary skills, resources or motivation (OECD, 2013).

Staff have the capacity to analyse and use multiple sources of data for feedback, including through ICT, to inform teaching and allocate resources

Improvement doesn't follow automatically from the mere availability of quality data and research evidence. It depends on their effective use. For this to happen, a SLO ensures its staff have the capacity to analyse and use data for improvement and, where necessary, transformation of existing practice. This is essential in many school systems the capacity to systematically collect, analyse and exchange knowledge and learning – whether facilitated through the use of technology or not, is underdeveloped (Fullan, Cuttress, & Kilcher, 2005; Schildkamp, Karbautzki, & Vanhoof, 2014). A recent study on education data use in schools in five EU countries (Germany, Lithuania, the Netherlands, Poland and England) for example showed that, despite the availability of a range of data sources, schools rarely use these data and reports to take action and develop strategies to improve student learning (Schildkamp, Karbautzki, & Vanhoof, 2014). Organisational learning concepts may help to unpack the issues. Staff need to have the capacity to utilise multiple sources of data and information (e.g. from students, parents, teacher survey, peer review, team-teaching) for feedback and to inform teaching and the allocation of resources (School has the Initiative, 2014; Brandt, 2003; Education Scotland, 2015).

The school development plan is evidence-informed, based on learning from self-assessment, and updated regularly

These efforts are reflected in a regularly updated school development plan that is evidence-informed and based on a self-assessment, involving multiple sources of data and information, and that is the result of a participatory self-assessment process involving all staff, as well as other interested parties (e.g. students, parents, community members, other schools, businesses).

The school regularly evaluates its theories of action, amending and updating them as necessary

In the SLO innovation needs to be guided by theories of action (Argyris & Schön, 1978) which lay out the purpose of the innovation and expectations of any intervention, what people imagine will happen and the likely or intended impact. Essentially, a theory of action is an organisation's story or theory of how it will make change happen. Using a diagram, the organisation maps long-term outcomes – the intended impact it will have on the world and how communities will be different

because of the work it does – and the short-term outcomes which are the changes that are necessary now in order for the long-term objectives to be realised. The theory of action needs to be adapted as the organisation moves forward and learns what helps it realise its long-term objectives, and what gets in the way.

Innovations may involve multiple players in and beyond schools, are not always predictable, and may interact with other innovations so evaluation itself needs to be a dynamic, flexible process, specific to context, and actively involving all those represented in an iterative and cyclical process as they determine the nature of evaluation, in the context of the particular innovation and collaborate in the process as it unfolds (Earl & Timperley, 2015). Evaluation of theories of action in a SLO needs to take this into account.

3.3.6 Connecting to the external environment and larger learning system

Connecting to the external environment and larger system

- The school is an open system, welcoming approaches from potential external collaborators
- The school scans its external environment to respond quickly to challenges and opportunities
- Staff collaborate, learn and exchange knowledge with peers in other schools through networks and/or school-to-school collaborations
- The school collaborates with parents/guardians and the community as partners in the education process and the organisation of the school
- The school partners with higher education institutions, businesses, and/or public or non-governmental organisations in efforts to deepen and extend learning
- Partnerships are based on equality of relationships and opportunities for mutual learning
- ICT is widely used to facilitate communication, knowledge exchange and collaboration with the external environment

The school is an open system, welcoming approaches from potential external collaborators

Schools don't operate in a vacuum; they are 'open systems' that are sensitive to their external environment, including social, political and economic conditions (Brandt, 2003). Schools function as part of a larger social system, including the school district and the local community in which they are embedded (Rumberger, 2004). Schools that engage in organisational learning enable staff at all levels to learn collaboratively and continuously and put these learnings to use in response to social needs and the demands of their environment (Ho Park, 2008; Silins, Zarins, & Mulford, 2002). For this to happen, teachers need to become experts about their context. This means having the

understanding and skills that enable them to relate to and take account of the views and situations of parents, communities, business partners and social agencies.

The school scans its external environment to respond quickly to challenges and opportunities

Assessing the nature of this interface between schools and the larger system is essential, especially those exchanges which foster or hamper school efforts to function in new ways. SLOs are therefore proactive in continuously scanning the environment to timely respond to external challenges and opportunities. Environmental scanning refers to the activities of the school that contribute to broadening the scope of information, policy, theory and practice that is brought to bear on the school's development and decision making processes (Silins, Zarins, & Mulford, 2002).

Staff collaborate, learn and exchange knowledge with peers in other schools through networks and/or school-to-school collaborations

The SLO literature further highlights that as schools innovate and move towards becoming learning organisations their boundaries become increasingly and deliberately blurry (open systems thinking). As a consequence, in SLOs the continuous learning among staff is not limited to the physical boundaries of the school. Instead teachers and school leaders are expected to engage in collaborative work and learning with their peers in other schools through the establishment of networks or school-to-school collaborations (OECD, 2015; Paletta, 2011). These collaborations hold the potential for forming an important supplement to situated, school-based learning and learning through formal programmes and courses.

The school collaborates with parents/guardians and the community as partners in the education process and the organisation of the school

SLOs work with parents or guardians as partners in the educational process and thereby strengthen it (Bowen, Rose, & Ware, 2006). Research evidence clearly shows that without the positive co-operation of family and schools, it is unlikely that all students will reach the high expectations in terms of educational outcomes set by a demanding society (Castro, et al., 2015). SLOs therefore actively share information with parents and consider them – and the wider community, as active partners in the educational process and organisation of the school.

The school partners with higher education institutions, businesses, and/or public or non-governmental organisations in efforts to deepen and extend learning

Partnerships with higher education institutions can offer schools clear advantages in drawing on these institutions' expertise and capacity, bringing an external lens and supporting them in engaging in double loop learning (Ainscow, Dyson, Goldrick, & West, 2016). Benefits can work both ways, as innovative ideas and practices can in turn influence teacher education programmes and service missions of the university or teachers college (Ainscow, Booth, & Dyson, 2006; Harris & van Tassell, 2005). The American Professional Development Schools (Harris & van Tassell, 2005), 2005) or Sweden's training schools are examples of such partnerships that extend the boundaries of the SLO to other parts of the education system (OECD, 2015). These are aimed at building capacity for learning and teaching at the school level, as well as in the higher education institutions.

However, as the Brazilian Neighbourhood as School example shows, partnerships are not necessarily confined to traditional stakeholders. Developed in Vila Madalena, a small district in Brazil's largest city, São Paulo this new school concept is implemented by a non-governmental organisation, Cidade Escola Aprendiz, which since 1997 has been turning squares, alleys, cinemas, ateliers, cultural centres and theatres into classrooms. The Neighbourhood as School, an extension of formal school education, aims to expand learning spaces in the community, creating a pedagogic laboratory in which learning is knowing oneself and socially intervening in the community through communication, art and sports. The success of the Neighbourhood as School concept is driven by a partnership among schools, families, public authorities, entrepreneurs, associations, craftspeople, nongovernmental organizations and volunteers – indispensable powers in community education. Everybody educates; everybody learns at qualification centres, so the experience helps educators and social leaders nourish the learning systems (UNICEF, 2009). SLOs as such also involve a diverse range of non-formal partners to enrich their teaching and respond better to the learning and other needs of students.

Partnerships are based on equality of relationships and opportunities for mutual learning

In sum, schools in the 21st century will not be sustained by working in isolation but instead need to be connected to diverse partners, networks and professional learning communities. SLOs therefore build and maintain the capital it needs by forging partnerships with and networks of students,

teachers, parents and members of the local communities, higher education institutions, businesses, and/or public or non-governmental organisations in efforts to deepen and extend learning (Bowen, Rose, & Ware, 2006; OECD, 2013).

These relationships are two-way and frequently one of co-production. Co-production theory derives from community policing (Östrom & Baugh, 1973) and law (Cahn, 2000), and proposes that those who use services are hidden resources who can extend service options and generate further innovation. Co-producers pool different types of knowledge and skills based on different lived experiences and professional learning. SLOs are therefore open to more equal relationships with external partners, sharing power and control.

ICT is widely used to facilitate communication, knowledge exchange and collaboration with the external environment

ICTs provide an additional dimension to communication, knowledge exchange and collaboration with the external environment. By many considered a driver or ‘pump’ of innovative change in education (OECD, 2013; Kamylyis, Punie, & Devine, 2015), ICTs allow for easy sharing of information and resources, and provide network participants with a means to communicate virtually at any time, without having to necessarily meet face-to-face. The Austrian New Secondary School reform for example which started as a relatively small-scale project in 2008 with 67 pilot schools but since then has become a mandated school reform showcases the potential of ICT for facilitating peer learning across school boundaries.

Central to the reform is the creation of a new leadership position at the school level, the ‘Lerndesigner’, a teacher-leader who together with the school’s principal and other teacher-leaders (subject co-ordinators, school development teams, etc.) serve as change agents in their schools, driven by the principle of school-specific reform and focused on the national reform goals of equity and excellence. The reform strategy lies in qualifying teachers to become teacher-leaders, thereby enabling them and their schools to realise effective shared leadership. Much effort is therefore placed on building social and leadership capital through networking events, which play a central role in the reform, as they provide the venue for learning, peer learning and dissemination of good practice. An online platform for sharing ideas and practices form an integrated part of the reform’s continuous professional development and leadership development efforts (OECD, 2015).

3.3.7 Modelling and growing learning leadership

Modelling and growing learning leadership

- School leaders ensure that the organisation's actions are consistent with its vision, goals and values
- School leaders model learning leadership, distribute leadership and help grow other leaders, including students
- School leaders are proactive and creative change agents
- School leaders ensure the school is characterised by a 'rhythm' of learning, change and innovation
- School leaders develop the culture, structures and conditions to facilitate professional dialogue, collaboration and knowledge exchange
- School leaders promote and participate in strong collaboration with other schools, parents, the community, higher education institutions and other partners
- School leaders ensure an integrated approach to responding to students' learning and other needs

School leaders ensure that the organisation's actions are consistent with its vision, goals and values

Schools today have to keep pace with the changing external environment, while delivering on their core task – equipping students with the knowledge and skills for life in the 21st century. This requires leadership to set the direction, taking responsibility for putting learning at the centre and keeping it there (Fullan, 2014), and using it strategically (Watkins & Marsick, 1999) so that the organisation's actions are consistent with its vision, goals and values. Leadership is the essential ingredient that binds all of the separate parts of the learning organisation together.

School leaders model learning leadership, distribute leadership and help grow other leaders, including students

In SLOs educational leadership is at the heart of daily practice, and school leaders are themselves high-level knowledge workers. Leadership is, and should be a continuous process of learning (MacBeath & Dempster, 2008). The school leader as 'lead learner' engages seriously in their own learning – alone and with colleagues, is exposed to the best theories and practices on school leadership for learning and teaching to thrive (Hamzah, Yakop, Nordin, & Rahman, 2011) and participates with teachers in learning how to move the school forward (Robinson, 2011). By engaging in professional learning as 'lead learners', and creating the conditions for others to do the same, school leaders model and champion such professionalism throughout the school and beyond the school's boundaries.

Further, the demands of leadership in the 21st century are far too extensive for any one person. Because principals' work has become so complex, some of these responsibilities need to be distributed and shared with others, both inside and outside the school (Schleicher, 2012). Leading and managing teaching depends on the interactions of many people to co-produce improved practice (Spillane, 2013). And importantly research evidence shows that teachers tend to report a greater sense of self-efficacy and more job satisfaction when they are given the opportunity to participate in decision making (OECD, 2014). SLOs therefore have a culture of shared responsibility for school issues. Staff, and also students, are encouraged to actively participate in decision making. Through mentoring and coaching those they lead to prepare them to take on more senior level responsibilities and ensure sustainable leadership through succession (Watkins & Marsick, 1996).

School leaders develop the culture, structures and conditions to facilitate professional dialogue, collaboration and knowledge exchange

School leaders also have a vital role in establishing a learning culture, and promoting and facilitating organisational learning (Berkowitz, Bowen, Benbenishty, & Powers, 2013). They are the nerve centre of school improvement and responsible for shaping the work and administrative structures to facilitate professional dialogue, collaboration and knowledge exchange which are crucial for promoting organisational learning in schools. They also create a safe environment in which people can take on new behaviours, take initiative, experiment and realise that it is expected that they challenge the status quo.

Many SLO scholars, including Marsick and Watkins (1999), also note the importance of leaders who were able to admit when they were wrong and redirect the change effort. They did this in conversation with their employees. And most of all they realized that becoming a learning organisation is in the details of daily life – how they interact with their people and may involve 'cushioning resistance' (Radivojevic, 2010).

School leaders are proactive and creative change agents, and ensure the school is characterised by a 'rhythm' of learning, change and innovation

Organisational learning means significant change; as with any kind of serious learning, it interrupts and disrupts the status quo. Questioning common practices, taking risks, and avoiding letting rules

limit experimentation and innovative practice are key features of learning organisations. But there are many inhibitors to organisational learning; barriers to protect the status quo. These are described as organisational learning disabilities (Senge, 1990) or dysfunctional learning habits (Louis, 1994), and often go undetected. Another is organisational defence routines (Argyris & Schön, 1978), such as accusing an inquirer of being too judgmental or too evaluative when he or she questions the validity and appropriateness of an intervention.

School leaders themselves need to foster their own capacity to challenge the status quo and establish a ‘rhythm’ of learning, and change and innovation. This requires them to be adventurous (MacBeath, 2013) and develop as creative change agents. These are key tasks for any school leader of a SLO or any other school that wants reform its educational practices. They have to be adaptive, creative and courageous (OECD, 2013). An example in point is the Lerndesigner, or teacher-leader of Austria’s New Secondary School reform described above who, together with the school leader, forms a ‘dynamic developmental duo’ and jointly serve as change agents in their school. The Lerndesigners take on various roles including supporting development of learning and teaching, and advising and coaching of staff (OECD, 2015).

School leaders promote and participate in strong collaboration with other schools, parents, the community, higher education institutions and other partners

In SLOs school leaders are what Fullan (2014) calls ‘system players’ who promote the establishment of strong collaborations with other schools, parents, the community and higher education institutions. Schools and their leaders strengthen collaboration, form networks, share resources and/or work together. Research evidence also shows that leaders of the most successful schools in challenging circumstances are typically highly engaged with and trusted by the schools’ parents and wider community (James, Connolly, Dunning, & Elliott, 2006; Harris, Chapman, Muijs, Russ, & Stoll, 2006).

School leaders ensure an integrated approach to responding to students’ learning and other needs

School leaders have an important role to play in integrating the work of the school with welfare, law enforcement and other agencies, sometimes on the school site (Epstein, 2001). In SLOs therefore leaders collaborate with parents, the community and other social services to ensure an

integrated approach to responding to the learning and other needs of students. Through such collaborations the SLO will be able to deliver on its promise (i.e. vision) and show that success in school is indeed possible for all students, even those most socio-economically disadvantaged.

3.4 The need for facilitating government policies and support structures

But a school does not transform into a learning organisation on its own. Rather the evidence suggests it needs the right conditions for SLOs to blossom and thrive. What is required in terms of system levels policies and support structures to promote schools to develop as learning organisations is not yet well understood however (Finnigan, Daly, & Stewart, 2012; Cibulka, Coursey, Nakayama, Price, & Stewart, 2003). This is clearly is an important policy/research question that needs to be further explored. Responding to this gap in research knowledge, we will in Chapters 5 and 6 examine the influence of several factors, internal and external factors that are believed to be of influence on schools developing as learning organisations.

3.5 Discussion and conclusion

In response to the first sub-question of this dissertation, “*how can a school as a learning organisation be defined and conceptualized?*”, this chapter has provided a detailed account of our integrated SLO model. Building on the (school as a) learning organisation of Watkins and Marsick (1999; 1996) we define a SLO as one 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 all 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 (see Table 3.1 below). An open question when looking at the seven SLO dimensions is whether ‘the sum is larger than the individual parts’. We will come back to this question in Chapters 7 and 8.

Table 3.1 Integrated school as a learning organisation model

Integrated school as a learning organisation model	
Dimensions	Elements
Developing a shared vision centred on the learning of <i>all</i> students	<ul style="list-style-type: none"> • A shared and inclusive vision aims to enhance the learning experiences and outcomes of all students • The vision focuses on a broad range of learning outcomes, encompasses both the present and the future, and is inspiring and motivating • Learning and teaching are oriented towards realising the vision • Vision is the outcome of a process involving all staff • Students, parents, the external community and other partners are invited to contribute to the school's vision
Creating and supporting continuous professional learning for all staff	<ul style="list-style-type: none"> • All staff engage in continuous professional learning • New staff receive induction and mentoring support • Professional learning is focused on student learning and school goals • Staff are fully engaged in identifying the aims and priorities for their own professional learning • Professional learning challenges thinking as part of changing practice • Professional learning connects work-based learning and external expertise • Professional learning is based on assessment and feedback • Time and other resources are provided to support professional learning • The school's culture promotes and supports professional learning
Promoting team learning and collaboration among all staff	<ul style="list-style-type: none"> • Collaborative working and collective learning – face-to-face and through ICTs – are focused and enhance learning experiences and outcomes of students and/or staff practice • Staff reflect together on how to make their own learning more powerful • Staff learn how to work together as a team • Staff feel comfortable turning to each other for consultation and advice • Trust and mutual respect are core values • The school allocates time and other resources for collaborative working and collective learning
Establishing a culture of inquiry, exploration and innovation	<ul style="list-style-type: none"> • Staff engage in forms of inquiry to investigate and extend their practice • Students are actively engaged in inquiry • Inquiry is used to establish and maintain a rhythm of learning, change and innovation • Staff have open minds towards doing things differently • Staff want and dare to experiment and innovate in their practice • The school supports and recognises staff for taking initiative and risks • Problems and mistakes are seen as opportunities for learning
Embedding systems for collecting and exchanging knowledge and learning	<ul style="list-style-type: none"> • Systems are in place to examine progress and gaps between current and expected impact • Structures for regular dialogue and knowledge exchange are in place • Examples of practice – good and bad – are made available to all staff to analyse • Sources of research evidence are readily available and easily accessed

	<ul style="list-style-type: none"> • Staff have the capacity to analyse and use multiple sources of data for feedback, including through ICT, to inform teaching and allocate resources • The school development plan is evidence-informed, based on learning from self-assessment, and updated regularly • The school regularly evaluates its theories of action, amending and updating them as necessary
Learning with and from the external environment and larger system	<ul style="list-style-type: none"> • The school is an open system, welcoming approaches from potential external collaborators • The school scans its external environment to respond quickly to challenges and opportunities • Staff collaborate, learn and exchange knowledge with peers in other schools through networks and/or school-to-school collaborations • The school collaborates with parents/guardians and the community as partners in the education process and the organisation of the school • The school partners with higher education institutions, businesses, and/or public or non-governmental organisations in efforts to deepen and extend learning • Partnerships are based on equality of relationships and opportunities for mutual learning • ICT is widely used to facilitate communication, knowledge exchange and collaboration with the external environment
Modelling and growing learning leadership	<ul style="list-style-type: none"> • School leaders ensure that the organisation's actions are consistent with its vision, goals and values • School leaders model learning leadership, distribute leadership and help grow other leaders, including students • School leaders are proactive and creative change agents • School leaders ensure the school is characterised by a 'rhythm' of learning, change and innovation • School leaders develop the culture, structures and conditions to facilitate professional dialogue, collaboration and knowledge exchange • School leaders promote and participate in strong collaboration with other schools, parents, the community, higher education institutions and other partners • School leaders ensure an integrated approach to responding to students' learning and other needs

The literature review also suggested there is a set of four transversal themes that flow through all seven dimensions; the four 'Ts': trust, time, technology and thinking together. Although some of these themes may seem more pertinent to one dimension or element than to another, all four have an impact on the whole. For example, trust underpins the kind of relationships needed internally and externally for learning organisations to thrive (Cerna, 2014). Also, all aspects of school development require the provision of sufficient time. This as school development isn't always easy and things often go initially wrong before they right (Borman, Hewes, Overman, & Brown, 2002;

Fullan, 2011; Fullan & Miles, 1992). It takes time and effort for deep professional learning to take place and result in meaningful changes and innovations in educational practices.

The literature review also brought to the fore how using technology can revolutionise learning, as well as the school organisation, in many different ways. It for example highlighted the use of ICT for facilitating communication, knowledge exchange and collaboration with the external environment, for using ICT to facilitate professional learning of and among staff and for collecting and analyzing data. Schools should ensure they harness the seemingly ever growing potential of ICT for developing into learning organisations. Further, central to the SLO is its collective nature. It draws its power from collective thinking and acts upon it, which comes through in all the (action-oriented) dimensions and many of its underlying elements.

In sum, we define a SLO as having 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.

The following chapter (4) will investigate whether empirical evidence supports our theorised seven-dimension SLO model. The principal component analysis and reliability analysis will allow for validity testing of the construct and thereby inform our journey towards answering of the second sub-question of this study, *“how can a school as a learning organisation be measured?”*.

REFERENCES

- Ainscow, M., Booth, T., & Dyson, A. (2006). Inclusion and the standards agenda: negotiating policy pressures in England. *International Journal of Inclusive Education, 10*(4), 295-308.
- Ainscow, M., Dyson, A., Goldrick, S., & West, M. (2016). Using collaborative inquiry to foster equity within school systems: Opportunities and barriers. *School Effectiveness and School Improvement, 27*(1), 7-23.
- Argyris, C., & Schön, D. (1978). *Organisational Learning: A Theory of Action Perspective*. Reading: Mass, Addison Wesley.
- Aron, I. (2000). *Becoming a Congregation of Learners: Learning as a Key to Revitalizing Congregational Life*. Woodstock: Jewish Lights Publishing.
- Berkowitz, R., Bowen, G., Benbenishty, R., & Powers, J. (2013). A Cross-Cultural Validity Study of the School Success Profile Learning Organization Measure in Israel. *Children & Schools, 35*(3), 137-146.
- Borman, G., Hewes, G., Overman, L., & Brown, S. (2002). Comprehensive school reform and student achievement: A meta-analysis. *Review of Educational Research, 73*(2), 125-230.
- Bowen, G., Rose, R., & Ware, W. (2006). The reliability and validity of the school success profile learning organization measure. *Evaluation and Program Planning, 29*(1), 97-104.
- Brandt, J. (2003). Is this school a learning organization? 10 ways to tell. *Journal of Staff Development, 24*(1), 10-16.
- Bransford, J., Brown, A., & Cocking, R. (2000). *How people learn: brain, mind, experience, and school*. Washington: National Academy Press.
- Cahn, E. (2000). *No more throw away people: the co-production imperative*. Washington: Essential Books.
- Caldwell, B., & Spinks, J. (1992). *Leading the Self-Managing School*. Bristol: Falmer Press, Taylor and Francis Inc.

- Cannon, M., & Edmondson, A. (2005). Failing to learning and learning to fail (effectively): How great organisations put failure to work to improve and innovate. *Long Range Planning*, 38(5), 299-319.
- Castro, M., Expósito-Casas, E., López-Martín, E., Lizasoain, L., Navarro-Asencio, E., & Gaviria, J. (2015). Parental involvement on student academic achievement: a meta-analysis. *Educational Research Review*, 14, 33-46.
- Cerna, L. (2014). *Trust: what it is and why it matters for governance and education*. Paris: OECD Publishing.
- Chapman, C., Muijs, D., Reynolds, D., Sammons, P., & Teddlie, C. (2016). *The Routledge International Handbook of Educational Effectiveness and Improvement: Research, Policy and Practice*. Oxford: Routledge, Abingdon.
- Cibulka, J., Coursey, S., Nakayama, M., Price, J., & Stewart, S. (2003). *Schools as Learning Organisations: A Review of the Literature*. York: National College for School Leadership.
- Collins, J. (2001). *Good to Great: Why Some Companies Make the Leap and Others Don't*. New York: Harper Collins Publishing Inc.
- Darling-Hammond, L., Hyler, M., & Gardner, M. (2017). *Effective Teacher Professional Development*. Palo Alto: Learning Policy Institute.
- Dewey, J. (1933). *How We Think. A restatement of the relation of reflective thinking to the educative process*. Boston: Brilliant.
- Du Four, R. (1997). The school as a learning organization: Recommendations for school improvement. *NASSP Bulletin*, 42(58), 81-88.
- Dumont, H., Istance, D., & Benavides, F. (2010). *The Nature of Learning: Using Research to Inspire Practice*. Paris: OECD Publishing.
- Earl, L., & Katz, S. (2006). How Networked Learning Communities Work. *Seminar Series Paper*, 155, 1-20.

- Earl, L., & Timperley, H. (2008). Understanding how evidence and learning conversations work. In *Professional Learning Conversations: Challenges in Using Evidence for Improvement*. Dordrecht: Springer.
- Earl, L., & Timperley, H. (2015). *Evaluative thinking for successful educational innovation*. Paris: OECD Publishing.
- Edmondson, A. (2003). Speaking up in the operating room: How team leaders promote learning in interdisciplinary action teams. *Journal of Management Studies*, 40(6), 1419-1453.
- Education Scotland. (2015). *Professional learning*. Retrieved from <http://www.educationscotland.gov.uk/professionallearning/prd/profllearning.asp>.
- Epstein, J. (2001). *School, family, and community partnerships: Preparing educators and improving schools*. Boulder: Westview Press.
- Fielding, M. (2001). Students as Radical Agents of Change. *Journal of Educational Change*, 2, 123-141.
- Finnigan, K., Daly, A., & Stewart, T. (2012). Organizational learning in schools under sanction. *Education Research International*, 1-10.
- Fullan, M. (1999). *Changing Forces: The Sequel*. London: Taylor & Francis/Falmer.
- Fullan, M. (2000). The return of large-scale reform. *Journal of Educational Change*, 1(1), 5-28.
- Fullan, M. (2006). *Quality Leadership, Quality Learning*. Glounthame: Co. Cork.
- Fullan, M. (2011). *Change Leader: Learning to Do What Matters Most*. Jossey-Bass, San Francisco.
- Fullan, M. (2014). *Three Keys to Maximizing Impact*. Toronto: Jossey-Bass and Ontario Principal's Council.
- Fullan, M., & Miles, M. (1992). Getting reform right: What works and what doesn't. *Phi Delta Kappan*, 73(10), 745-752.

- Fullan, M., Cuttress, C., & Kilcher, A. (2005). Eight Forces for Leaders of Change. *Journal of Staff Development*, 26(4), 54-64.
- Fullan, M., Rincón-Gallardo, S., & Hargreaves, A. (2015). Professional Capital as Accountability. *Education Policy Analysis Archives*, 23(15), 1-18.
- Goodlad, J. (1994). *Educational renewal: Better teachers, better schools*. San Francisco: Jossey-Bass.
- Halbert, J., & Kaser, L. (2013). *Spirals of Inquiry for Equity and Quality*. Vancouver: BCPVPA Press.
- Hamzah, M., Yakop, F., Nordin, N., & Rahman, S. (2011). School as Learning Organisation: The Role of Principal's Transformational Leadership in Promoting Teacher Engagement. *World Applied Science Journal*, 14, 58-63.
- Hargreaves, A., & Fullan, M. (2012). *Professional Capital: Transforming Teaching in Every School*. New York: Teachers College Press.
- Harris, A., Chapman, C., Muijs, D., Russ, J., & Stoll, L. (2006). Improving Schools in Challenging Contexts: Exploring the Possible. *School Effectiveness and School Improvement*, 17(4), 409-425.
- Harris, M., & van Tassell, F. (2005). The professional development school as learning organization. *European Journal of Teacher Education*, 28(2), 179-194.
- Hattie, J. (2009). *Visible Learning: A Synthesis of Over 800 Meta-analysis Relating to Achievement*. London: Routledge.
- Hattie, J. (2012). *Visible Learning for Teachers, Routledge, London*. London: Routledge.
- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81-112.
- Heifetz, R., & Linsky, M. (2002). *Leadership on the Line: Staying Alive through the Dangers of Leading*. Boston: Harvard Business School Press.

- Higgins, M., Ishimaru, A., Holcombe, R., & Fowler, A. (2012). Examining organizational learning in schools: The role of psychological safety, experimentation, and leadership that reinforces learning. *Journal of Educational Change*, 13(1), 67-94.
- Ho Park, J. (2008). Validation of Senge's learning organization model with teachers of vocational high schools at the Seoul megalopolis. *Asia Pacific Education Review*, 9(3), 270-284.
- Ingersoll, R., & Strong, M. (2011). The impact of induction and mentoring for beginning teachers; A critical review of the research. *Review of Educational Research*, 81(2), 201-233.
- International Commission on Education for Twenty-first Century Learning. (1996). *Learning: The treasure within*. Paris: UNESCO Publishing.
- James, C., Connolly, M., Dunning, G., & Elliott, T. (2006). *How Very Effective Primary Schools Work*. London: Paul Chapman.
- Kampylis, P., Punie, Y., & Devine, J. (2015). *Promoting effective digital age learning. A European Framework for Digitally-Competent Educational Organisations*. Seville: JRC-IPTS.
- Kessels, C. (2010). *The Influence of Induction Programs on Beginning Teachers' Well-being and Professional Development*. Leiden: Leiden University.
- Kruse, S., Louis, K., & Bryk, A. (1995). An emerging framework for analyzing school-based professional community. In K. Louis, & K. & Kruse (Eds.), *Professionalism and Community: Perspectives on Reforming Urban Schools*. Long Oaks: Corwin.
- Louis, K. (1994). Beyond 'managed change': rethinking how schools improve. *School Effectiveness and School Improvement*, 5(1), 2-24.
- Louis, K., & Kruse, S. (1998). Creating community in reform: images of organizational learning in innercity schools. In K. Leithwood, & K. Louis (Eds.), *Organizational Learning in Schools*. Lisse: Swets & Zeitlinger.
- Louis, K., Leithwood, K., Wahlstrom, K., & Anderson, S. (2010). *Learning from leadership: investigating the links to improved student learning*. Minnesota: The Wallace Foundation.

- MacBeath, J. (2013). Leading learning in a world of change. In OECD (Eds.), *Leadership for 21st Century Learning* (pp. 83-106). Paris: OECD Publishing.
- MacBeath, J., & Dempster, N. (2008). *Connecting Leadership and Learning: Principles for Practice*. London: Routledge.
- Moloi, K., Grobler, B., & Gravett, S. (2006). Educators' perceptions of the school as a learning organization in the Vanderbijlpark-North District, South Africa. *South African Journal of Education*, 22(2), 88-94.
- O'Connor, J., & McDermott, I. (1997). *The art of system thinking. Essential skills for creativity and problem-solving*. London: Thorsons.
- OECD. (2010). *Innovative Workplaces: Making Better Use of Skills within Organisations*. Paris: OECD Publishing.
- OECD. (2013). *Innovative Learning Environments*. Paris: OECD Publishing.
- OECD. (2013). *Leadership for 21st Century Learning*. Paris: OECD Publishing.
- OECD. (2013). *PISA 2012 Results: Excellence Through Equity: Giving Every Student the Chance to Succeed (Volume II)*. Paris: OECD Publishing.
- OECD. (2014). *TALIS 2013 Technical Report*. Paris: OECD Publishing.
- OECD. (2015). *Improving Schools in Sweden: An OECD Perspective*. Paris: OECD Publishing.
- OECD. (2015). *Schooling Redesigned: Towards Innovative Learning Systems*. Paris: OECD Publishing.
- OECD. (2016). *Netherlands 2016: Foundations for the Future*. Paris: OECD Publishing.
- OECD. (2016). *PISA 2015 Results (Volume I): Excellence and Equity in Education*. Paris: OECD Publishing.
- Örtenblad, A. (2004). The learning organization: towards an integrated model. *The Learning Organization*, 11(2), 129-144.

- Östrom, E., & Baugh, W. (1973). *Community organization and the provision of police services*. Beverly Hills: Sage.
- Paletta, A. (2011). Managing Student Learning: Schools as Multipliers of Intangible Resources. *Educational Management Administration Leadership*, 39(6), 733-750.
- Radivojevic, N. (2010). The principal's role in the Finnish Schools. *Metodicki obzori*, 9(5), 91-96.
- Robinson, V. (2011). *Student-Centered Leadership*. San Fransisco: John Wiley & Sons.
- Rumberger, R. (2004). Why students drop out of school. In G. Orfield (Eds.), *Dropouts in America: Confronting the Graduation Rate Crisis*. Cambridge: Harvard Education Press.
- Sahlberg, P. (2010). *Finnish lessons: What can the world learn from educational change in Finland?* New York: Teachers College Press.
- Schechter, C. (2008). Organizational Learning Mechanisms: The Meaning, Measure, and Implications for School Improvement. *Educational Administration Quarterly*, 44(2), 155-186.
- Schildkamp, K., Karbautzki, L., & Vanhoof, J. (2014). Exploring data use practices around Europe: Identifying enablers and barriers. *Studies in Educational Evaluation*, 42, 15-24.
- Schlechty, P. (2009). *Leading for Learning: How to Transform Schools into Learning Organizations*. San Francisco: Jossey-Bass.
- Schleicher, A. (2012). *Preparing Teachers and Developing School Leaders for the 21st Century: Lessons from around the World*. Paris: OECD Publishing.
- Schleicher, A. (2018). *World Class: How to Build a 21st-Century School System*. Paris: OECD Publishing.
- School has the Initiative. (2014). *Developmental Model Learning Organisation [Ontwikkelmodel Lerende Organisatie]*. Retrieved from http://schoolaanzet.nl/fileadmin/contentelementen/school_aan_zet/Bijlagen_bij_nieuwsberichten/Ontwikkelmodel_Lerende_Organisatie.pdf.

- Senge, P. (1990). *The Fifth Discipline: The Art and Practice of the Learning Organisation*. New York: Currency Doubleday.
- Senge, P., Cambron-McCabe, N., Lucas, T., Smith, B., & Dutton, J. (2012). *Schools That Learn*. New York: Crown Business.
- Silins, H., & Mulford, B. (2004). Schools as learning organizations: Effects on teacher leadership and student outcomes. *School Effectiveness and School Improvement*, 15(3-4), 443-466.
- Silins, H., Mulford, B., & Zarins, S. (2002). Organisational learning and school change. *Educational Administration Quarterly*, 38(5), 613-642.
- 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.
- Simons, M., & Masschelein, J. (2008). From Schools to Learning Environments: The Dark Side of Being Exceptional. *Journal of Philosophy of Education*, 42(3-4), 687-704.
- Spillane, J. (2013). The practice of leading and managing teaching in educational organisations. In OECD (Eds.), *Leadership for 21st Century Learning* (pp. 59-83). Paris: OECD Publishing.
- Stoll, L., & Temperley, J. (2009). Creative leadership: a challenge of our times. *School Leadership and Management*, 29(1), 63-76.
- Stoll, L., Bolman, R., McMahon, A., & Wallace, M. (2006). Professional learning communities: a review of the literature. *Journal of Educational Change*, 7(4), 221-258.
- Stoll, L., Harris, A., & Handscomb, G. (2012). *Great professional development which leads to great Pedagogy: Nine claims from research*. Nottingham: National College for School Leadership.
- Thompson, M., Goe, L., Paek, P., & Ponte, E. (2004). *Study of the Impact of the California Formative Assessment and Support System for Teachers: Report 1, Beginning teachers' engagement with BTSA/CFASST*. Princeton: ETS.

- Timperley, H., Wilson, A., Barrar, H., & Fung, I. (2007). *Teacher Professional Learning and Development: Best Evidence Synthesis Iteration*. Wellington: Ministry of Education New Zealand.
- UNICEF. (2009). *Child Friendly School Manual*. New York: UNICEF.
- Watkins, K., & Marsick, V. (1996). *In action: Creating the learning organization*. Alexandria: American Society for Training and Development.
- Watkins, K., & Marsick, V. (1999). Schools as Learning Communities. Sculpting the Learning Community: New Form of Working and Organizing. *NASSP Bulletin*, 83(604), 78-87.
- 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.

CHAPTER 4. THE SCHOOL AS A LEARNING ORGANISATION AND ITS MEASUREMENT³

³ This chapter is accepted for publishing in amended form in the *European Journal of Education*; Kools, M. et al. (2020). The school as a learning organisation: The concept and its measurement. *European Journal of Education*, Early View, DOI: 10.1111/ejed.12383.

4.1 Introduction

Although a growing body of scholars, educators and policy makers have argued for reconceptualising schools as ‘learning organisations’, a lack of clarity on the concept has hindered its advance in theory and practice. This chapter responds to this problem by developing a schools as learning organisations scale using a survey of 1703 school staff in Wales (United Kingdom); thereby responding to the second sub-question of our study, “*how can a school as a learning organisation be measured?*”.

The chapter builds on the analysis of the previous chapter that resulted in the presentation of a seven-dimension school as a learning organisation model. This model has served as the theoretical foundation of the *Schools as Learning Organisations Survey* that was applied as part of an OECD study in Wales (OECD, 2018) and from which this chapter draws its analysis. The chapter provides a detailed description of the developmental process of the survey and the included schools as learning organisations scale, from initial item generation to construct validity.

The chapter starts by responding to the question what the added value of such a scale is. The next Section (4.3) provides a brief recapitulation of the proposed school as a learning organisation (SLO) model and its background (Chapters 2 and 3). This is followed by a description of the method of analysis (Section 4.4) and a presentation of the results as they relate to the objective of developing a SLO scale (Section 4.5). Section 4.6 discusses the results and strengths and limitations of the analysis and the identified scale. It proposes areas for its further refinement of the scale and its potential applications in future research. The chapter concludes by highlighting the practical and theoretical relevance of the scale.

4.2 But what is the added value of the schools as learning organisations scale?

The purpose of this chapter is as mentioned to develop a reliable and valid schools as learning organisations scale and through this respond to the two research questions posed above. Earlier studies have proposed models of the SLO and used quantitative scales to validate these. A shortcoming of most of these studies and assessment instruments however is their small-scale application, as do the scholarly interpretations of the SLO vary, sometimes considerably. This ‘scholarly chaos’ partially stems from a shortage of systematic research on the concept. This leaves us with a lack of clarity or common understanding of what makes a school a learning organisation.

This study responds to this challenge by developing a reliable and valid quantitative scale for measuring the SLO.

But does it really add to already existing scales, such as the *School Success Profile-Learning Organization* (SSP-LO) survey (Bowen, Rose, & Ware, 2006), the *Dimensions of the Learning School Questionnaire* (Akram, Watkins, & Sajid, 2013) or the *Organisational Learning and Leadership Questionnaire* (Silins, Zarins, & Mulford, 2002)? The answer to this question is affirmative. An alternative measurement as proposed in this chapter is necessary for several reasons. First, based on the SLO model proposed in Chapter 3, the scale includes two important extensions of the concept that are not included in other measurements. Although most of the literature is clear about the necessity and process of developing a vision which should be a ‘shared process’ involving teachers, school leaders and other local stakeholders, little is said about the content of this vision. This risks diluting developmental efforts and ensuring all students are provided with the skills to prepare them for life in the 21st century – schools’ core mission, whether a learning organisation or not. The scale developed in this chapter includes such a vision.

Furthermore, for education professionals to develop as high-quality knowledge workers requires them to engage in networked learning and collaboration across school boundaries, for example with staff in other schools, the community and higher education institutions (Kahne, O'Brien, Brown, & Quinn, 2001; Harris & Tassell, 2005; Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012; Kaser & Halbert, 2014). Contrary to much of the literature and developed scales, this scale includes a strong focus on such external connections.

Further research on and empirical validation of the model presented in Chapter 3 is needed however to strengthen the current evidence base on the SLO and move towards a common understanding of the concept. This call for further research and possible refinement of the model has initially been answered through OECD’s study on the development of schools as learning organisations in Wales (OECD, 2018) – which this study is partly based on.

The second contribution of this scale is that it not only seeks the views of school leaders and teachers, but also asks learning support staff to share their opinions on their schools. Though much of the SLO literature is silent about learning support staff, they should not be overlooked as a SLO depends on the joint efforts of all of its staff to blossom and continue thriving.

Third, the development process of the scale has included the engagement and active contributions by a large number of representatives from schools and other stakeholders in Wales; thereby enhancing the relevance of the scale and support for using the scale (and model on which it is founded) to inform school improvement efforts. This is important considering the findings of OECD's study in Wales (2018). It showed that although the majority of schools seemed well on their way towards developing as learning organisations, a considerable proportion were still far removed from realising this objective, especially secondary schools. Two SLO dimensions were found to be considerably less well developed: "developing a shared vision centred on the learning of all students" and "establishing a culture of enquiry, innovation and exploration".

Finally, although other scales on the SLO have been developed, these are few in number and not always easily accessible. This scale provides school leaders, teachers, learning support staff, (local) policy makers and others wanting to develop their schools as learning organisations with an additional, accessible tool to choose from to help them with this endeavour. The option of being able to select a scale that best fits the local context of a given school may help advance the school as a learning organisation in practice.

4.3 The (school as a) learning organisation

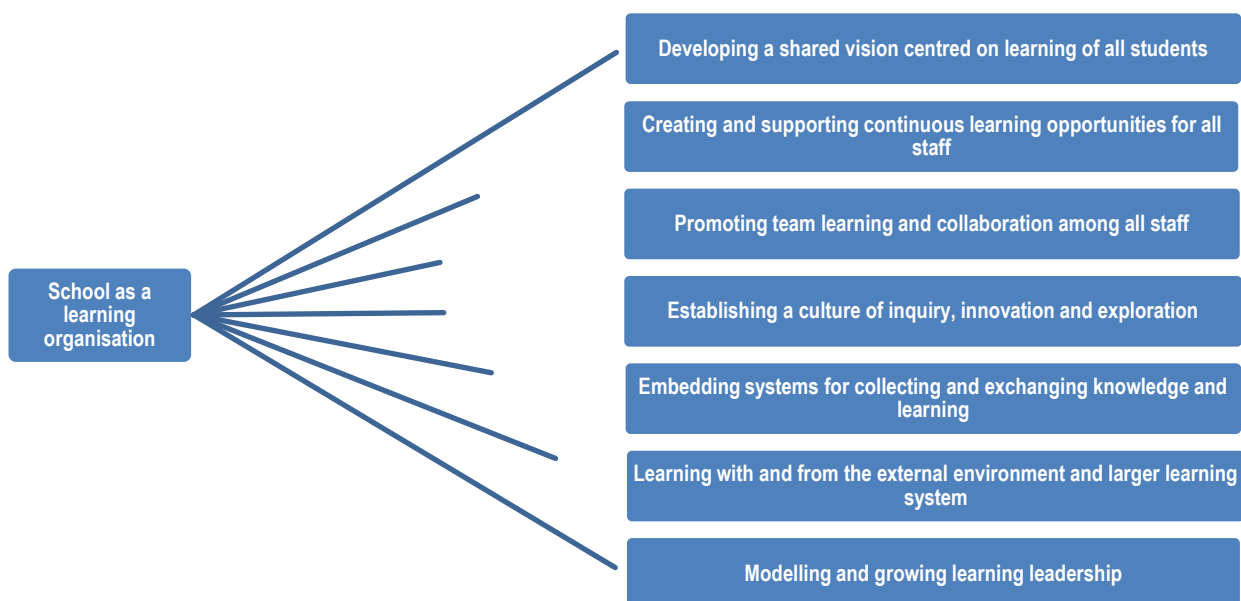
The concept of the learning organisation as mentioned started gaining popularity in the literature in the late 1980s. The release in 1990 of *The Fifth Discipline: The Art & Practice of The Learning Organization* (1990) by Senge greatly contributed to the concept gaining in popularity in research and practice. While there are many different interpretations of the concept, it is generally agreed that the learning organisation is a necessity for dealing with the rapidly changing external environment, is suitable for any organisation, and that an organisation's learning capability will be the only sustainable competitive advantage in the future (Örtenblad, 2004; Yang, Watkins, & Marsick, 2004).

Learning organisation theorists have been influenced by three theories in particular, i.e. systems theory, organisational learning and strategic management (Yang, Watkins, & Marsick, 2004). Most see the learning organisation as a multi-level concept and define the learning organisation as 'organic' and in terms of the interrelations between individual behaviours, team organisation and organisational practices and culture (OECD, 2010).

In a learning organisation, the beliefs, values and norms of employees are brought to bear through the development of deliberate conditions, strategies and processes that support sustained learning; where a ‘learning culture’ or ‘learning climate’ is nurtured. In a learning organisation, ‘learning to learn’ is a fundamental value that is put into practice on a daily basis (Yang, Watkins, & Marsick, 2004).

Informed by an extensive review of the literature and the views of a small network of experts we have proposed a definition and model of the SLO (see Figure 4.1). Our seven-dimension SLO model is based on and an extension of the learning organisation model of Watkins and Marsick (1996; 1999), as operationalised in the *Dimensions of the Learning Organisation Questionnaire* (DLOQ). The characteristics of the SLO were operationalised in a model that consists of seven action-oriented dimensions. We expanded the DLOQ in certain areas. These included clarifying the school’s vision, i.e. what it should focus on and who it should apply to, a stronger emphasis on new ways of doing things, expanding the conception of professional learning as going beyond school boundaries, and also focusing attention on support staff. The seven dimensions and their underlying characteristics, referred to as ‘elements’, highlight both what a school aspires to be and the processes it goes through as it transforms itself into a learning organisation.

Figure 4.1 School as a learning organisation model

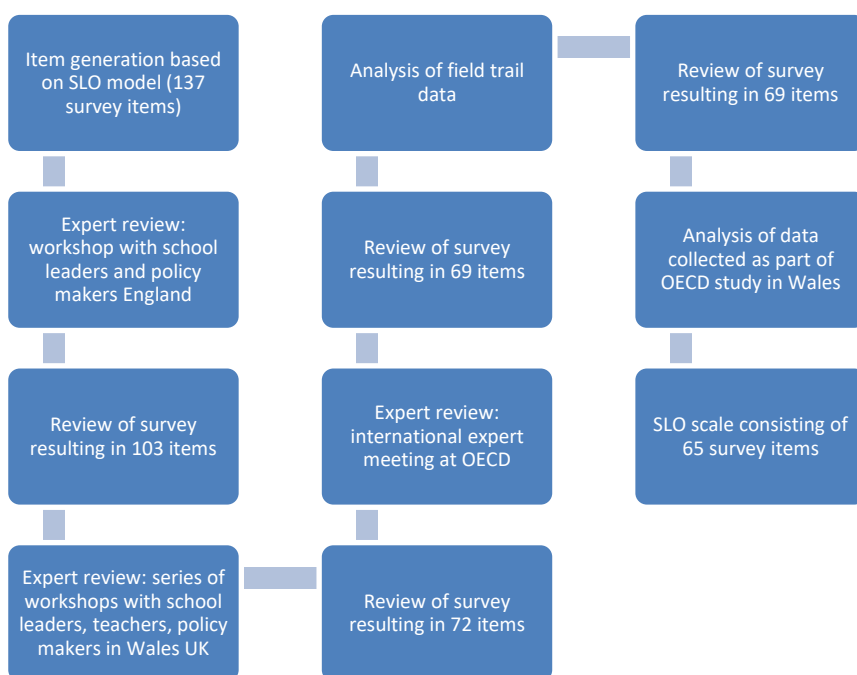


In short, we define a SLO as one that has the capacity to change and adapt routinely to new environments and circumstances as its members, individually and together, learn their way to realising their vision. This model has formed the foundation for the development of our SLO scale on which the text below will elaborate.

4.4 Methods

The efforts to develop a measurement instrument for the SLO were based on the scale development guidelines of DeVellis (2016) (see Figure 4.2). The first step was to generate a pool of items for each of the seven SLO dimensions. This was followed by several rounds of review of the items by a large number of experts to evaluate face validity and reduce the number of items. The statistical programme SPSS was then used to conduct principal component analysis and establish internal consistency reliability, as well as construct validity on field trial data. This step was repeated using the data collected as part of the mentioned OECD study in Wales (2018). The text below elaborates on these steps.

Figure 4.2 Schools as learning organisations scale development process



4.4.1 Item generation and expert review

Following completion of our SLO model that was presented in Chapter 3 (in May 2016), work began to translate the model into a survey instrument. For each of the seven dimensions, items were generated in the form of five-point Likert scale with the answer options ‘strongly disagree’, ‘disagree’, ‘neutral’, ‘agree’ and ‘strongly agree’. This type of self-reported scale is commonly used in public administration to measure core public management and governance concepts (George & Pandey, 2017; McNabb, 2015). The 137-item pool was larger than the expected final scale, which is common practice, since it allows the researcher to identify the most optimal combination of items (DeVellis, 2016).

An early draft of the survey instrument was reviewed by 30 school and system leaders during a workshop at the UCL Institute of Education in England. A revised survey instrument was discussed during an expert meeting organised at the OECD. The panel of 14 international experts had in-depth knowledge and practical skills in survey design and statistical analysis, the (school as a) learning organisation, innovative learning environments, and school improvement more broadly. Much effort was devoted to deleting items that overlapped and clarifying and shortening the survey item text. The decision was also made to follow the example of the *Dimensions of the Learning School Questionnaire* (Akram, Watkins, & Sajid, 2013) to standardise the format of all items by using the introduction text ‘*In my school ...*’.

These and other decisions resulted in a survey consisting of 72 items across the seven theorised school as a learning organisation dimensions.

4.4.2 Tailoring the survey to the Welsh context and revision

The survey was then tailored to the Welsh context with the support of a group of stakeholders from various levels of Wales’ education system. The developmental work was shaped through a series of workshops and meetings that were facilitated by OECD. This work included a field trial of the survey, using a purposeful sample of 32 schools (OECD, 2018). These efforts resulted in a 69-item survey that was ready for use as part the OECD study in Wales.

4.4.3 Sampling and Response Rate

A random sample of 40% of primary, middle and secondary schools in Wales was selected to be part of the survey. A small number of schools were excluded from this sample because of several

reasons, including scheduled closings or mergers of schools. This resulted in a final sample of 571 schools (i.e. 38% of schools in Wales in 2017) whose staff were invited to complete the online survey. A total of 1 703 school staff – 336 school leaders, 811 teachers, 382 learning support staff and 174 respondents who did not indicate their position – from 178 different schools throughout Wales did so. From these 178 schools on average 28% of staff responded to the survey. A detailed analysis of the data showed that these schools sufficiently matched the overall school population in Wales (OECD, 2018).

4.5 Results

4.5.1 Results of the Principal Component Analysis

After controlling for the suitability of the data, the study moved forward with a principal component analysis. This is a proven procedure in scale development, commonly used in the social sciences (Field, 2013; Tummers, 2012). At this early stage in developing a SLO scale, this method is favoured over methods that test hypothesised groups, such as confirmatory factor analysis. The choice was made for an oblique rotation because this is the favoured rotation method when components are expected to be related (Field, 2013), which was expected to be the case.

The findings of the principal component analysis to a large extent supported the theorised SLO model. The data however revealed a scale consisting of eight dimensions, instead of the theorised seven dimensions (Welsh Government, 2019). The data suggested that the dimension “developing a shared vision centred on the learning of all students” consisted of two dimensions. These were labelled as “shared vision centred on the learning of all students” and “partners contributing to the school’s vision”.

Furthermore, the initial component solution contained three survey items that did not load on any of the dimensions (i.e. loading > 0.40). The data also revealed one item in the second component solution that did not load on the correct dimension from a theoretical perspective. These four items were deleted.

A third component solution revealed two items that double loaded on two dimensions. The decision was made to allocate the two items to the dimension on which they loaded the heaviest. Having obtained the component structure, the Cronbach alpha was determined for each dimension. The

Cronbach alpha's were all above the 0.80 threshold for newly developed scales (Byrne, 2010; Field, 2013). The results are shown in Table 4.1.

Table 4.1 School as a learning organisation dimension loadings

Survey items	Component (C) loadings							
	C1	C2	C3	C4	C5	C6	C7	C8
The school's vision is aimed at enhancing student's cognitive and social-emotional outcomes, including their well-being.	.765							
The school's vision emphasises preparing students for their future in a changing world.	.729							
The school's vision embraces all students.	.736							
Learning activities and teaching are designed with the school's vision in mind.	.660							
The school's vision is understood and shared by all staff working in the school.	.571							
Staff are inspired and motivated to bring the school's vision to life.	.461							
All staff are involved in developing the school's vision.	.519							
School governors are involved in developing the school's vision.	.472							
Students are invited to contribute to the school's vision.		.582						
Parents are invited to contribute to the school's vision.		.737						
External partners are invited to help shape the school's vision.		.704						
Professional learning of staff is considered a high priority.			.798					
Staff engage in professional learning to ensure their practice is critically informed and up to date.			.814					
Staff are involved in identifying the objectives for their professional learning.			.854					
Professional learning is focused on students' needs.			.675					
Professional learning is aligned to the school's vision.			.621					
Mentors/coaches are available to help staff develop their practice.			.697					
All new staff receives sufficient support to help them in their new role.			.461					
Staff receive regular feedback to support reflection and improvement.			.612					
Staff have opportunities to experiment with and practise new skills			.429					
Beliefs, mind sets and practices are challenged by professional learning.			.495					
Staff collaborate to improve their practice.				.612				
Staff learn how to work together as a team.				.747				
Staff help each other to improve their practice.				.759				
Staff give honest feedback to each other.				.593				
Staff listen to each other's ideas and opinions.				.825				
Staff feel comfortable turning to others for advice.				.850				
Staff treat each other with respect.				.856				
Staff spend time building trust with each other.				.798				
Staff think through and tackle problems together.				.776				
Staff reflect together on how to learn and improve their practice.				.697				
Staff are encouraged to experiment and innovate their practice.					.520			
Staff are encouraged to take initiative.					.472			
Staff are supported when taking calculated risks.					.517			
Staff spend time exploring a problem before taking action.					.617			
Staff engage in inquiry (i.e. pose questions, gather and use evidence to decide how to change their practice and evaluate its impact).					.739			
Staff are open to thinking and doing things differently.					.773			
Staff are open to others questioning their beliefs, opinions and ideas.					.737			
Staff openly discuss failures in order to learn from them.					.588			
Problems are seen as opportunities for learning.					.614			
The school's development plan is based on learning from continuous self-assessment and updated at least once every year.						.565		
Structures are in place for regular dialogue and knowledge sharing among staff.						.511		
Evidence is collected to measure progress and identify gaps in the school's performance.						.704		
Staff analyse and use data to improve their practice.						.937		

Staff use research evidence to improve their practice.									.653		
Staff analyse examples of good / great practices and failed practices to learn from them.									.652		
Staff learn how to analyse and use data to inform their practice.									.744		
Staff regularly discuss and evaluate whether actions had the desired impact and change course if necessary.									.486		
Staff actively collaborate with social and health services to better respond to students' needs.									.562		
Staff actively collaborate with higher education institutions to deepen staff and student learning.									.740		
Staff actively collaborate with other external partners to deepen staff and student learning.									.663		
Staff collaborate, learn and share knowledge with peers in other schools.									.605		
The school as a whole is involved in school-to-school networks or collaborations.									.631		
Leaders participate in professional learning to develop their practice.										.657	
Leaders facilitate individual and group learning.										.731	
Leaders coach those they lead.										.893	
Leaders develop the potential of others to become future leaders.										.877	
Leaders provide opportunities for staff to participate in decision making.										.894	
Leaders provide opportunities for students to participate in decision making.										.743	
Leaders give staff responsibility to lead activities and projects.										.644	
Leaders spend time building trust with staff.										.873	
Leaders put a strong focus on improving learning and teaching.										.599	
Leaders ensure that all actions are consistent with the school's vision, goals and values.										.721	
Leaders anticipate opportunities and threats.										.739	
Leaders model effective collaborations with external partners.										.663	
Cronbach's alpha	0.914	0.829	0.933	0.947	0.921	0.911	0.851	0.958			
N	1703										

Note: The numbers in the table after each of the items are component/dimension scores.

4.5.2 Descriptive Statistics

Having identified the items belonging to each component/dimension, the study continued by determining the degree of variance in scores on these. The component/dimension scores were measured by weighting all items equally (see Table 4.2).

Table 4.2 Descriptive statistics of the eight identified dimensions

	Min	Max	Mean	SE
Shared vision centred on learning of all students	1.00	5.00	4.14	0.67
Partners contributing to school vision	1.00	5.00	3.73	0.73
Creating and supporting continuous learning opportunities for all staff	1.00	5.00	3.96	0.70
Promoting team learning and collaboration among all staff	1.20	5.00	4.11	0.67
Establishing a culture of inquiry, innovation and exploration	1.00	5.00	3.92	0.67
Embedding systems for collecting and exchanging knowledge and learning	1.88	5.00	4.13	0.61
Learning with and from the external environment and larger learning system	1.00	5.00	3.98	0.65
Modelling and growing learning leadership	1.00	5.00	4.07	0.70

The data showed that staff differ in their views about their schools; although the average scores on the school as a learning organisation dimensions are quite high, there is significant variance between and within them. For example, there is a 0.41 difference between the averages of the dimensions “shared vision centred on learning of all students” and “partners contributing to the school’s vision”. The data also revealed that under the dimensions “shared vision centred on learning of all students” and “creating and supporting continuous learning opportunities for all staff” two items had a standard deviation that was larger than 1.

In line with other research, the data showed that a person’s position in the hierarchy of an organisation influences their perception of it (Enticott, Boyne, & Walker, 2008; George & Desmidt, 2018; McCall, Smith, McGilchrist, & Boyd, 2001). Table 4.3 for example shows that teachers and learning support staff are significantly less positive than school leaders in how they view their school to create and support the continuous learning opportunities of all staff.

Table 4.3 Descriptive statistics of the dimension “creating and supporting continuous learning opportunities for all staff”, by job position

“Creating and supporting continuous learning opportunities for all staff”	Min	Max	Mean	SE
Head teachers	3.11	5.00	4.34	0.40
Deputy head teachers	3.00	5.00	4.34	0.49
Assistant head teachers	1.00	5.00	4.24	0.72
Teachers	1.10	5.00	3.85	0.71
Learning support staff	1.20	5.00	3.98	0.69

4.5.3 Results of Construct Validity Tests⁴

The principal component analysis led to the decision to delete only four items. Six dimensions had a Cronbach’s alpha higher than 0.90. This could indicate some redundancy in the content of the items that can artificially increase the internal consistency of the dimension (Field, 2013; DeVellis, 2016). In response to this finding, and in an attempt to see whether it was possible to further reduce the number of survey items (to shorten the survey and time for future respondents to complete it), we controlled all dimensions to see what happened to the Cronbach’s alpha if a particular item was deleted (Byrne, 2010; Field, 2013). A review of the item-test correlation and the expected reliability after deleting each of the items revealed that none of the items needed to be deleted. This finding

⁴ Chapter 8 examines the relationship between the SLO and its relationship with staff job satisfaction and as such will also give insight into the predictive validity of the SLO scale.

gave us further confidence in the validity of the SLO scale consisting of 65 survey items across the eight identified dimensions.

4.6 Discussion and conclusion

4.6.1 Discussion

The purpose of this chapter was to develop a valid scale that allows for the holistic measurement of a SLO; thereby responding to the second sub-question of our study, “*how can a school as a learning organisation be measured?*”. Our SLO scale offers an alternative to existing scales (Bowen, Rose, & Ware, 2006; Akram, Watkins, & Sajid, 2013; Silins, Zarins, & Mulford, 2002). Based on the theoretical SLO model presented in Chapter 3 an initial scale was developed. Contrary to much of the literature and developed scales, this scale clarifies the content of a school’s vision by focussing it on the realisation of a broad range of learning outcomes of all its students, has a strong focus on networked learning and collaborations across school boundaries, and recognises the importance of learning support staff.

Furthermore, this scale was refined several times based on feedback provided by a large number of experts, including representatives from schools and other education stakeholders in Wales; thereby increasing its relevance and support for using the scale to inform school improvement efforts.

The refined scale was validated in a survey of 1703 school staff, i.e. school leaders, teachers and learning support staff of schools throughout Wales. The results revealed an SLO scale consisting of 65 items across eight dimensions: 1) developing a shared vision centred on learning of all students; 2) partners contributing to the school’s vision; 3) creating and supporting continuous learning opportunities; 4) promoting team learning and collaboration; 5) establishing a culture of enquiry, innovation and exploration; 6) embedding systems for collecting and exchanging knowledge and learning; 7) learning with and from the external environment; and 8) modelling and growing learning leadership (see Annex 4A).

The construct validity of the scale was further examined by looking at the item-test correlation and the expected reliability after deleting each of the items. This showed that none of the items needed to be deleted. This finding gave us further confidence in the validity of the SLO scale consisting of 65 survey items across the eight identified dimensions.

Like all studies, this study has its limitations. It should be viewed as a first effort of developing a scale for measuring the SLO that is applicable to different country contexts. The scale could be improved by rephrasing the one survey item that was found to load on the wrong dimension from a theoretical perspective: ‘students are encouraged to give feedback to teachers and support staff’. This is the only item in this dimension that begins with the word ‘students’. Rephrasing of the item may address this issue. Ideally this is done with the support of school staff, policy makers and other stakeholders of the country in which the survey is conducted. Furthermore, although arguably not for Wales, in future trials of the scale the four deleted items could again be included given their theoretical relevance.

Once the scale has been improved a logical direction for further research would be to retest it among school staff in Wales, as well as test it in other countries striving to establish collaborative learning cultures in their schools. For Wales, principal component analysis or exploratory factor analysis – two often used data reduction methods in initial stages of scale development (Field, 2013), could be complemented with or replaced by confirmatory factor analysis. The latter allows for testing the hypothesis that a relationship exists between the observed variables and their underlying latent construct(s) (Field, 2013; DeVellis, 2016), i.e. the testing of our SLO model through the survey data. It would be particularly interesting to explore whether the data once more reveals an eight-dimension scale rather than the theorised seven dimensions.

For other countries, it would seem desirable to start by reviewing the scale to align it to the national context. Principal component analysis or exploratory factor analysis and reliability analysis may then be used to validate the scale. Again, it will be interesting to learn whether the data from other countries reveal a similar eight-dimension scale as was the case in Wales.

4.6.2 Conclusion

Although a growing body of scholars, educators and policy makers have argued for reconceptualising schools as learning organisations, a lack of clarity on the concept and the limited number of scales available to measure the concept may have hindered its advance in theory and practice. This chapter also pointed to shortcomings of existing scales. It responded to these by describing the development of a scale that allows for the holistic measurement of the SLO, consisting of 65 items and demonstrating good psychometric qualities.

The evidence suggests that such a scale can be valuable for scholars, educators, policy makers and others interested in developing schools as learning organisations. First, as this study has done, it can be used to exploring the characteristics of a SLO, although recognising methods such as confirmatory factor analysis would be needed to confirm or reject the theory that the SLO consists of seven underlying dimensions as proposed in Chapter 3. Second, it could serve the purpose of the development and/or strengthening of theory, for example by exploring the relationship with other variables like student outcomes or staff well-being.

Third, in terms of the practical relevance of the scale, it can be used to guide school staff, the local community, (local) policy makers and others who are striving to develop their schools as learning organisations. This option is currently explored in Wales where efforts are made to integrate Wales' schools as learning organisations model (Welsh Government, 2019) and the in this chapter identified scale in school self-evaluation and development processes (Estyn, 2018; OECD, 2018).

Fourth, the SLO scale can also be used by policy makers as it allows for system-level monitoring of the progress schools are making towards developing as learning organisations by identifying strengths and areas for further improvement. Information on these issues could inform improvement strategies. This may include sharing of the identified strengths and/or 'good practices' to inspire and inform other schools in their efforts to establish a sustainable learning culture in their schools.

Additional research, both theoretical and applied, is needed to further explore the scale and its associated value. Lessons learned from applying a contextualised SLO scale in other countries will be essential for working towards a common understanding of the characteristics that make a SLO. Although reaching consensus is a daunting task, it could be achieved through further research and sustained dialogue among scholars, policy makers and educators internationally.

Now that we have identified a SLO model and corresponding scale that allows for its holistic measurement, this study continues by examining whether context matters to schools wanting to develop as learning organisations. It will explore what factors enable or hinder schools in developing as learning organisations (in Chapters 5 and 6), before turning to the examination of the SLO and its association with HR outcomes (in Chapters 7 and 8).

REFERENCES

- Akram, M., Watkins, K., & Sajid, S. (2013). Comparing the Learning Culture of High and Low Performing High Schools in Pakistan. *Literacy Information and Computer Education Journal*, 4(2), 1022-1028.
- Bowen, G., Rose, R., & Ware, W. (2006). The Reliability and Validity of the School Success Profile Learning Organization Measure. *Evaluation and Program Planning*, 29, 97-104.
- Byrne, B. (2010). *Structural Equation Modeling in AMOS*. New York: Routledge Taylor Francis Group.
- DeVellis, R. (2016). *Scale development: Theory and applications*. Los Angeles: Sage Publications Inc.
- Enticott, G., Boyne, G., & Walker, R. (2008). The Use of Multiple Informants in Public Administration Research: Data Aggregation Using Organizational Echelons. *Journal of Public Administration Research and Theory*, 19(2), 229-253.
- Estyn. (2018). *A national evaluation and improvement resource for schools*. Retrieved from Estyn: <https://www.estyn.gov.wales/inspection/national-evaluation-and-improvement-resource-schools>.
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. London: Sage Publications Ltd.
- George, B., & Desmidt, S. (2018). Strategic-Decision Quality in Public Organizations: An Information Processing Perspective. *Administration & Society*, 50(1), 131-156.
- George, B., & Pandey, S. (2017). We know the yin—but where is the yang? Toward a balanced approach on common source bias in public administration scholarship. *Review of Public Personnel Administration*, 37(2), 245-270.
- Harris, M., & Tassell, F. (2005). The professional development school as learning organization. *European Journal of Teacher Education*, 28(2), 179-194.

- Kahne, J., O'Brien, J., Brown, A., & Quinn, T. (2001). Leveraging Social Capital and School Improvement: The Case of a School Network and a Comprehensive Community Initiative in Chicago. *Educational Administration Quarterly*, 37(4), 429-461.
- Kaser, L., & Halbert, J. (2014). Creating and Sustaining Inquiry Spaces For Teacher Learning and System Transformation. *European Journal of Education*, 49(2), 206-217.
- McCall, J. S., Smith, I., McGilchrist, B., & Boyd, B. (2001). Views of pupils, parents and teachers: vital indicators of effectiveness and for improvement. In J. MacBeath, & P. Mortimore (Eds.), *Improving School Effectiveness*. Buckingham: Open University Press.
- McNabb, D. (2015). *Research Methods in Public Administration and Nonprofit Management*. New York: Routledge.
- OECD. (2010). *Innovative Workplaces: Making Better Use of Skills within Organisations*. OECD Publishing, Paris.
- OECD. (2018). *Developing Schools as Learning Organisations in Wales*. Paris: OECD Publishing.
- Örtenblad, A. (2004). A Typology of the idea of Learning Organization. *Management Learning*, 33(2), 213-230.
- Senge, P. e. (1990). *The Fifth Discipline: The Art and Practice of the Learning Organisation*. New York: Currency Doubleday.
- Senge, P., Cambron-McCabe, N., Lucas, T., Smith, B., & Dutton, J. (2012). *Schools That Learn*. New York: Crown Business.
- 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.
- Tummers, L. (2012). Policy Alienation of Public Professionals: The Construct and Measurement. *Public Administration Review*, 72(4), 516-525.
- Watkins, K., & Marsick, V. (1996). *In action: Creating the learning organization*. Alexandria: American Society for Training and Development.

- Watkins, K., & Marsick, V. (1999). Schools as Learning Communities. Sculpting the Learning Community: New Form of Working and Organizing. *NASSP Bulletin*, 83(604), 78-87.
- Welsh Government. (2019). *Schools as learning organisations*. Retrieved from HWB: <https://hwb.gov.wales/professional-development/schools-as-learning-organisations/>
- 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.

Annex 4A. Schools as learning organisations scale

A. Developing a shared vision centred on the learning of all students

“In my school,”

- A1. The school’s vision is aimed at enhancing student’s cognitive and social-emotional outcomes, including their well-being
- A2. The school’s vision emphasises preparing students for their future in a changing world
- A3. The school’s vision embraces *all* students
- A4. Learning activities and teaching are designed with the school’s vision in mind
- A5. The school’s vision is understood and shared by all staff working in the school
- A6. Staff are inspired and motivated to bring the school’s vision to life
- A7. All staff are involved in developing the school’s vision
- A8. School governors are involved in developing the school’s vision
- A9. Students are invited to contribute to the school’s vision
- A10. Parents are invited to contribute to the school’s vision
- A11. External partners are invited to help shape the school’s vision

B. Promoting and supporting continuous professional learning for all staff

“In my school, ...”

- B1. Professional learning of staff is considered a high priority
- B2. Staff engage in professional learning to ensure their practice is critically informed and up to date
- B3. Staff are involved in identifying the objectives for their professional learning
- B4. Professional learning is focused on students’ needs
- B5. Professional learning is aligned to the school’s vision
- B6. Mentors/coaches are available to help staff develop their practice
- B7. All new staff receive sufficient support to help them in their new role
- B8. Staff receive regular feedback to support reflection and improvement
- B9. Students are encouraged to give feedback to teachers and support staff *
- B10. Staff have opportunities to experiment with and practise new skills
- B11. Beliefs, mind sets and practices are challenged by professional learning

C. Fostering team learning and collaboration among staff

“In my school, ...”

- C1. Staff collaborate to improve their practice
- C2. Staff learn how to work together as a team
- C3. Staff help each other to improve their practice
- C4. Staff observe each other’s practice and collaborate in developing it *
- C5. Staff give honest feedback to each other
- C6. Staff listen to each other’s ideas and opinions
- C7. Staff feel comfortable turning to others for advice
- C8. Staff treat each other with respect
- C9. Staff spend time building trust with each other
- C10. Staff think through and tackle problems together
- C11. Staff reflect together on how to learn and improve their practice

D. Establishing a culture of enquiry, exploration and innovation

“In my school, ...”

- D1. Staff are encouraged to experiment and innovate their practice
- D2. Staff are encouraged to take initiative
- D3. Staff are supported when taking calculated risks
- D4. Staff spend time exploring a problem before taking action
- D5. Staff engage in enquiry (i.e. pose questions, gather and use evidence to decide how to change their practice, and evaluate its impact)
- D6. Staff are open to thinking and doing things differently
- D7. Staff are open to others questioning their beliefs, opinions and ideas
- D8. Staff openly discuss failures in order to learn from them
- D9. Problems are seen as opportunities for learning

E. Embedding systems for collecting and exchanging knowledge and learning

“In my school, ...”

- E1. The school’s development plan is based on learning from continuous self-assessment and updated at least once every year
- E2. Structures are in place for regular dialogue and knowledge sharing among staff
- E3. Evidence is collected to measure progress and identify gaps in the school’s performance
- E4. Staff analyse and use data to improve their practice
- E5. Staff use research evidence to improve their practice
- E6. Staff analyse examples of good/great practices and failed practices to learn from them
- E7. Staff learn how to analyse and use data to inform their practice
- E8. Staff regularly discuss and evaluate whether actions had the desired impact and change course if necessary

F. Learning with and from the external environment and larger system

“In my school, ...”

- F1. Opportunities and threats outside the school are monitored continuously to improve our practice *
- F2. Parents/guardians are partners in the school’s organisational and educational processes *
- F3. Staff actively collaborate with social and health services to better respond to students’ needs
- F4. Staff actively collaborate with higher education institutions to deepen staff and student learning
- F5. Staff actively collaborate with other external partners to deepen staff and student learning
- F6. Staff collaborate, learn and share knowledge with peers in other schools
- F7. The school as a whole is involved in school-to-school networks or collaborations

G. Modelling and growing learning leadership

“In my school...”

- G1. Leaders participate in professional learning to develop their practice
- G2. Leaders facilitate individual and group learning
- G3. Leaders coach those they lead
- G4. Leaders develop the potential of others to become future leaders
- G5. Leaders provide opportunities for staff to participate in decision making

- G6. Leaders provide opportunities for students to participate in decision making
- G7. Leaders give staff responsibility to lead activities and projects
- G8. Leaders spend time building trust with staff
- G9. Leaders put a strong focus on improving learning and teaching
- G10. Leaders ensure that all actions are consistent with the school's vision, goals and values
- G11. Leaders anticipate opportunities and threats
- G12. Leaders model effective collaborations with external partners

Note: * Indicates the survey items that the principal component analysis and reliability analysis found not to fit the school as a learning organisation in Wales.

**CHAPTER 5. INDIVIDUAL AND ORGANISATION ANTECEDENTS OF
SCHOOLS AS LEARNING ORGANISATIONS**

5.1 Introduction

This chapter sets out to answer the question, “*what antecedents influence schools in developing as learning organisations?*” – the third sub-question of this study. Despite the steadily growing support among scholars, educators and policy makers for developing schools as learning organisations, little is known about the antecedents that enable or hinder schools in developing as learning organisations. This chapter is our initial attempt to respond to this gap in research knowledge as it examines several individual and organisational antecedents that are theorised to influence schools developing as learning organisations – an effort that will be continued in the following chapter through a qualitative comparative case study analysis. For this chapter hierarchical linear modelling (HLM) is used on a survey of 1703 school staff from 178 schools in Wales that was linked to available administrative data.

The chapter starts by positioning the school as a learning organisation in the innovation literature (Section 5.2). It then explores three antecedents that are theorised to be of influence on schools developing as learning organisations: A respondent’s job position (H1), the socio-economic status of the school’s student population (H2) and organisational type (primary or secondary school, H3). Having posed three hypotheses to guide the research, a short description of Wales’ school system is provided to contextualise the study (Section 5.4). The chapter then explains the methodology (Section 5.5), followed by a presentation of and a discussion on the results of the HLM analysis (Sections 5.6 and 5.7). This includes a discussion on the limitations of the study and making suggestions for further research.

5.2 The school as a learning organisation as an organisational process innovation

5.2.1 The school as a learning organisation as a catalyst for change and innovation

Against a backdrop of increasing globalisation, the rapid pace of technological innovation, a growing knowledge workforce, and shifting social and demographic trends, few would dispute that the primary task for management today, whether in public- or private organisations, is the leadership of organisational change and innovation (Fernandez & Rainey, 2006; Plowman, et al., 2007; Damanpour & Schneider, 2009; Agostino, Arena, & Arnaboldi, 2013; Schleicher, 2018). The highly competitive and demanding world requires public organisations to be innovative, for public service managers and professionals to have the skills, opportunity and motivation to innovate effectively

and successfully. Innovation can contribute to improving the quality of public services as well as enhancing the problem-solving capacity of public organisations in dealing with societal challenges (Damanpour & Schneider, 2009). Hence, innovation is not an optional luxury for public services and the public sector: it is core and needs to be institutionalized as a deep value (Albury, 2005).

Organisational change is a complex, multifaceted process however and creating sustainable change is hard (Kuipers, et al., 2014; Walker, 2006). Whilst many public organisations have embarked on a path of change and innovation, many do not achieve the intended outcomes (Potts, 2009; Pollitt & Bouckaert, 2011). The education sector is no exception to this. Countries have been trying to accommodate their increasingly complex education systems to the changing times, but the education sector does not always have a good track record of innovating itself. In many cases, reforms have failed to take hold in the classrooms or at best get adopted on the surface without altering behaviours and beliefs (Fullan, 2015). Many reform efforts and policies have also failed to adequately prepare schools for the changing environment (Giles & Hargreaves, 2006; Viennet & Pont, 2017). Meanwhile, schools are urged to learn and adapt, with teachers expected to become ‘knowledge workers’ in order to deal effectively with the growing pressures of a rapidly changing environment (Schleicher, 2018).

Against this backdrop, policy makers, scholars and educators have searched for alternative strategies that could foster system-wide change and innovation and affect all aspects of organisations’ culture. A seeming steadily growing body of scholars, policy makers and educators have during the last 25 years argued for developing schools as learning organisations which they consider the ideal type of organisation for dealing with the changing external environment, for facilitating organisational change and innovation, and even improvements in student- and HR outcomes (Watkins & Marsick, 1999; Silins, Zarins, & Mulford, 2002; Silins & Mulford, 2004; Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012).

As discussed in Chapter 3, we define a school that is a learning organisation as one 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 all 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. In short, a SLO that 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.

5.2.2 The learning organisation as an organisational process innovation

We argue that the (school as a) learning organisation itself can be considered an innovation; a process innovation to be more specific. Process innovations change relationships amongst organisational members and affect rules, roles, procedures and structures, communication and exchange among organisational members as well as between the environment and organisational members. Process innovations as such do not directly produce products or services, but indirectly influence their introduction (De Vries, Bekkers, & Tummers, 2014; Damanpour & Schneider, 2009; Walker, 2006).

The literature identifies two types of process innovations (Edquist, Hommen, & McKelvey, 2001). Technological innovations are associated with changes in physical equipment, techniques and organisational systems. The second type – to which the (school as a) learning organisation belongs – is an organisational process innovation which occurs in the structure, strategy, administrative processes and could include the introduction of new management practices or a new organisational structure (Light, 1999; Walker, 2006). In the case of the SLO, all of these changes and innovations are geared towards creating the conditions for a learning culture to emerge and be sustained.

5.3 Antecedents of schools developing as learning organisations

The evidence base on the factors influencing the adoption and implementation of innovations is longstanding (Mohr, 1969) and this includes the literature on public organisations (Light, 1999; Walker, 2006; Amayah, 2013; De Vries, Bekkers, & Tummers, 2014). Antecedents can, depending on their level and the specific context, be either a driver or a barrier. An organisational level antecedent, leadership or decision-making style that is effective in some situations, may not be successful in other situations. The optimal organisation, leadership or decision-making style depends upon various internal and external factors. There as such is no one-size fits all set of injunctions to resolve public management issues, and contingency theory has been promoted in public management research in support of this notion (O'Toole & Meier, 1999). Contingency theory views organisational design as 'a constrained optimization problem', meaning that an organisation

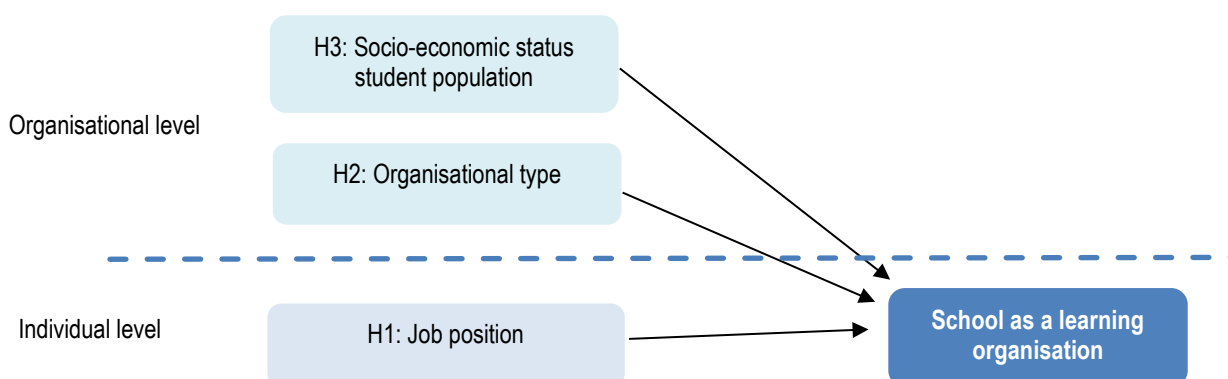
must try to maximize performance by minimizing the effects of varying external and internal factors (Walker, 2007).

It is therefore important to take stock of the antecedents of the SLO. Despite the intuitive appeal and seeming steadily growing support for developing such schools however, understanding how to create SLOs has remained an elusive phenomenon (Gandolfi, 2006; Silins, Zarins, & Mulford, 2002; Harris & Jones, 2018). This chapter is an initial attempt to take stock of the existing knowledge on the antecedents of the SLO. It aims to expand on the literature by exploring the influence of a selection of antecedents. De Vries, Bekkers and Tummers (2014) offer a useful categorisation that we will adopt in this (and the following) chapter. They have categorised innovation antecedents on the basis of four levels:

- Environmental level: external context (e.g. the policy objective to develop schools as learning organisations, support offered by the system to schools).
- Organisational level: aspects that include the structural and cultural features of an organization (e.g. availability organisational resources, leadership style).
- Innovation level: intrinsic attributes of an innovation (e.g. complexity of the innovation (as perceived by prospective adopters)).
- Individual/employee level: characteristics of individuals who innovate (e.g. innovative or entrepreneurial employees).

In this chapter, HLM analysis is applied to examine several individual and organisational antecedents that are believed to influence schools developing as learning organisations: the socio-economic status of the school's student population, organisational type (i.e. primary- or secondary school) (both at organisational level) and a person's job position (individual level). The chapter as such examines only two categories of innovation antecedents: at the organisational level and the individual level. The following chapter (6) as mentioned aims to expand on this analysis through a qualitative comparative case study analysis that will identify innovation antecedents across all four levels of innovation antecedents (De Vries, Bekkers, & Tummers, 2014). Figure 5.1 presents the subsequent conceptual model of this chapter.

Figure 5.1 Hierarchical linear model predicting schools as learning organisations



5.3.1 Relationship between the learning organisation and staff position

Various studies have explored the characteristics that make a SLO by seeking the views of the people working in them, including by using survey research (Bowen, Rose, & Ware, 2006; Akram, Watkins, & Sajid, 2013; Silins, Zarins, & Mulford, 2002). Little is known however about whether there are differences in opinions between staff working in different positions in how they perceive their school to function as a learning organisation. This while identifying such potential differences, or commonalities could be most informative to those wanting to develop their schools as learning organisations. In particular differences in views are important. Although there are bound to be some differences in perceptions between staff in different positions, as some staff may simply be better informed due to the nature of their work, significant differences point to the need for more professional dialogue, sharing of information and possible other actions if a school is to develop in a learning organisation (OECD, 2018).

Research evidence from the fields of public administration and education suggests that a person's position in the hierarchy of an organisation is one of the factors influencing his/her perceptions of it (Enticott, Boyne, & Walker, 2008; George & Desmidt, 2018; Boreham & Reeves, 2008). Survey research in public organisations shows that senior staff typically are more positive about management reform and service improvement processes than lower ranking staff (George & Desmidt, 2018; Boreham & Reeves, 2008).

Particularly relevant to this study, Boreham and Reeves (2008) used survey research to explore the views of different staff in schools in Scotland in the extent they believed they were participating in

an organisational learning culture. The authors found that staff in senior management positions rated most of the survey items significantly more positively than staff in middle management positions or class teachers. Hence, based on this study specifically applied to organisational learning, as well as other work in education and public administration on differing staff perceptions more broadly, we argue that school leaders are more likely to perceive their school to function as a learning organisation, compared with teachers and learning support staff.

Hypothesis 1: School leaders are more likely to perceive their school to function as a learning organisation, compared with teachers and learning support staff.

5.3.2 Relationship between the learning organisation and school type

Little is known about the relationship between school type and its development into a learning organisation. Some studies suggest that as secondary schools on average are often considerably larger than primary schools (OECD, 2019) this may enhance their ability to develop as learning organisations. These studies show that larger organisations have more opportunities to cross-fertilize ideas, have a workforce with a broader range of skills and more resources that can be devoted to organisational learning than smaller organisations (Walker, 2006; Damanpour & Schneider, 2009). Larger organisations are also claimed to have greater control over the external environment (Damanpour & Schneider, 2009). Moloi, Glober and Gravett (2006) in their study on the SLO in the Vanderbijl Park-North District in South Africa found evidence of this. Their study which was based on 734 survey responses by education practitioners from a random sample of 20 primary and 30 secondary schools showed that the latter were more likely to develop as learning organisations.

Yet evidence of the opposite has also been put forward. Collective thinking and team learning are at the heart of the learning organisation (Yang, Watkins, & Marsick, 2004; Senge, 1990). According to knowledge-based theories, organisations are social communities where individual and social expertise is transformed into economically useful products and services (Kogut & Zander, 1992). Classical organization theory suggests that the strength of the ties between employees is likely to be weaker in large organisations. Scholars have argued that the complexity of the relations among employees is increasing with size; not linearly but exponentially (Serenko, Bontis, & Hardie, 2007).

The complexity of communication is believed to increase in larger organisations thereby hindering the sharing of knowledge and organisational learning.

There is some empirical evidence from the field of education that supports these findings. For example, Louis and Lee (2016) found that teachers in lower and upper secondary schools are less likely than their counterparts in elementary schools to perceive a well-developed capacity for organisational learning in their schools. The authors noted one of the possible reasons for this is that secondary schools are more likely to be compartmentalized by their subject specializations, whereas in elementary schools teachers teach a set of common subjects whereby they may have more various opportunities to learn collectively (Wahlstrom & Louis, 2008). Also, Boreman and Reeves (2008) in their study of 93 schools in a Scottish education authority found that staff in the primary sector rated their schools having a stronger organisational learning culture than their peers in secondary schools. This shows that the issue is not clear cut. In our view however, the (limited) evidence available and theoretical reasoning by drawing from classical organization theory balances out against secondary schools.

Hypothesis 2: The average school as a learning organisation score is significantly lower in secondary schools than in primary schools.

5.3.3 Relationship between the learning organisation and socio-economic background of schools

Research evidence shows that schools serving low-income families are more likely to employ inexperienced and sometimes less effective teachers, have higher teacher turnover and have access to fewer resources than their peers in advantaged schools (Gagnon & Mattingly, 2015; Carroll, Fulton, Abercrombie, & Yoon, 2004; OECD, 2016). Furthermore, Silins, Zarins and Mulford (2002) found that one of the key factors for schools to make this transformation is the extent to which time and other resources are perceived as sufficient for learning to occur (Silins, Zarins, & Mulford, 2002). Although there is paucity in the study of schools as learning organisations in difficult socio-economic contexts (Moloi, 2010), this may suggest that disadvantaged schools are likely to face additional barriers in developing as learning organisations.

Hypothesis 3: The average school as a learning organisation score is significantly lower in socio-economically disadvantaged schools than in socio-economically advantaged schools

5.4 The Welsh context

Wales is a small country with about 3.1 million inhabitants that is part of the United Kingdom (Office of National Statistics, 2016). Education is a public priority in Wales. The country is committed to providing high quality and inclusive education for all its citizens (Welsh Government, 2017). The disappointing results on OECDs 2009 Programme for International Student Assessment (PISA) however showed it was far from realising this commitment. A national debate on the quality and future of education followed and resulted in broad consensus on the need for change. In 2011 the country embarked on a large-scale reform to improve the quality and equity of its school system.

In support of the latter, Wales has implemented several policies like the Pupil Development Grant that aim to support students with a disadvantaged background overcome the additional barriers that prevent them from reaching their full potential. The evidence suggests these policies are having a positive influence on students' learning opportunities (OECD, 2017). PISA 2015 for example found that student performance is less dependent on a student's socio-economic background than the OECD average (OECD, 2016).

Wales' reform effort has in recent years become increasingly comprehensive and focused on developing and putting a new curriculum into practice in all schools by September 2022 (OECD, 2018). Welsh Government considers the development of schools as learning organisations vital for realising this objective (Welsh Government, 2017). It recognises it will require concerted effort and in many cases enhancing the skills of teachers, school leaders and many others involved to achieve this objective (Donaldson, 2015; Welsh Government, 2017). Their engagement in continuous collaborative learning and working is believed essential for the curriculum reform to succeed.

With the curriculum reform moving into the implementation phase, it is timely to learn more about the antecedents that enable or hinder schools in developing as learning organisations. The findings of this study may inform policy makers, educators and other parties involved in designing strategies to support schools in making this transformation.

5.5 Methods

To test our hypotheses HLM was applied, making use of data that was collected through the Schools as Learning Organisations Survey as part of an OECD study on the development of schools as learning organisations in Wales (OECD, 2018) that was linked to administrative data available on

the My Local School website (<http://mylocalschool.wales.gov.uk/?lang=cy>). HLM was used because of two reasons (Hox, Moerbeek, & van de Schoot, 2017): (1) our data are nested (individual respondents nested in a school), which implies that we do not meet the independence assumption underlying classical regression analysis and (2) our hypotheses are at the individual and organisational level, treating these variables as if they are all at the individual level would result in potential Type I error.

5.5.1 Survey sample

As discussed in Chapter 4, a random sample of 40% of schools in Wales resulted in 1703 responses from staff in 178 schools across Wales. From these 178 schools on average 28% of staff responded to the survey. A detailed analysis of the data showed that these schools sufficiently matched the overall school population in Wales (OECD, 2018).

5.5.2 Dependent variable

The 65 core items of the SLO survey as discussed earlier (in Chapter 4) respond to the seven dimensions of the SLO (Welsh Government, 2019). These items are on a five-point Likert scale (1= ‘strongly disagree’, 2 = ‘disagree’, 3 = ‘neutral’, 4 = ‘agree’, 5 = ‘strongly agree’). This type of self-reported scale is commonly used in public administration to measure core public management and governance concepts (George & Pandey, 2017; McNabb, 2015).

The dependent variable of the HLM analysis is the SLO. This was defined through principal component analysis and reliability analysis and then averaging of the identified SLO dimensions into one score; an index of the SLO. To explain in more detail, the principal component analysis and reliability analysis revealed eight dimensions, rather than the seven dimensions that were theorized (see Table 5.1 and Chapter 4). The data suggested the need for splitting the first SLO dimension into two: one concerning the content of the school’s vision and the other concerning the involvement of external partners in the shaping of the vision.

Table 5.1 Results principal component analysis and reliability analysis

School as a learning organisation components/dimensions	Cronbach alpha
• Sharing a vision centred on the learning of all students	0.914
• Partners invited to contribute to the school's vision	0.829
• Creating and supporting continuous learning opportunities for all staff	0.933
• Promoting team learning and collaboration among all staff	0.947
• Establishing a culture of inquiry, innovation and exploration	0.921
• Embedding systems for collecting and exchanging knowledge and learning	0.911
• Learning with and from the external environment and larger learning system	0.851
• Modelling and growing learning leadership	0.958

As the analysis presented in this chapter is part of a larger OECD study on the SLO in Wales (OECD, 2018), the decision was made to carry out the following analysis using seven SLO dimensions rather than eight. This decision partly stems from the fact that it was only the first time the survey was used. Furthermore, this decision was taken following a discussion with several education stakeholders in Wales for the reason that it would make the analysis more recognisable and therefore useful to schools and other stakeholders in Wales who were already working to put their seven-dimension SLO model into practice (Welsh Government, 2019). The scores of the two dimensions under discussion were as such averaged to define one score for the dimension “developing and sharing a vision centred on the learning of all students”.

The resulting seven dimensions were then averaged to create the dependent variable, the SLO. This average SLO score, or index of the SLO, was used as the dependent variable for the HLM analysis.

5.5.3 Independent variables

The background questions of the SLO survey provided information for the independent variables school type and staff position. The first provided two alternative responses, i.e. whether a school was a primary school or a secondary school. The SLO survey included five staff categories: head teachers, deputy head teachers, assistant head teachers, teachers and learning support staff.

Administrative data on the 178 schools whose staff had responded to the SLO survey allowed for exploring the influence of the socio-economic background of a school's student population on their development as learning organisations. The socio-economic background of a school was measured through the proportion of its students that received a free school meal (FSM), which in Wales is used as a proxy-measure for the socio-economic status of a school's student population (OECD, 2014).

5.5.4 Control variables

Besides the variables described above, some commonly used control variables were included in the analysis, namely: highest level of formal education, employment status, and years working experience at a school. These were selected as higher levels of formal education of teachers are reported to positively influence how they perceive their organisation, as well as their participation in professional learning (Yoo, 2016; OECD, 2014). Similarly, are more years of working experience and age associated with positive feeling about their school organisation and their own performance (Klassen & Chiu, 2010). In addition, workload challenges are reported to negatively influence teacher job satisfaction and how they perceive their organisation more generally, so it can be reasoned that part-time teachers are more likely to hold more positive views of their organization and have more time to engage in collaborative working and learning (Butt, et al., 2005; Crossman & Harris, 2006; Dinham & Scott, 1998; Conway & Brinner, 2002).

5.5.5 Hierarchical linear modelling assumptions

Before moving forward with the HLM analysis we checked whether the models adhered to the regression assumptions (apart from independence). This indeed was found to be the case. First, the sample size was sufficiently large and also auto-correlation did not seem to be an issue with a Durbin-Watson statistic of 1.6. A rule of thumb is that test statistic values in the range of 1.5 to 2.5 are relatively normal. Any value outside this range could be a cause for concern (Field, 2013; Todman & Dugard, 2007). Second, we checked for spherical errors with the Breusch-Pagan test which rejected the null hypothesis of homoscedastic variance (in other words, the variance was not constant over the sample). Third, the multicollinearity of the data was explored by calculating the Variance Inflation Factors for each variable. These were found to be all below the 2.5 threshold to detect multicollinearity (Field, 2013).

Fourth, Cook's D was used to identify potential influential outliers. A general rule of thumb is that observations with a Cook's D of more than 3 times the mean are outliers (Field, 2013; Todman & Dugard, 2007). The analysis revealed 13 outliers for the model. These numbers are insignificant considering the sample size – thus implying little issues with influential outliers. Fifth, the probability plot of the residuals was looked at as a way of learning whether the error terms were normally distributed. This was found to be the case, allowing for moving forward with the analysis.

5.6 Results

5.6.1 Descriptive statistics and correlations

Descriptive statistics and the correlations between the measured variables are presented in Table 5.2. Starting with the latter, the correlation analysis suggests that teachers and learning support staff are significantly more critical than school leaders in how they perceive their school to function as a learning organisation.

The data also suggest that the SLO is correlated with the independent variable school type. In addition, contrary to what we expected the correlation analysis suggests that the average SLO score of socio-economically disadvantaged schools is not significantly lower than those of socio-economically advantaged schools.

Table 5.2 Descriptive statistics and correlations for the variables in the study

	Mean	SD	Min	Max	1.	2.	3.	4.
1. School as a learning organisation	4.03	0.58	1.61	5	1.00			
2. School type (primary ref. group)	0.24	0.43	0	1	-0.14*	1.00		
3. Socio-economic status school	19.95	12.57	1.04	60	-0.01	-0.05	1.00	
4. Staff position (school leaders ref. group)	3.70	1.26	1	5	-0.17*	0.08*	0.03	1.00

As noted previously, our independent variable – the SLO, was defined by the averaging of the seven SLO dimensions. With an average score of 4 (on a five-point Likert scale), many staff in Wales seem to have adopted many of the characteristics that make a school a learning organisation. In addition, in the average school almost 20% of students are of socio-economic disadvantaged background, but this proportion varies considerably between schools (standard deviation of more than 12).

Looking closer at the characteristics of the schools and their staff in the sample, only 14% of staff work part-time, and 85% of the staff hold at least a Bachelor degree. School leaders i.e. assistant head teachers, deputy head teachers and head teachers represent 22% of the sample; teachers 53% and learning support staff 25%. In addition, 65% of staff has less than 10 years of working experience in their present school. The percentage of students with free school meals in schools ranges from 1% to 60% in the sample. Half the staff working in these schools have less than 16% of students receiving free school meals however.

5.6.2 Results of the hierarchical linear modelling analysis

HLM analysis was conducted to test the three hypotheses. The results are presented in Table 5.3. Importantly, before moving on to our full model we needed to identify whether HLM analysis was appropriate. To do this, we constructed a random intercept model in Stata without including any independent or control variables. First, the likelihood-ratio test ($\chi^2(01) = 190.49$, $\text{Prob} \geq \chi^2 = 0.0000$) of the random intercept model showed that the hierarchical linear model is more appropriate than classical regression analysis. Second, the Intraclass Correlation Coefficient (ICC) had a value of 18.71%, which implies that almost 19% of the variation in the SLO variable is occurring between schools – which is a non-trivial amount and suggest the appropriateness of HLM analysis. Third, the estimates of the level 1 residuals as well as the level 2 intercepts both proved to be significant ($p < .001$) further indicating the applicability of HLM analysis. We can now move on to our actual results.

Table 5.3 HLM results of antecedents of schools as learning organisations

Independent variables	Model including level 1 and level 2 predictors	
	Coef.	Std. Err.
Constant	4.306***	.054
Level 1 variables - individual level		
Staff position (school leader is reference)		
Teachers	-.337***	.035
Learning support staff	-.203***	.042
Working part-time	.067+	.039
Highest level of formal education (Bachelor or lower is reference)		
Master	.005	.039
Doctorate	.088	.113
Working experience in school (Less than or equal to 15 years is reference)		
16 to 20 years	.031	.045
21 to 25 years	.095	.059
26 to 30 years	.056	.101
Over 30 years	.190	.125
Level 2 variables - organisational level		
School type (Primary is reference)		
Secondary	-.159*	.066
Socio-economic status school	-.001	.002
Number of respondents	1442	
Number of schools	169	
Wald chi2	109.19***	

Note: $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Source: SLO survey and administrative data from My Local School website.

Hypothesis 1 states that school leaders are more likely to perceive their school to function as a learning organisation, compared with teachers and learning support staff. The HLM analysis supports this hypothesis. As Table 5.3 shows both teachers and learning support staff are more critical than school leaders in how they view their school to function as a learning organisation, with teachers being the most critical.

The second hypothesis states that the average SLO score is significantly lower in secondary schools than in primary schools. This hypothesis was confirmed by the HLM analysis. It suggests that secondary schools in Wales are less likely to develop into learning organisations compared with primary schools.

The third hypothesis states that the average SLO score is not significantly lower in socio-economically disadvantaged schools than in socio-economically advantaged schools. The analysis however did not support this hypothesis. It suggests that a school's socio-economic background, measured through the proportion of students receiving free school meals (FSMs), is not a confounding factor for schools developing as learning organisations. This suggests that schools with a larger proportion of FSM students are just as likely to develop as learning organisations as those with lower proportions of FSM students in Wales.

5.7 Discussion and conclusion

5.7.1 Discussion

This chapter set out to examine what factors influence schools in developing as learning organisations. It adopted the categorisation of innovation antecedents of De Vries, Bekkers and Tummers (2014) who categorised these on the basis of four levels: 1) environmental level; 2) organisational level; 3) innovation level; and 4) individual/employee level. The chapter examined whether there is a relationship between the SLO and two organisational level antecedents – school type and the socio-economic status of a school's student population, and with the individual level antecedent job position of staff. It should be seen as our first endeavour to better understand the factors that enable, or hinder schools in developing as learning organisations – an effort that will be continued in the following chapter.

Based on the management, public administration and education literature, three hypotheses were formulated. These were tested these using administrative data and data from the SLO survey of

1703 school leaders, teachers and learning support staff working in 178 schools in Wales. The sample size, its high internal consistency values and the fact that it met HLM criteria, attest to the reliability and validity of this study.

The HLM analysis allows for drawing conclusions of relevance to scholars, educators and policy makers – in Wales and internationally. It identified school type as a significant organisational factor of influence on schools developing as learning organisations. The literature points to several factors of explanation, including the larger size of secondary schools and their more compartmentalised structure which make it harder to collaborate across departments and the organisation as a whole. In addition, the evidence suggests that secondary school leaders in Wales do not always do enough to encourage collaborative working and learning, and the exchange of information and knowledge across the whole organisation (Estyn, 2018). To meet these challenges, it would seem important to provide greater support to and capacity development of present and future secondary school leaders in Wales, with a particular role for the recently established National Academy for Educational Leadership and the regional consortia (i.e. the regional improvement services) (OECD, 2017; 2018).

Furthermore, contrary to what we had hypothesized, the analysis showed there is no evidence suggesting disadvantaged schools are more likely to develop as learning organisations. The analysis showed that a school's socio-economic background, measured through the proportion of students receiving free school meals (FSMs), is not a confounding factor for schools developing as learning organisations. Therefore, in line with the findings of some studies (Austin & Harkins, 2008; Moloji, 2010; Moloji, Grobler, & Gravett, 2006), our analysis suggests that schools with a larger proportion of FSM students are just as likely to develop as learning organisations as those with lower proportions of FSM students. It would have been worrying to find evidence of the opposite, given also as this is believed to negatively impact on their 'readiness' to put the new curriculum into practice (Welsh Government, 2017).

The study also found that school leaders are more likely to perceive their school to function as a learning organisation, compared with teachers and learning support staff in Wales. Although there are bound to be some differences in perceptions between staff categories, as some staff may simply be better informed due to the nature of their work, the significant differences reported on almost all SLO dimensions suggest there is a need for more professional dialogue and sharing of information among staff in different positions.

There would seem a need for providing greater support to school leaders and ensure they have the capacity to develop their schools as learning organisations, which seems particularly an issue for secondary school leaders. Also, there would seem scope for secondary school leaders to learn from their peers in the primary sector on how to establish a thriving learning culture in their schools. Such collaborations are not common practice yet in Wales (OECD, 2018).

In addition, the strengthening of school self-evaluations through a participatory process with the involvement of all staff and by including students, parents, governors and other schools may provide a means for enhancing knowledge sharing and collective working and learning within and between schools (OECD, 2018). This study supports involving all staff in school self-evaluations as it allows for identify the differences and commonalities in opinions that exist between staff in different job positions; such information is of great importance for working towards a school that can be truly considered by all its staff to be a learning organisation.

Like all studies, this study has its limitations. Generalisability was enhanced by drawing the data from a relatively large random sample of schools, allowing for drawing conclusions of relevance to scholars, educators and policy makers in Wales and to some extent also internationally. Our findings however cannot automatically be generalised to other countries as the education context of Wales is very specific; the country finds itself in the middle of a comprehensive curriculum reform that is putting additional demands on schools and other parts of the system, while at the same time creating new opportunities for change and innovation.

It would be of great interest to examine these hypotheses in other countries, as would it be interesting to re-examine them in Wales in a few years from now to learn whether future research reveals similar findings. In addition, the data did not allow for exploring the influence of other antecedents, such as school funding, employee motivation, differences in local authorities (i.e. school owners) or the support provided by the different regional consortia (i.e. regional school improvement services). On the latter two examples, although beyond the scope of this study, future research could also look into the external or system level conditions that enable or hinder schools to develop as learning organisations; this is a largely unexplored area of research. A systematic exploration of these environmental factors will complement and enrich the analysis of organisational-, innovation- or individual level antecedents and vice versa; resulting in a comprehensive research agenda to advance the SLO – in theory and practice.

Future research in Wales may as such benefit from a stratified sampling approach for the SLO survey to ensure these and other antecedents can be examined by linking the survey data with administrative data available. Some amendments may need to be made to the SLO survey to ensure antecedents of interest can be examined.

Although recognising the potential of survey research to examine a number of antecedents that influence schools in developing as learning organisations, future research should consider including comparative case study analysis as this may allow for deepening and/or expanding the analysis (Creswell & Clark, 2007). An examination of the SLO survey data for instance showed several examples of secondary schools that seemed to be functioning as learning organisations. It is of great relevance to learn more about why some schools have succeed in developing as learning organisations, while others are less successful. The SLO survey data may as such be used to identify such ‘outliers’ and use comparative case study analysis to discern whether there is a pattern in the influence of certain antecedents on these schools being able to develop as learning organisations. In the following chapter (6) we will pursue this path of further research.

5.7.2 Conclusion

This study has found that staff in secondary schools are less likely to perceive their school as a learning organisation than those in primary schools. The larger size of secondary schools, their more compartmentalised structure and leadership practices may explain these findings. In addition, our analysis showed that a school’s socio-economic background, measured through the proportion of students receiving free school meals, is not a confounding factor for schools developing as learning organisations. This is an important finding for policy makers, educators, students and their parents, and others alike as it suggests that socio-economically disadvantaged schools are just as likely to develop as learning organisations as more advantaged schools.

We further found that school leaders are more likely to perceive their school to function as a learning organisation than teachers and learning support staff in Wales. Although there are bound to be some differences in perceptions between staff in different positions, these significant differences point to the need for more professional dialogue, sharing of information and possible other actions for schools to develop as learning organisations.

To conclude, our research has shown that a better understanding of the antecedents that influence schools' ability to develop as learning organisations can be valuable for educators, policy makers, scholars and others interested in establishing a sustainable learning culture in their schools. Additional research, theoretical and applied, is needed to better understand the influence of such factors – at the individual-, innovation-, organisational- and environmental level – to inform school improvement efforts and ensure adequate support is provided to those in need of it.

The analysis showed the multi-level and complex nature of the SLO. Both at the individual level and organisational level the data revealed the necessary variation. This argues for having a closer look at the antecedents of schools in developing as learning organisations to gain a better understanding of what factors may explain these differences. In the following chapter we will as such continue the examination of the antecedents for developing schools as learning organisations, though this time through a comparative case study analysis from four schools in Wales to discern whether there is a pattern in the influence of antecedents on them being able to develop as learning organisations. This is aimed to deepen and possibly expand our insights on the third sub-question of this study, “*what antecedents influence schools in developing as learning organisations?*”.

REFERENCES

- Agostino, D., Arena, M., & Arnaboldi, M. (2013). Leading change in public organisations: the role of mediators. *Leadership & Organisation Development Journal*, 34(7), 596-615 .
- Akram, M., Watkins, K., & Sajid, S. (2013). Comparing the Learning Culture of High and Low Performing High Schools in Pakistan. *Literacy Information and Computer Education Journal*, 4(2), 1022-1028.
- Albury, D. (2005). Fostering Innovation in Public Services. *Public Money & Management*, 25(1), 51-56.
- Amayah, A. (2013). Determinants of knowledge sharing in a public sector organization. *Journal of Knowledge Management*, 17(3), 454-471.
- Austin, M., & Harkins, D. (2008). Assessing change: Can organisational learning "work" for Schools? . *The Learning Organization*, 15(2), 105-125.
- Boreham, N., & Reeves, J. (2008). Diagnosing and Supporting a Culture of Organizational Learning in Scottish Schools. *Zeitschrift fur Pädagogik*, 54(5), 637-649.
- Bowen, G., Rose, R., & Ware, W. (2006). The Reliability and Validity of the School Success Profile Learning Organization Measure. *Evaluation and Program Planning*, 29, 97-104.
- Butt, G., Lace, A., Fielding, A., Gunter, H., Rayner, S., & Thomas, H. (2005). Teacher job satisfaction: Lessons from the TSW pathfinder project. *School Leadership and Management*, 25(5), 455-471.
- Carroll, T., Fulton, K., Abercrombie, K., & Yoon, I. (2004). *Fifty years after Brown v. Board of Education: A Two-tiered Education system*. Washington, D.C.: National Commission on Teaching and America's Future.
- Conway, N., & Brinner, R. (2002). Full-time versus part-time employees: Understanding the links between work status, the psychological contract, and attitudes. *Journal of Vocational Behavior*, 61(2), 279-301.
- Creswell, J., & Clark, P. (2007). *Designing and Conducting Mixed Methods Research*. Thousand Oaks: Sage.
- Crossman, A., & Harris, P. (2006). Job satisfaction of secondary school teachers. *Educational Management Administration and Leadership*, 34(1), 29-46.

- Damanpour, F., & Schneider, M. (2009). Characteristics of Innovation and Innovation Adoption in Public Organizations: Assessing the Role of Managers. *Journal of Public Administration Research and Theory*, 19(3), 495-522.
- De Vries, H., Bekkers, V., & Tummers, L. (2014). Innovation in the public sector: A systematic review and future research agenda. *Public Administration Review*, 94(1), 146-166.
- Dinham, S., & Scott, C. (1998). A three-domain model of teacher and school executive career satisfaction. *Journal of Educational Administration*, 36(4), 362-378.
- Donaldson, G. (2015). *Successful Futures: Independent Review of Curriculum and Assessment Arrangements in Wales*. Cardiff: Welsh Government.
- Edquist, C., Hommen, L., & McKelvey, M. (2001). *Innovation and Employment: Product versus Process Innovation*. Cheltenham: Edward Elgar.
- Enticott, G., Boyne, G., & Walker, R. (2008). The use of multiple informants in public administration research: Data aggregation using organizational echelons. *Journal of Public Administration Research and Theory*, 19(2), 229-253.
- Estyn. (2018). *The Annual Report of Her Majesty's Chief Inspector of Education and Training in Wales 2016-2017*. Cardiff: Estyn.
- Fernandez, S., & Rainey, H. (2006). Managing Successful Organisational Change in the Public Sector. *Public Administration Review*, 66(2), 168-176.
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. London: Sage Publications Ltd.
- Fullan, M. (2015). *The New Meaning of Educational Change*. London: Routledge.
- Gagnon, D., & Mattingly, M. (2015). Rates of beginning teachers: Examining one indicator of school quality in an equity context. *The Journal of Educational Research*, 108(3), 226-235.
- Gandolfi, F. (2006). Can a School Organization be Transformed into a Learning Organization? *Contemporary Management Research*, 2(1), 57-72.
- George, B., & Desmidt, S. (2018). Strategic-decision quality in public organizations: An information processing perspective. *Administration & Society*, 50(1), 131-156.
- George, B., & Pandey, S. (2017). We Know the Yin—But Where Is the Yang? Toward a Balanced Approach on Common Source Bias in Public Administration Scholarship. *Review of Public Personnel Administration*, 37(2), 245-270.

- Giles, C., & 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.
- Harris, A., & Jones, M. (2018). Leading Schools as Learning Organizations. *School Leadership & Management*, 38(4), 351-354.
- Hox, J., Moerbeek, M., & van de Schoot, R. (2017). *Multilevel Analysis: Techniques and Applications*. New York: Routledge.
- Klassen, R., & Chiu, M. (2010). Effect on teachers' self-efficacy and job satisfaction: Teacher gender, years of experience, and job stress. *Journal of Educational Psychology*, 102(3), 741-756.
- Kogut, B., & Zander, U. (1992). Knowledge of the Firm, Combinative Capabilities, and the Replication of Technology. *Organisational Science*, 3(3), 383-397.
- Kuipers, B., Higgs, M., Kickert, W., Tummers, L., Grandia, J., & Van der Voet, J. (2014). The Management of Change in Public Organisations. *Public Administration*, 92(1), 1-20.
- Light, P. (1999). *Sustaining Innovation. Creating Nonprofit and Government Organizations that Innovate Naturally*. San Francisco: Jossey-Bass.
- Louis, K., & Lee, M. (2016). Teachers' capacity for organizational learning: the effects of school culture and context. *School Effectiveness and School Improvement*, 27(4), 534-556.
- McNabb, D. (2015). *Research Methods in Public Administration and Nonprofit Management*. New York: Routledge.
- Mohr, L. (1969). Determinants of Innovation in Organizations. *American Political Science Review*, 63(2), 111-126.
- Moloi, K. (2010). How can schools build learning organisations in difficult education contexts? *South African Journal of Education*, 30(1), 621-633.
- Moloi, K., Grobler, B., & Gravett, S. (2006). Educators' perceptions of the school as a learning organization in the Vanderbijlpark-North District, South Africa. *South African Journal of Education*, 22(2), 88-94.
- O'Toole, L., & Meier, K. (1999). Modeling the impact of public management. The implications of structural context. *Journal of Public Administration Research and Theory*, 9(4), 505-526.
- OECD. (2014). *Improving Schools in Wales: An OECD Perspective*. Paris: OECD Publishing.

- OECD. (2014). *Talis 2013 Results: An International Perspective on Teaching and Learning*. Paris: OECD Publishing.
- OECD. (2016). *PISA 2015 Results (Volume I): Excellence and Equity in Education*. Paris: OECD Publishing.
- OECD. (2017). *The Welsh Education Reform Journey: A Rapid Policy Assessment*. Paris: OECD Publishing.
- OECD. (2018). *Developing Schools as Learning Organisations in Wales*. Paris: OECD Publishing.
- OECD. (2019). *Education at a Glance 2018*. Paris: OECD Publishing.
- Office of National Statistics. (2016). *Population Estimates for UK, England and Wales, Scotland and Northern Ireland: mid-2016*. London: Office of National Statistics.
- Plowman, D., Solansky, S., Beck, T., Baker, L., Kulkarni, M., & Travis, D. (2007). The role of leadership in emergent, self-organisation. *The Leadership Quarterly*, 18(4), 341-356.
- Pollitt, C., & Bouckaert, G. (2011). *Public Management Reform: A Comparative Analysis – New Public Management, Governance, and the Neo-Weberian State*. Oxford: Oxford University Press.
- Potts, J. (2009). The curious problem of too much efficiency and not enough waste and failure. *Innovation*, 11(1), 34-43.
- Schleicher, A. (2018). *World Class: How to build a 21st-century school system*. Paris: OECD, Publishing.
- Senge, P. (1990). *The Fifth Discipline: The Art and Practice of the Learning Organisation*. New York: Currency Doubleday.
- Senge, P., Cambron-McCabe, N., Lucas, T., Smith, B., & Dutton, J. (2012). *Schools That Learn*. New York: Crown Business.
- Serenko, A., Bontis, N., & Hardie, T. (2007). Organizational size and knowledge flow: a proposed theoretical link. *Journal of Intellectual Capital*, 8(4), 610-627.
- Silins, H., & Mulford, B. (2004). Schools as learning organizations: Effects on teacher leadership and student outcomes. *School Effectiveness and School Improvement*, 15(3-4), 443-466.
- Silins, H., Mulford, B., & Zarins, S. (2002). Organizational learning and school change. *Educational Administration Quarterly*, 38(5), 613-642.

- 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.
- Todman, J., & Dugard, P. (2007). *Approaching Multivariate Analysis: An Introduction for Psychology*. Hove: Psychology Press.
- Viennet, R., & Pont, B. (2017). *Education policy implementation: A literature review and proposed framework*. Paris: OECD Publishing.
- Wahlstrom, K., & Louis, K. (2008). How teachers experience principal leadership: The roles of professionalcommunity, trust, efficacy and shared responsibility. *Educational Administration Quarterly*, 44(4), 458–495.
- Walker, R. (2006). Innovation type and diffusion: An analysis of local government. *Public Administration*, 84(2), 311-335.
- Walker, R. (2006). Internal and External Antecedents of Process Innovation: A Review and Extension. *Public Management Review*, 16(1), 21-44.
- Walker, R. (2007). An Empirical Evaluation of Innovation Types and Organizational and Environmental Characteristics: Towards a Configuration Framework. *Journal of Public Administration Research and Theory*, 18(4), 591-615.
- Watkins, K., & Marsick, V. (1999). Schools as Learning Communities. Sculpting the Learning Community: New Form of Working and Organizing. *NASSP Bulletin*, 83(604), 78-87.
- Welsh Government. (2017). *Education in Wales: Our national mission*. Cardiff: Welsh Government.
- Welsh Government. (2019). *Schools as learning organisations*. Retrieved from HWB: <https://hwb.gov.wales/professional-development/schools-as-learning-organisations/>
- 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.
- Yoo, J. (2016). The Effect of Professional Development on Teacher Efficacy and Teachers' Self-Analysis of Their Efficacy Change. *Journal of Teacher Education for Sustainability*, 18(1), 84-94.

**CHAPTER 6. A COMPARATIVE CASE STUDY ANALYSIS OF
ANTECEDENTS OF SCHOOLS AS LEARNING ORGANISATIONS**

6.1 Introduction

This chapter continues the exploration of what antecedents influence schools in developing as learning organisations (our third sub-question); an effort that was started in Chapter 5. The chapter draws from qualitative comparative case study evidence from four schools in Wales to discern whether there is a pattern in the influence of antecedents – at the individual-, innovation-, organisational-, and environmental levels – on them being able to develop as learning organisations.

Data were collected through interviews with head teachers of two schools, one primary- and one secondary school, that had a high average score on the SLO scale, i.e. they seemed to have put in practice many of the characteristics that make a SLO. Data were collected from a further two schools, again a primary- and secondary school, these schools had a low average SLO score. These schools as such seemed far removed from functioning as learning organisations. The semi-structured interviews with the head teachers of these schools were as such aimed to enrich and deepen our understanding of the results of the previous chapter.

Having presented a theoretical reflection on the different levels of antecedents that may influence schools' ability to develop as learning organisations in the previous chapter already, the chapter starts with an explanation of the methodology (Section 6.2). This is followed by a presentation of and a discussion on the results of the analysis (Sections 6.3 and 6.4), including a discussion on the limitations of the study and by making suggestions for further research, before concluding the chapter.

6.2 Methods

To explore the influence of context on schools being able to develop as learning organisations we conducted a comparative case study analysis of four schools in Wales. We adopted a sequential explanatory research design, where quantitative data is first gathered and analysed and based on the analysis, positive and negative outlying cases are selected to identify best practices and pitfalls through a comparative multi-case study (Eisenhardt & Graebner, 2007; Creswell & Plano Clark, 2007).

The selection of case studies was based on two criteria: First, a purposeful sampling approach was used on the SLO survey data to identify two 'high scoring' schools and two 'low scoring' schools on the SLO scale. As explained in Chapter 4, for each of the seven SLO dimensions, survey items

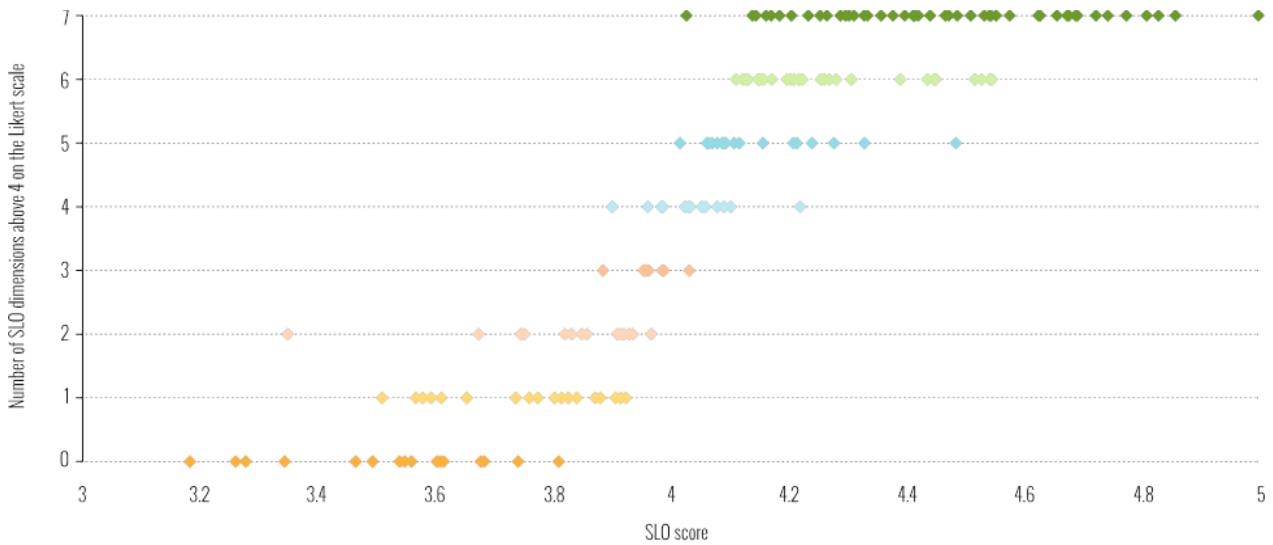
were given shape in the form of five-point Likert scale with the answer options ‘strongly disagree’, ‘disagree’, ‘neutral’, ‘agree’ and ‘strongly agree’. The SLO survey was distributed among school leaders (i.e. head teachers, deputy head teachers and assistant head teachers), teachers and learning support staff so we therefore needed to carefully consider how to aggregate the data into one overall SLO score per school.

Recognising that people’s positions in the hierarchy of an organisation influence their perceptions of it (Enticott, Boyne, & Walker, 2008; George & Desmidt, 2018; Boreham & Reeves, 2008) – a finding that was supported by the analysis of Chapter 5, it was important to carefully consider the differences in views between school leaders, teachers and learning support staff to ensure a fair and accurate estimate of the views of all school staff. We therefore took into consideration a school’s actual staff composition across the three staff categories as a basis for weighting the average response rates for each of categories. So, for example, if a school’s staff consisted of 20% school leaders, 50% teachers and 30% learning support staff, these proportions would be used to weigh the average responses for each of these three staff categories for each SLO dimension. These scores for the seven dimensions were then averaged to create an average SLO score for each school in our sample.

The range of SLO scores ranged from 3.2 to as high as 5.0 with an average SLO score (see Figure 6.1). The data presented in Figure 6.1 suggest that three out of every ten schools in the sample (30%) had put all of the seven dimensions of a learning organisation into practice – according to the staff working in them. The data furthermore showed that three out of ten schools in the sample (28%) had put five or six SLO dimensions into practice – which suggests they are well on their way towards developing into learning organisations.

However, a considerable proportion of schools were found to be still far removed from realising this objective. Some 42% of schools seemed to have put in practice four or less of the seven SLO dimensions, with 30% of schools reporting the realisation of only two or fewer.

Figure 6.1 Average SLO score



Note: Data are analysed at the school level. The SLO survey items were generated in the form of five-point Likert scale: 1) strongly disagree; 2) disagree; 3) neutral 4) agree; and 5) strongly agree. An average school score of 4 or more across the survey items that make up one dimension was defined as the threshold for when a school is considered to have put the dimension into practice. N: 174 schools. Four schools of the 178 were not taken into consideration as their staff had not completed the survey for all seven dimensions. Each point represents a school.

The selection method resulted in the identification of two ‘high scoring’ schools with an average score on the SLO scale of above 4.3 (on a five-point scale: 1 (‘strongly disagree’) to 5 (‘strongly agree’)) across the seven dimensions, and the identification of two ‘low scoring’ schools with an average score below 3.7. These schools were as such at different stages of developing as learning organisations and we considered it of great relevance to learn about the potential influence of contextual variables that each of these two groups of schools face.

Second, one primary school and one secondary school were selected for each group, so four schools were selected in total. This choice was made based on the knowledge that secondary schools are larger and have a more compartilised structure, which as the empirical evidence of Chapter 5 suggests provides additional challenges for them developing as learning organisations. The comparison between the two schools at the same levels of education with different average SLO scores may shed further light on the antecedents for schools developing as learning organisations.

This selection method resulted in the identification of four schools, see Table 6.1. Further details on the selected schools are presented in Table 6.2.

Table 6.1 Comparative case study design

	Low average SLO score	High average SLO score
Primary school	A	B
Secondary school	C	D

Table 6.2 Characteristics of schools in comparative case study design

	Low average SLO score		High average SLO score	
	School A	School C	School B	School D
SLO score	3.7	3.6	4.6	4.6
Socio-economic composition student population (% of free school meal students)	10 – 20%	5 – 10%	15 – 20%	15 – 20%
School size (no. students)	200 – 250	700 – 750	100 – 150	1 000 – 1 500
School budget (per pupil)	£3 500 – 4 000	£4 000 – 4 500	£3 500 – 4 000	£4 000 – 4 500
Pupil teacher ratio	20-25	15-20	20 – 25	15 – 20
School type	Primary	Secondary	Primary	Secondary

Source: Data obtained from my My Local School website, <http://mylocalschool.wales.gov.uk/?lang=cy>.

We conducted semi-structured telephone interviews with the head teachers of the four identified schools to gather data and compare cases. These interviews were conducted between October 2018 to January 2019 and lasted between 30 to 45 minutes. In total, we conducted four interviews that were recorded and transcribed. The transcripts were subsequently analysed using thematic analysis. These themes were theoretically driven and given shape by the framework of innovation antecedents by De Vries, Bekkers and Tummers (2014) that consists of four levels:

- Environmental level: external context (e.g. the policy objective to develop schools as learning organisations, support offered by the system to schools).
- Organizational level: aspects that include the structural and cultural features of an organization (e.g. availability organizational resources, leadership style).
- Innovation level: intrinsic attributes of an innovation (e.g. complexity of the innovation (as perceived by prospective adopters)).
- Individual/employee level: characteristics of individuals who innovate (e.g. innovative or entrepreneurial employees).

The semi-structured interviews with the head teachers were as such aimed to enrich and deepen our understanding of the results of the previous chapter.

6.3 Results

Findings from the interviews are presented below. Table 6.3 provides a summary of the findings.

Table 6.3 Summary of interview findings

Antecedents	Low average SLO score	High average SLO score
Individual level	<ul style="list-style-type: none"> Many school staff lack the confidence, skills and mind set to engage in collaborative learning and working and turn to colleagues for advice 	<ul style="list-style-type: none"> Most staff are supportive of the SLO concept and engage in collaborative learning and working within and outside the school
Innovation level	<ul style="list-style-type: none"> Limited understanding among school staff of Wales' SLO model and how it can support school improvements and fits the curriculum reform effort The head teachers noted the need for further communication on the benefits of and capacity building to help realise Wales' SLO model 	<ul style="list-style-type: none"> SLO seen as nothing new; different and more holistic way of looking at a school. Staff are comfortable with collaborative working and learning, trying out new things and (trying to) innovate their practice
Organisational level	<ul style="list-style-type: none"> One head teacher showed a leadership style as expected in a SLO (see right column) but was realistic about the time and effort it would take to develop the school into a learning organisation One head teacher was less ambitious and confident, with a noticeable tendency to look to environmental barriers for developing a SLO, rather than reflecting on own role and capacity, and that of the school The importance of "time", "trust" and "thinking together" as a means for facilitating staff in their skills development and confidence to engage in organisational learning Budget pressures provided challenges on schools' ability to invest in individual, collaborative and organisational learning – a particular issue for the primary school it seemed 	<ul style="list-style-type: none"> Head teachers were ambitious, confident and committed change agents who were encouraging their staff to experiment and innovate their practice The importance of "time", "trust" and "thinking together" as a means for facilitating staff in their skills development and confidence to engage in organisational learning Budget pressures provided challenges on schools' ability to invest in individual, collaborative and organisational learning – a particular issue for primary schools it seemed
Environmental level	<ul style="list-style-type: none"> Wide spread recognition among staff on the need for change and support for the ongoing curriculum reform Differences in local school funding models are causing unequal treatment of schools in similar circumstances. This seemed in particular a challenge for primary schools "High-stakes" assessment, evaluation and accountability arrangements have tempered people's willingness and confidence to do things differently and innovate their practice. This seemed in particular a challenge for secondary schools 	<ul style="list-style-type: none"> Wide spread recognition among staff on the need for change and support for the ongoing curriculum reform Differences in local school funding models are causing unequal treatment of schools in similar circumstances. This seemed in particular a challenge for primary schools "High-stakes" assessment, evaluation and accountability arrangements have tempered people's willingness and confidence to do things differently and innovate their practice. This seemed in particular a challenge for secondary schools

6.3.1 Individual level antecedents

Most scholars agree that creating the conditions for a school to develop as a learning organisation, in practice, is far from straightforward. Traditional models of schooling whose organisational patterns for decennia long have deeply structure schools – the single teacher, the classroom segmented from other classrooms each with their own teacher, and traditional approaches to teaching and classroom organisation, etc. – are in many cases deeply rooted in organisational structures of contemporary schools and in the mind sets of the people working in them (Schleicher, 2012; OECD, 2013). Therefore, in many cases it will require a significant cultural shift, a change of mind sets and a schoolwide commitment to self-reflection and evaluation to develop schools into learning organisations (Harris & Jones, 2018).

From the interviews it became clear that there were differences in the way the interviewees, i.e. head teachers considered their staff to be supportive of the idea of developing their school into a learning organisation. As may have been expected, the two head teachers working in the schools with a lower average SLO score (schools A and C) noted that for several of their staff there was further work to be done to develop their confidence, skills and mind set to engage in collaborative learning and working – one of the four T’s; thinking together – and innovate their practice. Although both interviewees noted to have colleagues that are confident of their abilities, innovative, and engage in collaborative working and learning, with some even serving as ‘change agents’, for others it would take considerable time and effort to do the same. As one interviewee noted:

“... some of our staff don’t always feel comfortable yet in turning to each other for advice [...]. We are working to change this for example by allocating time for our staff to do joint lesson planning and are making gradual progress it seems. I however don’t want to rush this as its vital we bring all on board”.

All head teachers interviewed (to varying degrees) seemed to recognise their role for needing to create a climate of trust and promoting positive communication among colleagues for them to feel comfortable to change their practice and for a learning culture to develop. Research evidence shows such actions to be essential for enhancing employees’ levels of readiness for change (Vakola, 2014; Choi & Ruona, 2011). The importance of trust, time and thinking together – three of the four ‘Ts’

of our SLO model (see Chapter 3) – for developing a SLO was raised by all head teachers, explicitly or implicitly.

6.3.2 Innovation level antecedents

For three of the head teachers we interviewed the innovation characteristics of the SLO seemed to provide no real challenges. In fact they displayed the necessary understanding of Wales' SLO model and its underlying dimensions (Welsh Government, 2019). As one head teacher put it:

“The SLO is arguably nothing new ... or should not be new to us. It is a different and holistic way of looking at your school and how we can work with colleagues and students in the school, with other schools, parents and the community”.

As may have been expected two of these head teachers were from schools with a high average SLO score. The head teacher from the other school, with a low average SLO score (school A), seemed also well familiar with Wales' SLO model and clear about what actions to take to promote a learning culture in the school.

All head teachers had shared the information on Wales' SLO model that has been made available to them by Welsh Government with their staff through various means, for example email, discussing the model during team meetings or during professional development days. The head teacher of one of the low scoring schools (school A), which was a federated school, noted that:

“During the last four years the school has increasingly embraced the ways of working as a learning organisation. Our school is federated which naturally promotes the collaboration within and across the schools. Staff in this school however are less advanced in this than their colleagues in [name of federated school]”.

An examination of the SLO survey data showed that this other school with which the school was federated (and that was not part of our sample of four schools) indeed had a higher average SLO score. The head teacher mentioned it would require considerable time, effort and patience to bring all, or at least most staff “on board”.

Here it is important to note that for all four schools the head teachers reported a widespread recognition of the need for change among their staff. There was strong support for the ongoing

curriculum reform which the SLO is part of. Two of the head teachers (of the schools with a low SLO score) however mentioned the need for more support from Welsh Government and the regional consortia for awareness raising and capacity development on how Wales' SLO model can be used as part of school improvement processes. As one head teacher noted:

“Many policies have been developed in recent years, but all too often we don't know what these are about and how they can help us in our work. It seems like an endless stream of new policies and demands placed on schools. It has been quite a challenge for me to explain to my staff how different policies and tools can support their work. Although I understand the potential of the SLO for supporting the curriculum reform, the communication around this so far has been limited”.

As concluded in a recent OECD report (2018), Welsh Government has been striving for greater policy coherence and has been increasingly successful, but has not always been that good in communicating its achievements in this area. The report concluded that more should be done to explain to schools about why Wales' SLO model was developed, how it can guide schools in their development and how it forms an integrated part of the curriculum reform effort and relates to other policies. Welsh Government has taken this recommendation to heart and asked the regional consortia to jointly develop an online resource package (consisting of presentations, animators, publications, podcasts, an online SLO survey, etc.) that the four consortia will use for consistent messaging to raise awareness on and capacity building on Wales' SLO model. This resource was soon to be released at the time of completing this study.

6.3.3 Organisational level antecedents

The literature is adamant about the role of leaders for creating the conditions for a SLO to be developed and sustained (Watkins & Marsick, 1999; Silins, Zarins, & Mulford, 2002; Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012; Harris & Jones, 2018). Breaking down the traditional models of schooling that for decades have structured schools will in many cases require and even depend on transformational leaders that “model and grow learning leadership” (see Chapter 3).

From the interviews it quickly became clear that for three head teachers their leadership styles seemed much in line with what one would expect to find in a SLO. Simply said they were clearly

not satisfied with maintaining the status quo, but instead were ambitious and seemed to pro-actively seek for opportunities to make things better. They came across as confident and committed change agents who were encouraging their staff to explore new ways of doing things and innovate their practice by engaging with new policies, such as the SLO, and with the new school curriculum. These head teachers seemed well aware of their role in helping create a climate of trust and mutual respect for open dialogue, sharing of knowledge and collaborative learning to thrive; thereby once more inexplicitly referring to the importance of trust and thinking together – two of our four T's – for developing schools as learning organisations.

As may have been expected these head teachers were from the two schools with a high average SLO score. Also here the head teacher from the school with a low average SLO score was from school A. Also this head teacher was set on developing the school into a learning organisation, but was realistic and pragmatic about this taking some time to be realised.

One of the approaches for doing this that was mentioned by these three head teachers were the investments made in the development of the capacity of the 'middle leaders' in their school by coaching them on the job and/or ensuring other forms of professional learning. These middle leaders seemed to (increasingly) support the head teachers in promoting collaborative working and learning in their schools and facilitate engagement of teachers and learning support staff with the new school curriculum.

The head teacher of the one remaining school (with a low average SLO score, school C), seemed less ambitious and confident. The interview with the head teacher revealed a noticeable tendency to talk about the barriers in the system (i.e. environmental antecedents) for developing a learning organisation. In particular the head teacher raised concerns about budget pressures, as well as the assessment, evaluation and accountability arrangements that limited the school's ability to move forward and develop as a learning organisation (see below).

Furthermore, an issue mentioned by all head teachers was the challenge posed on them by budget pressures. Although seemingly less an issue for the two secondary schools, budget pressures were noted as limiting all four schools in their abilities to invest in individual-, collaborative- and organisational learning. This finding resonates with other studies that show that larger organisations (i.e. secondary schools) have more slack in resources that can be devoted to organisational learning

than smaller organisations (i.e. primary schools) (Walker, 2006; Damanpour & Schneider, 2009). Interestingly however our analysis of Chapter 5 showed that primary schools in Wales seem to be faring better in developing as learning organisations than secondary schools. The more compartmentalised structure, leadership practices and tendency of many teachers to limit collaboration within subject areas and departments seem to be factors in this (OECD, 2018).

6.3.4 Environmental level antecedents

From the interviews it quickly became clear that two environmental factors are negatively influencing schools' ability to develop as learning organisations. First, were the differences in school funding models between local authorities that are causing unequal treatment of schools in similar circumstances and as such are causing uncertainty and adding to existing budget pressures.

Second, the what the head teachers perceived as “high-stakes” assessment, evaluation and accountability arrangements were believed to have tempered people's willingness and confidence to do things differently and innovate their practice. While undertaking this study, Wales' assessment, evaluation and accountability arrangements were undergoing review. All head teachers supported the review and noted how existing arrangements lack in coherence and are driven by accountability demands, rather than serving the purpose of learning and improvement. A recurrent theme in responses was the perceived high-stakes use of student performance data. Since 2008 student performance data in the subjects English/Welsh, mathematics and science had become part of the annual system-level monitoring by Welsh Government. These data are also used in school evaluations as part of the national categorisation system and by the education inspectorate (Estyn). While their use as part of the school categorisation system has supported the allocation of additional support to those schools in most need of it (Welsh Government, 2016; OECD, 2017), its public colour coding scheme (in green, yellow, amber and red) in the form has a league table of schools had several unintended consequences. It was found to fuel competition and as such undermine collaboration between schools, stigmatised schools working in the most challenging communities, and is widely believed to have reduced the reliability of student assessments (that are graded by the school's teachers without external moderation) and resulted in ‘narrowing of the curriculum’ (OECD, 2018). As one head teacher noted:

“Schools are worried about the current school evaluations. Both school categorisation and Estyn’s inspections don’t sufficiently take the specific local context into account. Also the public colour coding of schools [as part of the school categorisation system] is not necessary and is greatly demotivating. I know Welsh Government and Estyn are working to change the approaches to school evaluations, but without clarity on what these changes are going to look like schools won’t move”.

The negative influence of assessment, evaluation and accountability arrangements on people’s willingness and confidence to do things differently and innovate their practice – key characteristics of a SLO – seems a particular issue for secondary schools in Wales as this is where as one head teacher noted “the pressure of accountability arrangements is felt most”. One of the reasons for this lies in the fact that school curriculum that caters for students in Key Stage 2 (i.e. primary education) up to Key Stage 4 (i.e. the end of secondary education) aims for schools and teachers to provide differentiated learning and additional support for students to attain the curriculum without the use of grade repetition as a means to tackle low academic achievement (OECD, 2017). The student performance data at the end of Key Stage 4 in the form of General Certificates of Secondary Education (GCSEs) and A-Level qualifications give access to a higher-level study or training, or direct entry into employment. These student performance data are as such by their very nature higher stakes than those of earlier grades for students, parents, but also for policy makers and many other stakeholders in Wales.

Their (very) public dissemination and use as school performance data, and importantly in the United Kingdom context, the considerable attention given to these data by the media have added to the fact that student performance data in secondary schools are seen to be primarily used for the purpose of accountability, rather than serving the purpose of informing learning and improvement (OECD, 2018; Donaldson, 2015).

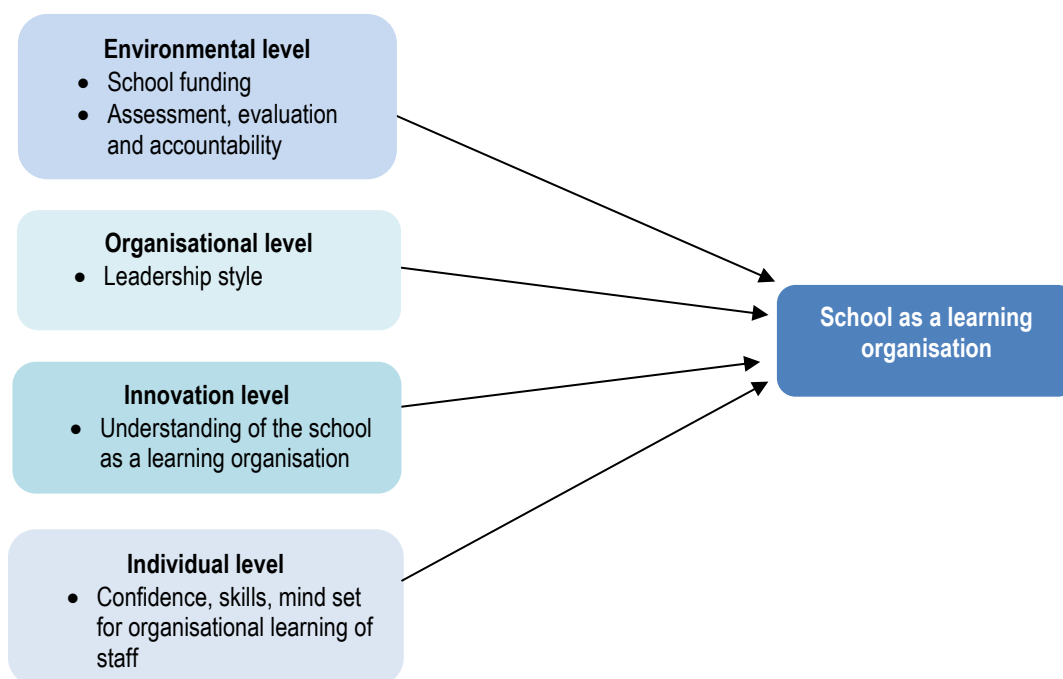
6.4 Discussion and conclusion

6.4.1 Discussion

This chapter continued the exploration of the antecedents of influence on schools developing as learning organisations that was started in Chapter 5. The evidence gathered from head teachers of four schools in Wales pointed to several antecedents of influence. As may have been expected, the

two head teachers working in the schools with a lower average SLO score noted that for several of their staff there was further work to be done to develop their confidence, skills and mind set to engage in collaborative learning and working and innovate their practice (an individual level antecedent, see Figure 6.1) – some of the key characteristics that make a SLO.

Figure 6.1 Innovation antecedents influencing schools developing as learning organisations



Although for all four schools the head teachers reported a widespread support among their staff for the ongoing curriculum reform – which the SLO is an integrated part of, for the two schools with a low average SLO score they seemed to have only a limited understanding of Wales’ SLO model – an innovation level antecedent. Our research as such corroborates the finding of a recent OECD report (2018) that concluded that more should be done to explain to schools about why Wales’ SLO model was developed, how it can guide schools in their development and how it forms an integrated part of the curriculum reform effort. Welsh Government and regional consortia have as mentioned responded to this finding by developing an online resource package for consistent messaging to raise awareness on and capacity building on Wales’ SLO model. Such actions are vital for ensuring school staff understand the logic and necessity of the model, perceive it as easy-to-use and understand how it can contribute to enhancing their daily practice (Damanpour & Schneider, 2009;

Korteland & Bekkers, 2008; Viennet & Pont, 2017), with particular reference to the implementation of the new school curriculum.

In addition, from the interviews two organisational level antecedents stood out. First were the budget pressures that seemed to affect primary schools in particular. Second, were the differences in leadership styles of the head teachers interviewed. For three head teachers the leadership styles seemed much in line with what one would expect to see in a SLO (see Chapter 3). They came across as proactive, creative change agents and seemed well aware of their role in creating a climate of trust and mutual respect for open dialogue, sharing of knowledge and collaborative learning to thrive. For doing so these head teachers seemed to devote the necessary time and resources to the development of the capacity of the middle leaders in their school.

The head teacher of the one remaining school (with a low average SLO score) seemed less ambitious and confident, with a noticeable tendency to point towards barriers in the system (i.e. environmental antecedents) for developing a SLO. The absence of a transformational leadership style seemed to prevent the head teacher from reflecting on his/her⁵ own role and capacity, that of school staff and the school organisation at large. Therefore, agreeing with the findings of the above-mentioned OECD report (2018), further investments in the capacity of the present and future school leaders would seem needed for this kind of critical reflection to become the standard and for developing a strong cohort of leaders that can transform their schools into learning organisations.

In terms of the environmental antecedents, our study pointed to two factors of influence. These factors were raised by all head teachers, so with no differences between the high- and low scoring schools on the SLO scale. First, all head teachers mentioned the differences in school funding models between local authorities causing inequalities and that these are causing uncertainties and adding to the frustrations about the budget pressures that are limiting schools' capacity to develop as learning organisations.

Second, and possibly the biggest challenge for schools, in particular secondary schools, were the high-stakes assessment, evaluation and accountability arrangements in education in Wales. The head teachers believed these have tempered people's willingness and confidence to do things

⁵ The gender-neutral phrasing is to help ensure the anonymity of the interviewee.

differently and innovate their practice. They noted that existing arrangements lacked in coherence and are driven by accountability demands, rather than serving the purpose of learning and improvement.

The identification of the assessment, evaluation and accountability arrangements as a factor negatively influencing schools ability to develop as learning organisations is not surprising. Other studies have found evidence that performance information when used in a high-stakes environment, instead of leading to actual organisational learning can result in blame avoidance behaviour among politicians and managers and the naming and shaming of public organisations (Daly, 2009; Hood, 2013; Nielsen & Baekgaard, 2015). Where there is little tolerance of error, openness to problems and incentives to the taking of initiatives and risks are reduced. In addition, it is well documented that in high-stakes systems where performance objectives lack credibility, leaders expend a lot of energy on ‘gaming the system’ in order to produce the required results (OECD, 2017). Such dynamics inevitably impose powerful limitations on schools’ ability to learn – and as such develop into learning organisations. The ongoing review of the assessment, evaluation and accountability arrangements should therefore (as Welsh Government intends to do) be used to encourage and give people the confidence to do things differently and engage in critical reflections; these are some of the hallmarks that make a SLO.

Furthermore, three of the four ‘Ts’ of the SLO – trust, time and thinking together, were frequently mentioned in the interviews (explicitly or implicitly) as having a positive influence on schools developing as learning organisations. The fourth, technology, wasn’t mentioned at all to our surprise. We are not clear what to make of this finding. Therefore, future research on the antecedents of the SLO should consider looking more explicitly into the role technology for schools developing as learning organisations.

One of the strengths of our study (i.e. this chapter) is the use of qualitative research methods. Repeated calls have been made to further investigate the question of what conditions enable or hinder schools in developing as learning organisations (Gandolfi, 2006; Silins, Zarins, & Mulford, 2002; Harris & Jones, 2018). Although survey research is useful for this purpose – as evidenced in Chapter 5, it is limited by the predefined nature of the factors to be explored. Also, there are obvious limitations in terms of the number of questions that can be asked.

This chapter has qualitatively explored the antecedents of influence to schools developing as learning organisations. The interviews led to the identification of several antecedents across all four innovation levels of the framework proposed by De Vries, Bekkers and Tamers (2014); thereby expanding on the findings of Chapter 5 which identified a number of individual- and organisational level antecedents. This breadth and depth in analysis would have been difficult, if not impossible to achieve through survey research alone (Creswell, 2013).

Nevertheless, recognising the potential of survey research to examine a number of antecedents that influence schools in developing as learning organisations on a large scale, i.e. by asking the views of a many respondents, future survey research should ideally – as we have done – be complemented by comparative case study analysis. We adopted a sequential explanatory research design (Creswell & Plano Clark, 2007), where quantitative data is first gathered and analysed and based on the analysis, positive and negative outlying cases are selected to identify best practices and pitfalls through a comparative multi-case study (Eisenhardt & Graebner, 2007). This approach we believe has allowed for deepening and enriching our understanding of results.

Several (other) limitations of this study need to be mentioned. First, the respondents we interviewed were head teachers only. As our findings from the previous chapter show their views tend to differ significantly from teachers and learning support staff. For future research it would therefore seem worthy to explore the views of teachers and learning support staff as well. This will allow for exploring commonalities and differences in opinions which are vital for identifying strengths and areas for improvement.

Second, although drawn from a random sample of schools, the small number of cases we studied does not enable us to make generalisations. Nevertheless, the main objective of this study was not to obtain a representative sample of schools to generalise our findings, rather it was to enhance our understanding of the factors of influence on schools developing as learning organisations. The approach of identifying and focussing on outliers in terms of schools' SLO score (i.e. the sequential explanatory research design) has proven valuable in this regard as it revealed several interesting findings between the schools at both sides of the spectrum, while importantly also pointing to some commonalities.

6.4.2 Conclusion

Reiterating the conclusion of the previous chapter, our research has shown that a better understanding of the antecedents that influence schools' ability to develop as learning organisations can be valuable for educators, policy makers, scholars and others alike. Responding to this study's third sub-question, "*what antecedents influence schools in developing as learning organisations?*", this chapter has identified several factors of influence, some of which warrant action at the individual- and organisational levels, while others argue for a response from government and other policy makers.

First, are the differences in levels of confidence, skills and mind set of staff to engage in organisational learning. For the two schools with a relatively low average SLO score (as may have been expected) many of its staff seemed to lack the confidence, skills and mind set to engage in collaborative learning and working and turn to colleagues for advice. Second, the analysis revealed a similar pattern concerning the intrinsic attributes of the SLO. The staff in these two schools also seemed to have a limited understanding of Wales' SLO model, how it could support school improvements and fits the curriculum reform effort. Further communication and capacity building on the SLO as such seems warranted.

At the organisational level two antecedents stood out: leadership style and budget pressures, with the latter being particularly challenging for primary schools. In addition, differences in local funding models, as well as the high-stakes assessment, evaluation and accountability arrangements – two environmental antecedents – were found to negatively influence schools' ability to develop as learning organisations, in particular secondary schools. The analysis from the interviews suggested that out of all antecedents the latter seemed to be the most influential, in this case negative terms, to schools developing as learning organisations.

Additional research is needed to gain a better understanding of these and possible other factors, as well as the relative importance of the different levels of innovation antecedents that enable or hinder schools in developing as learning organisations in Wales – and in other countries. Such knowledge has the potential to further inform the actions of policy makers, educators and all others wanting to develop their schools as learning organisations. Future research should consider using a combination of survey research and qualitative research (as we did in Chapters 5 and 6) as this

allows for drawing from the strengths of both methods, and as such deepen our understanding of the results.

We will now turn to the examination of the SLO and its association with HR outcomes in the following two chapters (7 and 8), before concluding (in Chapter 9).

REFERENCES

- Boreham, N., & Reeves, J. (2008). Diagnosing and Supporting a Culture of Organizational Learning in Scottish Schools. *Zeitschrift für Pädagogik*, 54(5), 637-649.
- Choi, M., & Ruona, W. (2011). Individual Readiness for Organizational Change and Its Implications for Human Resource and Organization Development. *Human Resource Development Review*, 10(1), 46-73.
- Creswell, J. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks: Sage Publications Inc.
- Creswell, J., & Plano Clark, V. (2007). *Designing and Conducting Mixed Methods Research*. Thousand Oaks: Sage.
- Daly, A. (2009). Rigid response in an age of accountability: The potential of leadership and trust. *Educational Administration Quarterly*, 45(2), 168-216.
- Damanpour, F., & Schneider, M. (2009). Characteristics of Innovation and Innovation Adoption in Public Organizations: Assessing the Role of Managers. *Journal of Public Administration Research and Theory*, 19(3), 495-522.
- De Vries, H., Bekkers, V., & Tummers, L. (2014). Innovation in the public sector: A systematic review and future research agenda. *Public Administration Review*, 94(1), 146-166.
- Donaldson, G. (2015). *Successful Futures: Independent Review of Curriculum and Assessment Arrangements in Wales*. Cardiff: Welsh Government.
- Eisenhardt, K., & Graebner, M. (2007). Theory Building From Cases: Opportunities And Challenges. *Academy of Management Journal*, 50(1), 25-32.
- Enticott, G., Boyne, G., & Walker, R. (2008). The use of multiple informants in public administration research: Data aggregation using organizational echelons. *Journal of Public Administration Research and Theory*, 19(2), 229-253.
- Gandolfi, F. (2006). Can a School Organization be Transformed into a Learning Organization? *Contemporary Management Research*, 2(1), 57-72.
- George, B., & Desmidt, S. (2018). Strategic-decision quality in public organizations: An information processing perspective. *Administration & Society*, 50(1), 131-156.
- Harris, A., & Jones, M. (2018). Leading Schools as Learning Organizations. *School Leadership & Management*, 38(4), 351-354.

- Hood, C. (2013). *The Blame Game: Spin, Bureaucracy, and Self-Preservation in Government*. Princeton: Princeton University Press.
- Korteland, E., & Bekkers, V. (2008). The Diffusion of Electronic Service Delivery Innovations in Dutch E-policing: The Case of Digital Warning Systems. *Public Management Review*, 10(1), 71-88.
- Nielsen, P., & Baekgaard, M. (2015). Performance information, blame avoidance, and politicians' attitudes to spending and reform: Evidence from an experiment. *Journal of Public Administration Research and Theory*, 25(2), 545-569.
- OECD. (2013). *Innovative Learning Environments*. Paris: OECD Publishing.
- OECD. (2017). *The Welsh Education Reform Journey: A Rapid Policy Assessment*. Paris: OECD Publishing.
- OECD. (2018). *Developing Schools as Learning Organisations in Wales*. Paris: OECD Publishing.
- Schleicher, A. (2012). *Preparing Teachers and Developing School Leaders for the 21st Century: Lessons from around the World*. Paris: OECD Publishing.
- Senge, P., Cambron-McCabe, N., Lucas, T., Smith, B., & Dutton, J. (2012). *Schools That Learn*. New York: Crown Business, New York.
- 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.
- Vakola, M. (2014). What's in there for me? Individual readiness to change and the perceived impact of organizational change. *Leadership & Organization Development Journal*, 35(5), 195-209.
- Viennet, R., & Pont, B. (2017). *Education policy implementation: A literature review and proposed framework*. Paris: OECD Publishing.
- Walker, R. (2006). Internal and External Antecedents of Process Innovation: A Review and Extension. *Public Management Review*, 16(1), 21-44.
- Watkins, K., & Marsick, V. (1999). Schools as Learning Communities. Sculpting the Learning Community: New Form of Working and Organizing. *NASSP Bulletin*, 83(604), 78-87.
- Welsh Government. (2016). *National School Categorisation System Guidance Document for Schools, Local Authorities and Regional Consortia*. Cardiff: Welsh Government.

Welsh Government. (2019). *Schools as learning organisations*. Retrieved from HWB:

<https://hwb.gov.wales/storage/f87e720f-8568-4a60-9383-55e20b9a1bb7/schools-in-wales-as-learning-organisations.pdf>.

Annex 6A. Guiding questions for semi-structured interviews

- What do you think of the idea of a school as a learning organisation?
- How do your staff think about developing the school as a learning organisation? Are they enthusiastic about the idea?
- What are the core values in your organisation?
- How does the school as a learning organisation fit in these?
- Are there one or more change agents in your school that are promoting the development of your school as a learning organisation?
- To what extent do you think your organisation has adopted the characteristics that make a school a learning organisation?
- Why do you think that is? What factors are of influence on this?
- What measures have/are you taking or planning to take to develop your school as a learning organisation?
- Are there other issues that you think are important for me to know?

**CHAPTER 7. SCHOOLS AS LEARNING ORGANISATIONS AND HR
OUTCOMES: EVIDENCE BASED ON TALIS DATA**

7.1 Introduction

During the last 25 years policy makers, educators and scholars around the globe have been drawn to the intuitive appeal and promise of the learning organisation concept for enhancing organisations' capacity to adapt to a changing environment and ultimately improve both student- and staff outcomes (Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012; Silins, Mulford, & Zarins, 2002; Silins & Mulford, 2004). This chapter sets out to explore whether the school as a learning organisation is associated with human resource (HR) outcomes; thereby informing the answering of the fourth sub-question.

Though some studies have provided evidence of a positive relationship with HR outcomes, like teachers' self-efficacy and job satisfaction (Higgins, Ishimaru, Holcombe, & Fowler, 2012; Schechter & Qaadach, 2013; Silins, Mulford, & Zarins, 2002; Erdem, İlğan, & Uçar, 2014; Razali, Amira, & Shobri, 2013), the empirical evidence base is limited to date, especially across countries.

This chapter responds to this gap in research knowledge. It starts with an exploration of the literature on the learning organisation in public organisations and schools in particular, staff job satisfaction and self-efficacy, and the evidence on the relationship between these concepts (Section 7.2). This is followed by a methodological section that explains how data from OECDs 2013 Teaching and Learning International Survey (TALIS) was used to measure our theorised school as a learning organisation (SLO) model that was presented in Chapter 3 (Section 7.3). The results of the analysis are presented in Section 7.4. These are elaborated upon, followed by a discussing on the strengths and limitations of this study and areas for future research (Section 7.5) before concluding the chapter.

7.2 Literature review

7.2.1 An integrated school as a learning organisation model

This study as mentioned adopts the SLO model proposed in Chapter 3 that defined a school that is a learning organisation as one “that 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”. Utilising this seven-dimension SLO model, this chapter explores whether schools that have put in practice several of the characteristics of a learning organisation indeed as

the evidence suggests are associated with a selection of positive HR outcomes i.e. the perceived job satisfaction and self-efficacy of teachers.

7.2.2 Job satisfaction and the school as a learning organisation

Job satisfaction is a popular research topic in the education literature (Dinham & Scott, 2000; Evans, 2000; Butt, et al., 2005; Pepe, Addimano, & Veronese, 2017). Research from the field of education shows that job satisfaction leads to enhanced commitment, which in turns leads to better job performance (Lee, Carswell, & Allen, 2000; Kardos & Johnson, 2007). Moreover, job satisfaction plays a key role in teachers' attitudes and efforts in their daily work with children (Caprara, Barbaranelli, Borgogni, & Steca, 2003; Banerjee, Stearns, Moller, & Mickelson, 2016). The evidence as such shows that job satisfaction is vital for school staff, the organisation and importantly also for children.

Dinham and Scott (2000) in their seminal study identified three “factors” of variables that influence teacher job satisfaction. First, their research confirmed many aspects of Sergiovanni's (1967) and Herzberg et al.'s (1959) studies, that intrinsic factors such as altruism and personal growth proved the most significant aspects in determining teacher satisfaction. Second, several hygiene factors such as increasing workloads, the low status of the profession and low salaries have been found to fuel dissatisfaction (Butt, et al., 2005; Crossman & Harris, 2006; Dinham & Scott, 1998; Lam & Yan, 2011). Third, and of direct relevance to this study, school-based factors such as a supportive school climate, social support and opportunities to participate in decision making – all characteristics of a learning organisation (Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012), have been found to positively influence teacher job satisfaction (Zellars & Perrewe, 2011).

Building on these findings, the empirical research evidence available on the relationship between the SLO and job satisfaction – although limited to date, points to a positive relationship between the two (Erdem, İlğan, & Uçar, 2014; Razali, Amira, & Shobri, 2013), resulting in the following hypothesis:

Hypothesis 1: Teachers who perceive their school to function as a learning organisation are more likely to report a higher level of job satisfaction.

7.2.3 Self-efficacy and the school as a learning organisation

Self-efficacy is a topic that has received the necessary research attention in the education literature (Jaafari, Karami, & Soleimani, 2012; Tobin, Muller, & Turner, 2006; Zee & Kooman, 2016). Perceived self-efficacy is founded on the agentic perspective of social cognitive theory (Bandura, 1994). Bandura defined people's perceived self-efficacy as their beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives. Research evidence shows that belief in one's capabilities contribute uniquely to motivation and action (Bandura & Locke, 2003).

Also in the field of education is there increasing evidence that teachers' sense of self-efficacy is an important factor influencing academic outcomes of students, and simultaneously enhances teachers' job satisfaction (Klassen & Chiu, 2010; Caprara, Barbarenelli, Steca, & Malone, 2006). Lower levels of teachers' self-efficacy, on the other hand, have been linked to teachers experiencing more difficulties with student misbehaviour and student learning, and lower levels of job satisfaction (Caprara, Barbarenelli, Steca, & Malone, 2006; Klassen & Chiu, 2010; Collie, Shapka, & Perry, 2012).

Several studies show a positive relationship between the SLO and teacher self-efficacy (Jaafari, Karami, & Soleimani, 2012; Tobin, Muller, & Turner, 2006; Yoon & Kayes, 2016). Some studies have for example demonstrated that school climate, cooperation and autonomy in the classroom – key characteristics of a SLO (Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012), increases teachers' self-efficacy, as well as their job satisfaction (Lee, Dedrick, & Smith, 1991; Lacks & Watson, 2018). The evidence available as such suggests there is likely to be a positive relationship between the SLO and teacher self-efficacy.

Hypothesis 2: Teachers who perceive their school to function as a learning organisation are more likely to report a higher level of self-efficacy.

7.3 Methods

To test these hypotheses multiple regression analysis was applied, using data from OECDs TALIS 2013 survey. The choice for quantitative analysis using survey research over qualitative methods stems from the interest to examine the views of many teachers, across a large number of countries. Survey research allows for examining doing this in a relatively quick and easy way (Creswell,

2013). In addition, there was no alternative data available to reliably measure the variables of interest across so many countries. For the multiple regression analysis Stata version 15 was used.

7.3.1 Sampling and response

TALIS is an international representative survey of teachers and principals that reports on different aspects of their work (OECD, 2014). TALIS 2013 set the minimum sample size at 20 teachers and 1 principal within each participating school. The minimum sample size of schools per country was set at 200; although smaller countries were allowed smaller sample sizes. A total of 38 countries took part in TALIS 2013 at the lower secondary level of which 35 met the sample requirements. Missing data were excluded from the analysis, resulting in response data of more than 74 800 lower secondary teachers that was used to investigate the relationship between the SLO and its relation to teachers' job satisfaction and self-efficacy.

7.3.2 Measures

Dependent variables

Two dependent variables were explored through multiple regression modelling: teacher job satisfaction with the current work environment and teacher self-efficacy. TALIS measures teacher job satisfaction through two aspects – satisfaction with the profession and satisfaction with the current work environment (2014). This study examines the latter as a dependent variable considering its interest in the relationship between the SLO, i.e. the work environment (or school-based factors (Dinham & Scott, 2000)) (see Annex 7A).

In addition, TALIS measures three aspects of teacher self-efficacy: classroom management, instruction and student engagement; each consisting of four survey items (OECD, 2014). The provided aggregate scale for measuring teacher overall self-efficacy was used in the multiple regression analysis. All items were represented on a four-point Likert scale (1= 'strongly disagree', 2 = 'disagree', 3 = 'agree', 4 = 'strongly agree').

Independent variables

The independent variables of the multiple regression models, i.e. several of the key characteristics of the SLO, were defined through a construct validity exercise, using data from the TALIS 2013

teacher questionnaire. The seven-dimension model was mapped onto the teacher questionnaire to identify those survey items that captured the characteristics that make a SLO. The views of three experts were sought to support and validate this process. These experts had in depth knowledge of the SLO concept, as well as the TALIS survey. As a result of this exercise, 22 items were identified that captured several of the key characteristics that make a SLO, as proposed in Chapter 3 (see Annex 7B). Some of these items were reverse coded and subsequently recoded for the aim of the study.

After checking for the suitability of the data for factor analysis, the theoretical fit of these survey items was tested through an exploratory factor analysis and reliability analysis. Principal axis factoring was employed because the SLO cannot be directly measured using the TALIS survey but, rather, is a latent construct that underlies answer patterns to our selected questions (Fabrigar & Wegener, 2012). Moreover, an oblique rotation was used for the exploratory factor analysis because of the expected correlation of the factors (Field, 2013; Henson & Roberts, 2006; Pohlmann, 2004), which we expected to be the case based on the model proposed in Chapter 3. This exercise resulted in the identification of four SLO factors – “professional learning engagement”, “professional learning barriers”, “embedding systems” and “distributed leadership”, as will be further explained below.

The regression analysis consisted of testing the two hypotheses posed above by using these identified factors as independent variables to explore their individual relationships with teachers’ self-efficacy and job satisfaction with the current work environment.

Control variables

Some commonly used control variables were included in the multiple regression analysis because of their theorised influence on the dependent variables of this study: gender, age, highest level of formal education, employment status, completed teacher education or training programme, and student deprivation measured by the proportion of students in the school from socio-economically disadvantaged homes. These were selected as participation in teacher education and professional development is reported to positively influence teacher self-efficacy (Yoo, 2016; OECD, 2014), as are more years of working experience and age positively associated with self-efficacy (Klassen & Chiu, 2010). Research also suggests that women are more likely to report higher levels of job

satisfaction than men (Ma & MacMillan, 2010; Klassen & Chiu, 2010). Teachers in socio-economically disadvantaged schools are likely to report lower levels of job satisfaction (Matsuoka, 2015; OECD, 2014). In addition, workload challenges are reported to negatively influence teacher job satisfaction, so it can be reasoned that part-time teachers are more likely to report higher levels of job satisfaction (Butt, et al., 2005; Crossman & Harris, 2006; Dinham & Scott, 1998; Conway & Brinner, 2002).

In addition, to account for the confounding influence of country-level variables and control for the nested nature of the data (i.e. schools are nested in countries), dummy variables for the countries and economies were included in the analysis.

7.4 Results

Exploratory factor analysis and reliability analysis

Before starting the multiple regression analysis, this study as explained first conducted an exploratory factor analysis and reliability analysis to measure the independent variables of the regression models. The exploratory factor analysis revealed a four-factor SLO model – “embedded systems”, “professional learning engagement”, “distributed leadership” and “professional learning barriers” (see Table 7.1 and Annex 7C). Having obtained the factor structure, the Cronbach’s alpha was determined for each factor. These were all above 0.70 which is acceptable for newly developed scales (Byrne, 2010).

The fact that the analysis revealed four factors rather than seven factors (i.e. dimensions) is not surprising considering TALIS 2013 has not been specifically designed for measuring the SLO. The analysis however at the same time showed the potential of using TALIS for measuring several of the key characteristics of the SLO – and importantly across many countries. Also, these identified factors are found in many other conceptualizations of the SLO (Bowen, Rose, & Ware, 2006; Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012; Silins, Zarins, & Mulford, 2002).

Table 7.1 Identified factors and the school as learning organisation

Seven-dimension school as a learning organisation model	Four identified school as a learning organisation factors
• Developing and sharing a vision centred on the learning of all students	
• Creating and supporting continuous learning opportunities for all staff	• Professional learning engagement • Professional learning barriers
• Promoting team learning and collaboration among all staff	
• Establishing a culture of inquiry, innovation and exploration	
• Embedding systems for collecting and exchanging knowledge and learning	• Embedding systems
• Learning with and from the external environment and larger learning system	
• Modelling and growing learning leadership.	• Distributed leadership

After checking whether the regression models of interest adhered to the assumptions underlying linear regression modelling (which was the case), the study continued by exploring descriptive statistics of the data and correlations between the measured variables. The results are presented in Table 7.2 below.

Table 7.2 Descriptive statistics and correlations for the variables

	Mean	SD	Min	Max	1	2	3	4	5	6
1. Teachers' job sat. work environment	2.84	0.36	1	4	1.00					
2. Teachers' self-efficacy	3.22	0.49	1	4	0.25*	1.00				
3. Embedded systems	2.98	0.78	1	4	0.16*	0.27*	1.00			
4. Professional learning engagement	2.62	0.61	1	4	0.23*	0.20*	0.35*	1.00		
5. Distributed leadership	2.81	0.57	1	4	0.28*	0.14*	0.25*	0.36*	1.00	
6. Professional learning barriers	2.66	0.66	1	4	0.16*	0.08*	0.07*	0.22*	0.23*	1.00

Note: N: 74 801 teachers. Correlations marked with a star are significant at the 5% level.

Table 7.2 shows that the dependent variables and independent variables are all significantly correlated with each other. These relationships are explored in more detail below.

Furthermore, teachers in the sample had on average 16 years of experience, and 69% were women. Less than 20% of teachers worked part-time. Nine out of ten (91%) had completed a teacher

education or training programme and almost all had an ISCED 5 level degree⁶ (97%). Close to 80% of the teachers worked in schools where the share of deprived students did not exceed 30%.

Multiple regression analysis

Multiple regression analyses were conducted to test the two hypotheses. Hypothesis 1 states that teachers who perceive their school to function as a learning organisation are more likely to report a higher level of job satisfaction. The results of the regression analysis presented in Table 7.3 support this hypothesis. These show that all four identified SLO factors have a significant and positive relationship with teacher job satisfaction with their current work environment. In particular “distributed leadership” and then “professional learning engagement” seem most important to teachers’ job satisfaction with their work environment. Not surprisingly, the factor “professional learning barriers” (which was reverse coded) is also found to have a significant, positive relationship with teachers’ job satisfaction with their work environment. This suggests that a reduction of professional learning barriers is likely to positively influence teachers’ job satisfaction with the work environment.

Hypothesis 2 states that teachers who perceive their school to function as a learning organisation are more likely to report a higher level of self-efficacy. The results of the regression analysis presented in Table 7.3 also confirm this hypothesis. These show that all four identified factors have a significant relationship with teacher self-efficacy. The factor “embedded systems” was found to be the most influential on teacher self-efficacy. As may have been expected, the (reverse-coded) factor “professional learning barriers” is also here found to have a positive relationship with teacher self-efficacy.

⁶ First stage of tertiary education degree according to the 1997 International Standard Classification of Education, see http://www.unesco.org/education/information/nfsunesco/doc/isced_1997.htm.

Table 7.3 Results of regression analysis for the four SLO factors; job satisfaction with work environment; and self-efficacy

No.	Predictive variables	β	t	ρ	R^2	Overall F
Job satisfaction with work environment						
1	Embedded systems	0.06	14.83	0.00	0.19	F(48, 5924) = 247.70; $\rho = 0.00$
2	Professional learning engagement	0.13	27.77	0.00		
3	Distributed leadership	0.21	47.18	0.00		
4	Professional learning barriers	0.11	25.24	0.00		
5	Years as teachers	-0.05	-12.66	0.00		
6	Female	-0.01	-2.80	0.01		
7	Working part-time	-0.01	-1.68	0.09		
8	Completed teacher education or training programme	0.01	1.51	0.13		
9	Highest level formal education (Above ISCED 5 is reference group)					
	Below ISCED 5	0.02	3.72	0.00		
	ISCED 5	0.01	1.92	0.06		
10	Share of deprived students (0 is reference group)					
	From 1 to 10%	-0.04	-4.46	0.00		
	From 11 to 30%	-0.06	-6.99	0.00		
	From 31 to 60%	-0.05	-7.80	0.00		
	Above 60%	-0.04	-6.81	0.00		
Self-efficacy						
1	Embedded systems	0.19	47.67	0.00	0.31	F(48, 5924) = 543.56; $\rho = 0.00$
2	Professional learning engagement	0.05	11.15	0.00		
3	Distributed leadership	0.06	16.83	0.00		
4	Professional learning barriers	0.04	9.75	0.00		
5	Years as teachers	0.06	18.75	0.00		
6	Female	0.03	10.16	0.00		
7	Working part-time	-0.03	-8.24	0.00		
8	Completed teacher education or training programme	0.03	8.09	0.00		
9	Highest level formal education (Above ISCED 5 is reference group)					
	Below ISCED 5	-0.01	-1.64	0.10		
	ISCED 5	-0.01	-1.72	0.09		
10	Share of deprived students (0 is reference group)					
	From 1 to 10%	-0.02	-3.39	0.00		
	From 11 to 30%	-0.04	-5.07	0.00		
	From 31 to 60%	-0.03	-4.93	0.00		
	Above 60%	-0.02	-3.53	0.00		

Notes: Data were clustered at the school level because of the nested nature of the data. In addition, country-level dummies were added to the regression models.

7.5 Discussion and conclusion

7.5.1 Discussion

The purpose of this chapter was to contribute to the answering of this study's fourth sub-research question, "*to what extent is the school as a learning organisation associated with HR outcomes?*". It has done this by investigating the relationship between the SLO and teachers' job satisfaction with the current work environment and their self-efficacy across 35 countries and economies that participated in TALIS 2013 and met the sample requirements. Based on the public administration and education literatures, two hypotheses were formulated that were tested with multiple regression analysis, making use of data that was collected through the TALIS 2013 teacher questionnaire. The very large sample size, its high internal consistency values, the fact that the data meets all regression criteria and other studies have successfully applied factor analysis on TALIS (OECD, 2014; Desa, 2014), all attest to the reliability and validity of the analysis.

Exploratory factor analysis and reliability analysis was applied to 22 selected items of the TALIS 2013 teacher questionnaire that respond to our SLO model that was proposed in Chapter 3. Four factors were identified – "professional learning engagement", "professional learning barriers", "embedding systems" and "distributed leadership" – that were used to explore the relationship between the SLO and teachers' job satisfaction with the current working environment and their self-efficacy through multiple regression analysis. It is important to note these identified factors are found in many other conceptualisations of the SLO (Bowen, Rose, & Ware, 2006; Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012; Silins, Zarins, & Mulford, 2002); thereby further adding to the relevance of this study's findings.

The analysis allows for drawing important conclusions, while at the same time pointing to the need for further research. First, the analysis revealed a positive relationship between all four identified SLO factors and teacher's job satisfaction with the current working environment; thereby expanding the steadily growing research evidence on this relationship. In practical terms, our study as such confirms the benefits for teachers when schools develop as learning organisations.

The data suggests that in particular "professional learning engagement" and "distributed leadership" are critical for teachers' job satisfaction with their work environment. As could be expected, the

reduction of “professional learning barriers” is likely to positively influence teachers’ job satisfaction with their work environment.

As such, the evidence suggests that the investment in distributed leadership, ensuring staff to engage in professional learning, reducing learning barriers and embedding systems for knowledge sharing and learning are important actions for creating the conditions for teachers’ job satisfaction with their current working environment to thrive. Here lies an important task for school leaders (Harris & Jones, 2018), however while committed school leaders are key to the success of schools as learning organisations, without government/policy support for professional learning and reducing learning barriers schools are unlikely to develop as learning organisations (OECD, 2018) which our study shows is important for enhancing teachers’ job satisfaction.

Second, the analysis also revealed a positive relationship between all four SLO factors and teachers’ self-efficacy, although the β ’s were quite small. The factor “embedded systems” was found to be the most influential on teachers’ self-efficacy.

Coming back to the small β ’s that were identified for the four SLO factors in relation to teacher self-efficacy, we decided to repeat the regression analysis but this time with an index of the SLO as independent variable. This was done to examine if ‘the sum’ of the SLO factors is indeed ‘larger than the individual parts’ (see Chapter 3); meaning that the β was likely to be higher. The four SLO factors were averaged to create an index of the SLO which was then used as the independent variable for the regression analysis. The analysis indeed showed a β of 0.23 for the SLO index (see Annex 7D) which was significantly higher than any of the individual SLO factors (Table 7.3).

A similar pattern was revealed for the dependent variable job satisfaction with the working environment, which showed an even higher β of 0.35.

Although recognising the methodological limitations of this study that call for further research on this issue (for example using qualitative research), these initial findings would seem to suggest that when the individual SLO factors/dimensions are combined, they strengthen one another and as such have a greater positive influence on teacher self-efficacy and job satisfaction. The analysis of Chapter 8 allowed for further looking into this issue.

As with all research, this study has its limitations. An obvious limitation is the use of a non-purposefully designed survey for measuring the SLO. Having said that, the analysis showed the potential of using OECDs TALIS survey to explore some of the key characteristics that make a school a learning organisation and their relationship with HR outcomes like teachers' job satisfaction and self-efficacy. In particular the potential for doing cross-country research at such a large scale provides an important and underutilised avenue for enriching both the theory and practice on the SLO.

Another limitation is that TALIS currently does not allow for measuring the self-efficacy and job satisfaction of all school staff. While both are measured for teachers and the latter can also be measured for principals, the views of support staff are not examined, while they form an essential part of the school organisation.

In addition, all data are derived from a single, self-reported survey so common source bias could be an issue. Several *ex ante* and *ex post* remedies were applied to cope with common source bias (Podsakoff, 2012). *Ex ante* remedies that were applied to the TALIS 2013 teacher questionnaire include: a) using existing and validated items; b) clearly labelling the response possibilities; c) installing a psychological separation between the variables by adding these on different pages / chapters in the survey; d) emphasizing in the introduction that participation to the survey is voluntary and anonymous; and e) pretesting the survey to ensure relevance and avoid abstract or complex questions. Also, as an *ex post* remedy, a common method factor was created in Stata. All observed items loaded onto the same latent factor and model fit was assessed. All fit indices were acceptable, which is an indication that there is no common method factor that fits the gathered data (George & Pandey, 2017; Podsakoff, 2012). In addition to these remedies, it is worth noting that there was no alternative data available to reliably measure these variables across so many countries and economies (George & Pandey, 2017).

Future research could explore the relationship between the SLO and teachers' job satisfaction with their work environment and their self-efficacy also at other levels of education. Six countries and economies have conducted the TALIS survey in primary schools in 2013. Eleven did so in upper secondary schools. In the next round of TALIS (2018), more countries will implement the survey at these levels. It will be of great interest to explore possible differences and commonalities between different levels of education within countries and economies.

Furthermore, future research could take into account the differences between national contexts, policies and practices. The regressions included country dummies that meant to capture any country specific unobservables. Future research could include organisational- and contextual variables. National culture for example would seem a particularly important variable to include given its known influence on staff outcomes like job satisfaction and motivation (Eskildsen, Kristensen, & Antvor, 2010; Kim, 2017; Sledge, Miles, & Coppage, 2008; Westover & Taylor, 2010).

Ideally however future survey research on the SLO is conducted through a purposefully designed survey to ensure at all seven dimensions can be investigated. Several of such surveys have been developed during the last decades and have shown their value for enriching the literature (Silins, Zarins, & Mulford, 2002; Ho Park, 2008; Moloï, Grobler, & Gravett, 2006; Bowen, Rose, & Ware, 2006). However, recognising the limitations of using only self-reported survey data, ideally such survey research is part of a mixed methods design as the additional use of qualitative research will allow for deepening and triangulation of the analysis (Creswell, 2013).

7.5.2 Conclusion

To conclude this chapter, in the present day and age education professionals are often faced with many pressures, including busy work schedules, accountability pressures, increasingly vocal and demanding parents, continuous pressures for further professional development. This chapter has contributed to the debate on the topic by analysing some of the strategies, processes and practices that make a school a learning organisation and are thought to enhance teachers' job satisfaction and self-efficacy. Its main conclusion is that this is indeed the case.

Although further research is needed (for example using qualitative research), the analysis suggested that when the individual SLO factors/dimensions are combined, they strengthen one another and as such have a greater positive influence on teacher self-efficacy and job satisfaction. Although recognising the limitations of our research, this at the very least is an interesting finding deserving further examination given its potential importance for theory and practice. We will therefore also further investigate this issue in the following chapter (8).

Our fourth sub-question, “*to what extent is the school as a learning organisation associated with HR outcomes?*”, can as such (tentatively) be answered affirmatively based on the analysis of this

chapter which provides important supporting evidence for the logic of the ‘why’ schools should develop as learning organisations.

Additional research is needed however to further examine these relationships, within and across countries. This study has shown the value of using a survey such as TALIS for this purpose. Ideally, however a purposefully designed survey on the SLO is used, as part of a mixed methods study design because it may allow for a deeper understanding of the results.

The following chapter (8) (partially) responds to our suggestion for further research by continuing the exploration of the relationship between the SLO and HR outcomes by using a purposefully designed survey, the earlier presented SLO survey (in Chapter 4), that was used as part of a large-scale study on the SLO in Wales (OECD, 2018).

REFERENCES

- Bandura, A. (1994). Self-efficacy. In V. Ramachaudran, *Encyclopedia of human behavior* (pp. 71-84). New York: Academic Press.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Bandura, A., & Locke, E. (2003). Negative self-efficacy and goal effects revisited. *Journal of Applied Psychology, 88*(1), 87-89.
- Banerjee, N., Stearns, E., Moller, S., & Mickelson, R. (2016). Teacher Job Satisfaction and Student Achievement: The Roles of Teacher Professional Community and Teacher Collaboration in Schools. *American Journal of Education, 123*(2), 203-241.
- Bowen, G., Rose, R., & Ware, W. (2006). The Reliability and Validity of the School Success Profile Learning Organization Measure. *Evaluation and Program Planning, 29*, 97-104.
- Butt, G., Lace, A., Fielding, A., Gunter, H., Rayner, S., & Thomas, H. (2005). Teacher job satisfaction: Lessons from the TSW pathfinder project. *School Leadership and Management, 25*(5), 455-471.
- Byrne, B. (2010). *Structural Equation Modeling in AMOS*. New York: Routledge Taylor Francis Group.
- Caprara, G., Barbaranelli, C., Borgogni, L., & Steca, P. (2003). Efficacy beliefs as determinants of teachers' job satisfaction. *Journal of Educational Psychology, 95*(4), 821-832.
- Caprara, G., Barbarenelli, C., Steca, P., & Malone, P. (2006). Teachers' self-efficacy beliefs as determinants of job satisfaction and students' academic achievement: A study at the school level. *Journal of School Psychology, 44*(6), 473-490.
- Collie, R., Shapka, J., & Perry, N. (2012). School climate and socio-emotional learning: Predicting teacher stress, job satisfaction and teaching efficacy. *Journal of Educational Psychology, 104*(4), 1189-1204.
- Conway, N., & Brinner, R. (2002). Full-time versus part-time employees: Understanding the links between work status, the psychological contract and attitudes. *Journal of Vocational Behavior, 61*(2), 279-301.
- Creswell, J. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*. Los Angeles: Sage Publications.

- Crossman, A., & Harris, P. (2006). Job satisfaction of secondary school teachers. *Educational Management Administration and Leadership*, 34(1), 29-46.
- Desa, D. (2014). *Evaluating Measurement Invariance of TALIS 2013 Complex Scales: Comparison between Continuous and Categorical Multiple-Group Confirmatory Factor Analyses*. Paris: OECD Publishing.
- Dinham, S., & Scott, C. (1998). A three-domain model of teacher and school executive career satisfaction. *Journal of Educational Administration*, 36(4), 362-378.
- Dinham, S., & Scott, C. (2000). Moving into the third, outer domain of teacher satisfaction. *Journal of Educational Administration*, 38(4), 379-396.
- Erdem, M., İlğan, A., & Uçar, H. (2014). Relationship between Learning Organization and Job Satisfaction of Primary School Teachers. *International Online Journal of Educational Sciences*, 6(1), 8-20.
- Eskildsen, J., Kristensen, K., & Antvor, H. (2010). The relationship between job satisfaction and national culture. *The TQM Journal*, 22(4), 369-378.
- Evans, L. (2000). *Teacher morale, job satisfaction and motivation*. London: Paul Chapman Publishing.
- Fabrigar, L., & Wegener, D. (2012). *Exploratory Factor Analysis*. New York: Oxford Press Inc.
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. London: Sage Publications Ltd.
- Friedman, I., & Kass, E. (2002). Teacher self-efficacy: a classroom-organization conceptualization. *Teaching and Teacher Education*, 18(6), 675-686.
- George, B., & Pandey, S. (2017). We Know the Yin—But Where Is the Yang? Toward a balanced Approach on Common Source Bias in Public Administration Scholarship. *Review of Public Personnel Administration*, 37(2), 245-270.
- Harris, A., & Jones, M. (2018). Leading Schools as Learning Organizations. *School Leadership & Management*, 38(4), 351-354.
- Henson, R., & Roberts, K. (2006). Use of Exploratory Factor Analysis in Published Research: Common Errors and Some Comment on Improved Practice. *Educational and Psychological Measurement*, 66(3), 393-416.
- Herzberg, F., Mausner, B., & Snyderman, B. (1959). *The motivation to work*. Piscataway: Transaction Publishers.

- Higgins, M., Ishimaru, A., Holcombe, R., & Fowler, A. (2012). Examining organizational learning in schools: The role of psychological safety, experimentation, and leadership that reinforces learning. *Journal of Educational Change*, 13(1), 67-94.
- Ho Park, J. (2008). Validation of Senge's learning organization model with teachers of vocational high schools at the Seoul megalopolis. *Asia Pacific Education Review*, 9(3), 270-284.
- Jaafari, P., Karami, S., & Soleimani, N. (2012). The relationship among organizational climate, organizational learning and teachers' self-efficacy. *Procedia - Social and Behavioral Sciences*, 47, 2212-2218.
- Kardos, S., & Johnson, S. (2007). On their own and presumed expert: New teachers' experiences with their colleagues. *Teachers College Record*, 109, 2083-2106.
- Kim, S. (2017). National culture and public service motivation: investigating the relationship using Hofstede's five cultural dimensions. *International Review of Administrative Sciences*, 83(1), 23-40.
- Klassen, R., & Chiu, M. (2010). Effect on teachers' self-efficacy and job satisfaction: Teacher gender, years of experience, and job stress. *Journal of Educational Psychology*, 102(3), 741-756.
- Lacks, P., & Watson, S. (2018). The Relationship Between School Climate and Teacher Self-Efficacy in a Rural Virginia School System. *School Leadership Review*, 13(1), 48-58.
- Lam, B., & Yan, H. (2011). Beginning teachers' job satisfaction: The impact of school-based factors. *Teacher Development*, 15(3), 333-348.
- Lee, K., Carswell, J., & Allen, N. (2000). A meta-analytic review of occupational commitment: Relations with person- and work related variables. *Journal of Applied Psychology*, 85(5), 799-811.
- Lee, V., Dedrick, R., & Smith, J. (1991). The effect of the social organization of schools on teachers' efficacy and satisfaction. *Sociology of Education*, 64, 190-208.
- Ma, X., & MacMillan, R. (2010). Influences of workplace conditions on teachers' job satisfaction. *The Journal of Educational Research*, 93(1), 39-47.
- Matsuoka, R. (2015). School Socio-economic Context and Teacher Job Satisfaction in Japanese Compulsory Education. *Educational Studies in Japan: International Yearbook*, 9, 41-54.

- Moloi, K., Grobler, B., & Gravett, S. (2006). Educators' perceptions of the school as a learning organization in the Vanderbijlpark-North District, South Africa. *South African Journal of Education, 22*(2), 88-94.
- OECD. (2014). *Talis 2013 Results: An International Perspective on Teaching and Learning*. Paris: OECD Publishing.
- OECD. (2014). *TALIS 2013 Technical Report*. Paris: OECD Publishing.
- OECD. (2018). *Developing Schools as Learning Organisations in Wales*. Paris: OECD Publishing.
- Pepe, A., Addimano, L., & Veronese, G. (2017). Measuring Teacher Job Satisfaction: Assessing Invariance in the Teacher Job Satisfaction Scale (TJSS) Across Six Countries. *European Journal of Psychology, 13*(3), 396-416.
- Podsakoff, P. S. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology, 63*, 539-569.
- Pohlmann, J. (2004). Use and Interpretation of Factor Analysis in The Journal of Educational Research: 1992-2002 . *The Journal of Educational Research, 98*(1), 14-22.
- Razali, M., Amira, N., & Shobri, N. (2013). Learning Organization Practices and Job Satisfaction among Academicians at Public University. *International Journal of Social Science and Humanity, 3*(6), 518-521.
- Schechter, C., & Qaadach, M. (2013). From illusion to reality: Schools as learning organizations. *International Journal of Educational Management, 27*(5), 505-516.
- Senge, P., Cambron-McCabe, N., Lucas, T., Smith, B., & Dutton, J. (2012). *Schools That Learn*. New York: Crown Business.
- Sergiovanni, T. (1967). Factors which affect satisfaction and dissatisfaction of teachers. *Journal of Educational Administration, 5*(1), 66-82.
- Silins, H., & Mulford, B. (2004). Schools as learning organizations: Effects on teacher leadership and student outcomes. *School Effectiveness and School Improvement, 15*(3-4), 443-466.
- Silins, H., Mulford, B., & Zarins, S. (2002). Organisational learning and school change. *Educational Administration Quarterly, 38*(5), 613-642.
- 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.

- Sledge, S., Miles, A., & Coppage, S. (2008). What role does culture play? A look at motivation and job satisfaction among hotel workers in Brazil. *The International Journal of Human Resource Management*, 19(9), 1667-1682.
- Tobin, T., Muller, R., & Turner, L. (2006). Organizational learning and climate as predictors of self-efficacy. *Social Psychology of Education*, 9(3), 301-319.
- Westover, J., & Taylor, J. (2010). International differences in job satisfaction: The effects of public service motivation, rewards and work relations. *International Journal of Productivity and Performance Management*, 59(8), 811-828.
- Yoo, J. (2016). The Effect of Professional Development on Teacher Efficacy and Teachers' Self-Analysis of Their Efficacy Change. *Journal of Teacher Education for Sustainability*, 18(1), 84-94.
- Yoon, J., & Kayes, D. (2016). Employees' self-efficacy and perception of individual learning in teams: The cross-level moderating role of team-learning behavior. *Journal of Organisational Behaviour*, 37(7), 1044-1060.
- Zee, M., & Kooman, H. (2016). Teacher Self-Efficacy and Its Effects on Classroom Processes, Student Academic Adjustment, and Teacher Well-Being: A Synthesis of 40 Years of Research. *Review of Educational research*, 86(4), 981-1015.
- Zellars, K., & Perrewe, P. (2011). Affective personality and the content of emotional social support: coping in organizations. *Journal of Applied Psychology*, 86(3), 459-467.

Annex 7A. Teacher job satisfaction and self-efficacy in TALIS 2013

Teacher's job satisfaction	
Satisfaction with current work environment	I would like to change to another school if that were possible
	I enjoy working at this school
	I would recommend my school as a good place to work
	All in all, I am satisfied with my job
Teacher's self-efficacy	
Efficacy in classroom management	Control disruptive behaviour in the classroom
	Make my expectations about student behaviour clear
	Get students to follow classroom rules
	Calm a student who is disruptive or noisy
Efficacy in instruction	Craft good questions for my students
	Use a variety of assessment strategies
	Provide an alternative explanation, for example, when students are confused
	Implement alternative instructional strategies in my classroom
Efficacy in student engagement	Get students to believe they can do well in school work
	Help my students value learning
	Motivate students who show low interest in school work
	Help students think critically

Annex 7B. Mapping TALIS 2013 on the school as a learning organisation

School as a learning organisation		Selected items of the TALIS teacher questionnaire
Dimensions	Elements	
Developing a shared vision focused on the learning of all students	The vision focuses on a broad range of learning outcomes, encompasses both the present and the future, and is inspiring and motivating	Most teachers in this school believe that the students' well-being is important
Promoting and supporting continuous professional learning	All staff engage in continuous professional learning	A development or training plan is developed for each teacher
	New teachers receive induction and mentoring support	A mentor is appointed to help the teacher improve his teaching
	Professional learning is based on assessment and feedback	Measures to remedy any weakness in teaching are discussed with the teacher
		A development or training plan is developed for each teacher
	Feedback is provided to teachers based on a thorough assessment of their teaching	
Time and other resources are provided to support professional learning	Professional development is too expensive/unaffordable There is a lack of employer support Professional development conflicts with my work schedule There are no incentives for participating in such activities	
Fostering team learning and collaboration	Collaborative working and collective learning are focused and enhance learning experiences and outcomes of students and/or staff practice	A group of colleagues from my school or subject group Collaborative learning activities or research with other teachers
	Trust and mutual respect are core values	There is a collaborative school culture which is characterised by mutual support.
	Staff reflect together on how to make their own learning more powerful	The feedback I provide to other teachers to improve their teaching Emphasis placed on collaboration or working with other teachers
Establishing a culture of inquiry, exploration and innovation	Students are actively engaged in inquiry	My role as a teacher is to facilitate student's own inquiry I let students evaluate their own progress
Embedding systems for collecting and exchanging knowledge and learning.	Systems are in place to examine progress and gaps between current and expected impact	Emphasis placed on feedback on student performance
		Emphasis placed on feedback on feedback from parents or guardians
		Emphasis placed on feedback on student feedback
		Emphasis placed on feedback I provide to other teachers to improve their teaching
		Emphasis placed on collaboration or working with other teachers
Feedback is provided to teachers based on a thorough assessment of their teaching		
Learning with and from the external environment and larger learning system	The school collaborates with parents/guardians and the community as partners in the educational process and the organisation of the school	This school provides parents or guardians with opportunities to actively participate in school decisions
Modelling and growing learning leadership	School leaders model learning leadership, distribute leadership and help grow other leaders, including students	This school provides staff with opportunities to actively participate in school decisions.
		This school provides parents or guardians with opportunities to actively participate in school decisions
		This school provides students with opportunities to actively participate in school decisions
	School leaders promote and participate in strong collaboration with other schools, parents, the community, higher education institutions and other partners	This school provides parents or guardians with opportunities to actively participate in school decisions.

Annex 7C. Results exploratory factor analysis and reliability analysis

Survey items	Embedded systems	Professional learning engagement	Distributed leadership	Professional learning barriers
Emphasis placed on feedback I provide to other teachers to improve their teaching	0.65			
Emphasis placed on feedback on feedback from parents or guardians	0.82			
Emphasis placed on feedback on student feedback	0.81			
Emphasis placed on collaboration or working with other teachers	0.72			
A development or training plan is established for teachers to improve their work		0.64		
Feedback is provided to teachers based on a thorough assessment of their teaching		0.68		
Measures to remedy any weaknesses in teaching are discussed with the teacher		0.63		
A mentor is appointed to help the teacher improve his/her teaching		0.63		
This school provides staff with opportunities to actively participate in school decisions.			0.68	
This school provides parents or guardians with opportunities to actively participate in school decisions			0.78	
This school provides students with opportunities to actively participate in school decisions			0.77	
Is too expensive/unaffordable				0.60
There is a lack of employer support				0.66
Professional development conflicts with my work schedule				0.58
There are no incentives for participating				0.55
Cronbach's alpha	0.85	0.78	0.82	0.71

Note: The numbers in the table following each of the survey items are factor scores.

Annex 7D. Results of regression analysis for the school as a learning organisation; job satisfaction with work environment; and self-efficacy

No.	Predictive variables	β	t	ρ	R^2	Overall F
Job satisfaction with work environment						
1	School as a learning organisation index	0.35	82.89	0.00	0.17	F(45, 5924) = 242.60; $\rho=0.00$
2	Years as teachers	-0.05	-13.85	0.00		
3	Female	-0.02	-4.33	0.00		
4	Working part-time	0.00	-1.04	0.30		
5	Completed teacher education or training programme	0.01	1.54	0.12		
6	Highest level formal education (Below ISCED 5 is reference group)					
	ISCED 5	0.02	3.76	0.00		
	Above ISCED 5	0.01	1.94	0.05		
7	Share of deprived students (0 is reference group)					
	From 1 to 10%	-0.03	-4.01	0.00		
	From 11 to 30%	-0.05	-6.68	0.00		
	From 31 to 60%	-0.05	-7.47	0.00		
	Above 60%	-0.04	-6.47	0.00		
Self-efficacy						
1	School as a learning organisation index	0.23	60.38	0.00	0.30	F(45, 5924) 549.48; $\rho=0.00$
2	Years as teachers	0.07	20.02	0.00		
3	Female	0.04	11.15	0.00		
4	Working part-time	-0.03	-9.22	0.00		
5	Completed teacher education or training programme	0.03	8.01	0.00		
6	Highest level formal education (Above ISCED 5 is reference group)					
	Below ISCED 5	-0.01	-1.47	0.14		
	ISCED 5	-0.01	-1.48	0.14		
7	Share of deprived students (0 is reference group)					
	From 1 to 10%	-0.02	-3.35	0.00		
	From 11 to 30%	-0.03	-4.89	0.00		
	From 31 to 60%	-0.03	-4.79	0.00		
	Above 60%	-0.02	-3.27	0.00		

Notes: Data were clustered at the school level because of the nested nature of the data. In addition, country-level dummies were added to the regression models.

CHAPTER 8. SCHOOLS AS LEARNING ORGANISATIONS AND HR OUTCOMES: EVIDENCE BASED ON THE WELSH CASE⁷

⁷ This chapter is published in amended form in the *European Journal of Education*; Kools, M. et al. (2019). The relationship between the school as a learning organisation and staff outcomes: A case study of Wales. *European Journal of Education*, 54(3), 426-442.

8.1 Introduction

This chapter continues the exploration on the relation between the school as a learning organisation and HR outcomes that was started in the previous chapter; thereby responding to this study's fourth sub-question. This is done through the earlier presented (in Chapters 4 and 5) *Schools as Learning Organisations Survey* that was implemented as part of an OECD study on the school as learning organisation in Wales (OECD, 2018). Also here multiple regression analysis is used to explore the relationship between the school as a learning organisation (SLO) and the job satisfaction of school staff – i.e. school leaders, teachers and learning support staff – and the responsiveness of schools to their needs.

The chapter starts with an exploration of the literature on the learning organisation, staff job satisfaction and the responsiveness to staff needs, and the evidence on the relationship between these concepts (Section 8.2). Having posed two hypotheses to guide the research, we provide a short description of the school system in Wales to contextualise the study (Section 8.3). The following methodological section explains how exploratory factor analysis and reliability analysis were used on the SLO survey data to define the independent variable(s) for the multiple regression analysis. The dependent variables are made up of three survey items, two capturing staff job satisfaction and one the responsiveness of the school to staff needs. The results and conclusions of the multiple regression analysis are discussed in Sections 8.5 and 8.6. This includes a discussion on the strengths and limitations of the analysis and proposing areas for further research, before concluding the chapter.

8.2 Literature review

8.2.2 Relationship between the learning organisation and staff job satisfaction

Job satisfaction of staff is as discussed in Chapter 7 a popular research topic in management, public administration and education literatures. Chapter 7 explored teachers' job satisfaction through OECDs TALIS 2013 survey. In this chapter we will continue this exploration of the relation between the SLO and job satisfaction, but this time only in one country, i.e. Wales, and by expanding the focus to the job satisfaction of learning support staff and school leaders (the latter can also be explored with TALIS), resulting in the following hypothesis:

Hypothesis 1: School staff (i.e. school leaders, teachers and learning support staff) who perceive their school to function as a learning organisation are more likely to report a higher level of job satisfaction

8.2.3 Relationship between the learning organisation and responsiveness to staff needs

Responsiveness is a frequently researched performance measure in public service organisations (Boyne, 2002; Thomas & Palfrey, 1996; Krause & Douglas, 2004; Walker & Boyne, 2006). Thomas and Palfrey (1996) argue that citizens are the clients and main beneficiaries of public services and, as such, should be involved in its performance evaluation. Public service connects the state and its people, has to respond to public demands and is the incubator of public trust or mistrust in government. Determinants of trust – a key characteristic of the learning organisation (Watkins & Marsick, 1996) – include technical and professional capacities, professionalism, ethics, integrity, transparency, accountability, effectiveness and responsiveness of public servants in conducting public affairs and delivering goods and services to the needs of people (UNPAN, 2015). This strong connection with and responsiveness to the external environment is one of the hallmarks of the learning organisation (Watkins & Marsick, 1996; Örtenblad, 2002). To be considered a learning organisation, it is essential to be responsive and adaptive to the changing needs of the external environment. For this reason the learning organisation literature is also adamant about the need to be responsive to the learning and other needs of an organisation's own staff.

Schools nowadays are faced with increasingly diverse students and growing pressures of a rapidly changing environment that have made enhancing teacher and school leader professionalism essential (Earley & Greany, 2017; Schleicher, 2018). In many countries, however, this transition towards enhanced professionalism is taking place in difficult conditions in terms of workload, accountability requirements, level of autonomy and budget pressures – as is the case for Wales (OECD, 2018). A SLO therefore has a supportive culture, with trust and respect as core values, and invests time and other resources in quality professional learning opportunities for all staff (Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012). These qualities are particularly evident in two of the SLO dimensions: “creating and supporting continuous learning opportunities for all staff” and “promoting team learning and collaboration among all staff” (see Chapter 3).

Drawing from these research findings we have posed a second hypothesis:

Hypothesis 2: School staff who perceive their school to function as a learning organisation are more likely to report that it is responsive to their needs.

8.3 The Welsh context

Wales as discussed earlier (in Chapter 5) is a small country that is part of the United Kingdom (UK). The country in 2011 embarked on a large-scale education reform that throughout the years has become increasingly comprehensive and focussed on developing and putting into practice a new curriculum in all schools in Wales by September 2022 (OECD, 2018). The ongoing curriculum reform is generally well supported by the education profession and other educational stakeholders in Wales.

However, although schools in Wales can be characterised as positive learning environments with good teacher-student relations and classrooms conducive to learning (OECD, 2014), working in education in Wales is considered by some a challenging profession. Workload pressures are common, at least partly due to administrative demands and an overloaded curriculum, high accountability demands and the unequal access to professional learning opportunities (OECD, 2018).

Welsh Government is aware of these and other challenges (Welsh Government, 2017). By engaging the education profession, parents, local authorities, regional consortia (i.e. regional school improvement services) and other stakeholders in a process of ‘co-construction’ of policies it has taken a range of measures in recent years to try to improve the situation. One example is the development of the Wales’ SLO model (Welsh Government, 2019). This model that is founded on the SLO model proposed in Chapter 3 and was tailored to the Welsh context through a series of stakeholder workshops has been developed to support schools in putting the new curriculum into practice.

Wales has taken several significant steps to promote its SLO model in schools throughout the country. This includes decisions to integrate the model into the new school self-evaluation and development planning process and all leadership development programmes (Estyn, 2018; OECD, 2018). Supported by the four regional consortia (i.e. regional school improvement services), a steadily growing number of schools have looked to Wales’ SLO model to promote a learning culture in the hearts and minds of the people working in them. With seemingly growing workload pressures,

it is timely to explore whether schools that have put in practice (many of) the features of a learning organisation are faring better in terms of job satisfaction and their school's responsiveness to staff needs, as theorised above. If this is found to be the case, our findings will provide important supporting evidence for the logic of i.e. the 'why' schools should develop as learning organisations.

8.4 Methods

To test the hypotheses, multiple regression analysis was applied, making use of the data that was collected through the earlier presented SLO survey (Chapters 4 and 5). For this Stata version 15 was used.

8.4.1 Sample

As discussed in Chapter 4, a random sample of 40% of schools in Wales resulted in 1 703 responses from school staff 178 schools across Wales. From these 178 schools on average 28% of staff responded to the survey. A detailed analysis of the data showed that these schools sufficiently matched the overall school population in Wales (OECD, 2018).

8.4.2 Dependent variables

The SLO scale as discussed earlier (in Chapter 4) is founded on the SLO model that was proposed in Chapter 3. The 65 core items of the scale respond to the dimensions and underlying elements of this model that was tailored to the Welsh context (Welsh Government, 2019). In addition, the survey asked school staff to share their views on their job satisfaction, measured through two variables: 'I find it professionally rewarding to be working at this school' and 'I would recommend this school as a good place to learn with and from colleagues'. It further asked for the responsiveness of the school towards their needs through one survey item: 'Our school is responsive to the needs of all its staff'. These three variables were used as the dependent variables.

Although the multi-item measurement of job satisfaction and responsiveness may have been preferred as it allows for the more holistic measurement of these concepts, efforts to limit the size of the survey had resulted in the selection of only three variables. This choice was supported by research evidence showing that such an approach is not necessarily less effective than the multi-item measurement of concepts (Nagy, 2002; Wanous, Reichers, & Hudy, 1997; Dolbier, Webster, McCalister, Mallon, & Steinhardt, 2005).

Similar to the core items of the survey (see below), are these items also on a five-point Likert scale (1= ‘strongly disagree’, 2 = ‘disagree’, 3 = ‘neutral’, 4 = ‘agree’, 5 = ‘strongly agree’). This type of self-reported scale is commonly used in public administration to measure core public management and governance concepts (George & Pandey, 2017; McNabb, 2015).

8.4.3 Independent variables

The core items of the SLO survey as mentioned respond to the seven dimensions of the SLO (Welsh Government, 2019). The independent variables for the multiple regression analysis consist of 1) the SLO, and 2) its underlying dimensions, which were defined through principal component analysis and reliability analysis. This analysis as mentioned earlier (in Chapter 4) revealed an eight-dimension SLO model, rather than the seven dimensions that were theorized (see Table 8.1). The data suggested the need for splitting the first SLO dimension into two components: one concerning the content of the school’s vision and the other concerns the involvement of external partners in the shaping of the vision.

Table 8.1 Results principal component analysis and application of the data in this study

SLO components/dimensions identified by the principal component analysis	SLO components/dimensions used for this study
<ul style="list-style-type: none"> • Sharing a vision centred on the learning of all students • Partners invited to contribute to the school’s vision 	<ul style="list-style-type: none"> • Developing and sharing a vision centred on the learning of all students
<ul style="list-style-type: none"> • Creating and supporting continuous learning opportunities for all staff 	<ul style="list-style-type: none"> • Creating and supporting continuous learning opportunities for all staff
<ul style="list-style-type: none"> • Promoting team learning and collaboration among all staff 	<ul style="list-style-type: none"> • Promoting team learning and collaboration among all staff
<ul style="list-style-type: none"> • Establishing a culture of inquiry, innovation and exploration 	<ul style="list-style-type: none"> • Establishing a culture of inquiry, innovation and exploration
<ul style="list-style-type: none"> • Embedding systems for collecting and exchanging knowledge and learning 	<ul style="list-style-type: none"> • Embedding systems for collecting and exchanging knowledge and learning
<ul style="list-style-type: none"> • Learning with and from the external environment and larger learning system 	<ul style="list-style-type: none"> • Learning with and from the external environment and larger learning system
<ul style="list-style-type: none"> • Modelling and growing learning leadership 	<ul style="list-style-type: none"> • Modelling and growing learning leadership

As the analysis presented in this chapter is part of a larger OECD study on the SLO in Wales (OECD, 2018), the decision was made to carry out the following analysis using seven SLO dimensions rather than eight. This decision partly stems from the fact that it was only the first time the survey was used. Furthermore, this decision was taken following a discussion with several

education stakeholders in Wales for the reason that it would make the analysis more recognisable and therefore useful to schools and other stakeholders in Wales who were already working to put Wales' seven-dimension SLO model into practice (Welsh Government, 2019).

The scores of the two components under discussion were therefore averaged to define one score for the SLO dimension "developing and sharing a vision centred on the learning of all students" (see Table 8.1). The resulting seven dimensions were then averaged to create the independent variable, an index of the SLO, for the first three regression models; one for each of the dependent variables.

The seven SLO dimensions were also separately used as independent variables for our second group of multiple regression models; again one for each of our three dependent variables.

8.4.4 Control variables

Besides the variables described above, some commonly used control variables were included in the analysis, namely: highest level of formal education, position (i.e. school leader, teacher, learning support staff); years of working experience in the field of education; and employment status. These were selected as a higher level of formal education has been found to positively influence job satisfaction and self-efficacy of teachers (OECD, 2014), as are more years of working experience and age positively associated with self-efficacy (Klassen & Chiu, 2010). Research evidence also suggests that a person's position in the hierarchy of an organisation is one of the factors influencing his/her perceptions of it (Enticott, Boyne, & Walker, 2008; George & Desmidt, 2018; Boreham & Reeves, 2008). In addition, workload challenges are reported to negatively influence teacher job satisfaction, so it can be reasoned that part-time teachers are more likely to report higher levels of job satisfaction (Butt, et al., 2005; Crossman & Harris, 2006; Dinham & Scott, 1998; Conway & Brinner, 2002).

8.4.5 Linear regression assumptions

Before moving forward with the multiple linear regression analysis, we first checked whether the models adhered to the assumptions underlying linear regression modelling. This was found indeed to be the case. The sample size was sufficiently large and also auto-correlation did not seem to be an issue with a Durbin-Watson statistic close to 2 for the three regression models. Also, we checked for spherical errors with the Breusch-Pagan test which rejected the null hypothesis of homoscedastic variance (in other words, the variance was not constant over the sample).

In addition, individual data were gathered within schools and were probably correlated. In order to control for the nested nature of the data, the clustered robust standard errors option in Stata was used to take into account that errors were not identically and independently distributed (Field, 2013; Todman & Dugard, 2007).

The multicollinearity of the data was examined by calculating the Variance Inflation Factors for each variable. These were found to be all below the 2.5 threshold to detect multicollinearity (Field, 2013). Cook's D was used to identify potential influential outliers. A general rule of thumb is that observations with a Cook's D of more than 3 times the mean are outliers (Field, 2013; Todman & Dugard, 2007). 13 outliers were found for the model that explores the first dependent variable 'I find it professionally rewarding to be working at this school', 18 for the model exploring the dependent variable 'I would recommend this school as a good place to learn with and from colleagues', and 16 outliers for the model exploring the dependent variable 'Our school is responsive to the needs of all of its staff'. These numbers are insignificant considering the sample size – thus implying little issues with influential outliers.

The probability plot of the residuals was explored as a way of learning whether it can be assumed that the error terms were normally distributed. This was found to be the case, allowing for moving forward with the analysis.

8.5 Results

8.5.1 Descriptive statistics and correlations

Descriptive statistics and the correlations between the measured variables are presented in Table 8.2. Starting with the latter, the data shows that the SLO, the two staff job satisfaction variables and the variable on the responsiveness of the school to staff needs are all correlated with each other. All relations are statistically significant. The data also shows that the SLO dimensions are all correlated with each other. Also here all relations are statistically significant.

In addition, the data show that when looking at the control variables, school leaders and teachers have a significant relationship with the two staff job satisfaction variables, the school's responsiveness to staff needs and the SLO (not reported in Table 8.2). This relationship is negative for teachers, while it for school leaders is positive. Also for staff with less than 20 years of

experience or working part-time is this relationship significant and negative for all four (dependent and independent) variables. The text below will further explore these relationships.

Table 8.2 Descriptive statistics and correlations for the variables in the study

	Mean	SD	Min	Max	1.	2.	3.	4.
1. I find it professionally rewarding to be working at this school	4.17	0.95	1	5	1			
2. I would recommend this school as a good place to learn with and from colleagues	4.22	0.89	1	5	0.85*	1		
3. Our school is responsive to the needs of all of its staff	3.89	1.04	1	5	0.78*	0.77*	1	
4. School as a learning organisation	4.00	0.60	1	5	0.76*	0.78*	0.79*	1

	Mean	SD	Min	Max	1.	2.	3.	4.	5	6	7.
5. Sharing a vision	3.95	0.63	1	5	1.00						
6. Continuous learning opportunities	4.00	0.69	1	5	0.77*	1.00					
7. Promoting team learning and collaboration	4.13	0.67	1.20	5	0.64*	0.72*	1.00				
8. Culture of inquiry, innovation and exploration	3.95	0.68	1	5	0.74*	0.81*	0.75*	1.00			
9. Systems for knowledge and learning	4.14	0.60	1.88	5	0.71*	0.76*	0.67*	0.72*	1.00		
10. Learning from the external environment	3.99	0.65	1	5	0.69*	0.70*	0.62*	0.65*	0.71*	1.00	
11. Learning leadership	4.08	0.70	1	5	0.74*	0.83*	0.71*	0.74*	0.79*	0.75*	1.00

Note: N: 1703. Correlations marked with a star are significant at the 5% level.

Furthermore, the average score of more than 4 (on a five-point scale) for the two job satisfaction variables in the sample suggests that school staff are on average satisfied with their job. The average of 3.89 for the school’s responsiveness to staff needs variable and a relatively large standard deviation suggests that there is scope for improving its responsiveness to staff needs.

As mentioned earlier, the SLO index, i.e. our independent variable was defined by averaging the seven SLO dimensions. With an average score of 4, many staff in Wales seem to perceive their school as having adopted many of the features that make a learning organisation. However, with a standard deviation of 0.6 and the data showing some notable differences between staff in different positions, with teachers being the most critical, it is evident there is still the necessary work to do before all schools can truly be considered learning organisations in Wales (according to the staff working in them). The analysis of Chapter 6 corroborates this finding (see Figure 6.1).

Only 14% of staff in the sample worked part-time, and 85% of the staff held at least a Bachelor degree. Teachers represented 53% of the sample; assistant head teacher, deputy head teacher and head teachers represented 22% and learning support staff 25%. A third of the staff (33%) had less than 10 years of experience in education.

8.5.2 Results of the multiple regression analysis

Multiple regression analyses were conducted to test the two hypotheses. Given the nested nature of the data (staff within schools), the clustered robust standard errors option in Stata was used as mentioned earlier. The results are presented in Table 8.3.

Table 8.3 Results of regression analysis for the SLO; job satisfaction; and school’s responsiveness to staff needs

No.	Predictive variables	β	t	ρ	R^2	Overall F		
<i>I find it professionally rewarding to be working at this school</i>								
1	School as a learning organisation	0.74	33.29	0.00	0,59	F(8, 173) = 160.86; $\rho=0.00$		
2	Working part-time	-0.02	-1.40	0.16				
3	Highest formal education (Master or higher ref.group)							
	GCSE or Level A	0.03	1.17	0.24				
	Bachelor	0.04	2.19	0.03				
4	Position in the school (school leader ref. group)							
	Teacher	-0.14	-6.51	0.00				
	Learning support staff	-0.09	-2.76	0.01				
5	Total years worked in education (under 10 ref. group)							
	Between 10 and 20	-0.06	-2.76	0.01				
	Over 20	-0.09	-3.99	0.00				
<i>I would recommend this school as a good place to learn with and from colleagues</i>								
1	School as a learning organisation	0.77	28.64	0.00			0,61	F(8, 172) = 143.41; $\rho=0.00$
2	Working part-time							
3	Highest formal education (Master or higher ref.group)	-0.01	-0.75	0.45				
	GCSE or Level A	0.02	0.74	0.46				
	Bachelor	0.02	1.06	0.29				
4	Position in the school (school leader ref. group)							
	Teacher	-0.06	-2.60	0.01				
	Learning support staff	-0.03	-0.90	0.37				
5	Total years worked in education (under 10 ref. group)							
	Between 10 and 20	-0.04	-1.96	0.05				
	Over 20	-0.06	-2.43	0.02				
<i>Our school is responsive to the needs of all of its staff</i>								
1	School as a learning organisation	0.76	38.87	0.00	0,63	F(8, 173) = 213.92; $\rho=0.00$		
2	Working part-time							
3	Highest formal education (Master or higher ref.group)	-0.01	-0.72	0.48				
	GCSE or Level A							
	Bachelor	0.05	1.98	0.05				
4	Position in the school (school leader ref. group)	0.04	1.89	0.06				
	Teacher							
	Learning support staff	-0.15	-7.09	0.00				
5	Total years worked in education (under 10 ref. group)	-0.11	-4.62	0.00				
	Between 10 and 20							
	Over 20	-0.03	-1.42	0.16				

Notes: These results were obtained with ordinary least squares estimations. Data were clustered at the school level because of the nested nature of the data.

Hypothesis 1 states that school staff (i.e. school leaders, teachers and learning support staff) who perceive their school to function as a learning organisation are more likely to report a higher level of job satisfaction. This indeed seems to be so. The data showed the SLO has a significant and positive relationship with staff job satisfaction, measured through the variables ‘I find it professionally rewarding to be working at this school’ and ‘I would recommend this school as a good place to learn with and from colleagues’. This means that, on average, staff working in schools that seem to function as a learning organisation (according to staff working in them) are more satisfied with their job.

For the variable ‘I find it professionally rewarding to be working at this school’ four dimensions helped explain this positive relationship (Table 8.4): “creating and supporting continuous learning opportunities for all staff”, “promoting team learning and collaboration among all staff”, “establishing a culture of inquiry, innovation and exploration” and “modelling and growing learning leadership”. All four have a significant and positive relationship with the variable ‘I find it professionally rewarding to be working at this school’.

For the variable ‘I would recommend this school as a good place to learn with and from colleagues’ four dimensions again helped explain this significant and positive relationship, although they weren’t completely identical: “promoting team learning and collaboration among all staff”, “establishing a culture of inquiry, innovation and exploration”, “embedding systems for collecting and exchanging knowledge and learning” and “modelling and growing learning leadership”. Here, the importance of “knowledge exchange to learning with and from colleagues” is highlighted (see Table 8.4).

Table 8.4 Results of regression analysis for the SLO dimensions; job satisfaction; and school's responsiveness to staff needs

No.	Predictive variables	β	t	P	R^2	Overall F
<i>I find it professionally rewarding to be working at this school</i>						
1	Shared vision	0.06	1.65	0.10	0,61	F(14, 173) = 123.17; $\rho=0.00$
2	Continuous learning opportunities	0.17	4.90	0.00		
3	Team learning and collaboration	0.24	7.35	0.00		
4	Culture of enquiry	0.07	1.88	0.06		
5	Embedded systems	-0.01	-0.45	0.66		
6	Learning with and from external environment	0.00	-0.10	0.92		
7	Modelling and growing learning leadership	0.32	7.55	0.00		
8	Working part-time	-0.03	-1.58	0.12		
9	Highest formal education (Master or higher ref.group)					
	GCSE or Level A	0.03	1.05	0.30		
	Bachelor	0.03	1.81	0.07		
10	Position in the school (school leader ref. group)					
	Teacher	-0.10	-5.24	0.00		
	Learning support staff	-0.05	-1.51	0.13		
11	Total years worked in education (under 10 ref. group)					
	Between 10 and 20	-0.04	-2.02	0.05		
	Over 20	-0.08	-3.49	0.00		
<i>I would recommend this school as a good place to learn with and from colleagues</i>						
1	Shared vision	0.04	1.20	0.23	0,64	F(14, 172) = 105.05; $\rho=0.00$
2	Continuous learning opportunities	0.04	1.07	0.29		
3	Team learning and collaboration	0.35	9.90	0.00		
4	Culture of enquiry	0.11	3.11	0.00		
5	Embedded systems	0.06	2.05	0.04		
6	Learning with and from external environment	0.00	0.14	0.89		
7	Modelling and growing learning leadership	0.28	5.96	0.00		
8	Working part-time	-0.01	-0.67	0.50		
9	Highest formal education (Master or higher ref.group)					
	GCSE or Level A	0.03	1.01	0.31		
	Bachelor	0.01	0.42	0.67		
10	Position in the school (school leader ref. group)					
	Teacher	-0.04	-2.00	0.05		
	Learning support staff	-0.01	-0.47	0.64		
11	Total years worked in education (under 10 ref. group)					
	Between 10 and 20	-0.03	-1.56	0.12		
	Over 20	-0.05	-2.22	0.03		
<i>Our school is responsive to the needs of all of its staff</i>						
1	Shared vision	0.08	2.28	0.02	0,66	F(14, 173) = 161.02; $\rho=0.00$
2	Continuous learning opportunities	0.23	3.74	0.00		
3	Team learning and collaboration	0.25	6.33	0.00		
4	Culture of enquiry	0.05	1.38	0.17		
5	Embedded systems	-0.03	-1.04	0.30		
6	Learning with and from external environment	-0.02	-0.69	0.49		
7	Modelling and growing learning leadership	0.31	6.29	0.00		
8	Working part-time	-0.02	-1.04	0.30		
9	Highest formal education (Master or higher ref.group)					
	GCSE or Level A	0.04	1.70	0.09		
	Bachelor	0.03	1.32	0.19		

10	Position in the school (school leader ref. group)					
	Teacher	-0.11	-5.44	0.00		
	Learning support staff	-0.07	-2.84	0.01		
11	Total years worked in education (under 10 ref. group)					
	Between 10 and 20	-0.01	-0.57	0.57		
	Over 20	-0.07	-3.08	0.00		

Notes: These results were obtained with ordinary least squares estimations. Data were clustered at the school level because of the nested nature of the data.

The data also pointed to significant relationships between the two staff job satisfaction variables and several control variables. School leaders and staff with more than 10 years of working experience in education were more likely to report higher levels of job satisfaction. These variables however partially overlap. Very few school leaders in the sample were found to have less than 10 years of working experience. For example, less than 2% of head teachers in our sample had less than 10 years of working experience.

Hypothesis 2 states that there is a positive relationship between the SLO and its responsiveness to staff needs. This hypothesis is also confirmed (see Table 8.3). The analysis revealed that four of the seven SLO dimensions had a significant and positive relationship with schools' responsiveness to staff needs. These dimensions are “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 all staff” and “modelling and growing learning leadership” (see Table 8.4).

Furthermore, two of the control variables were found to have a significant relationship with schools' responsiveness to staff needs, i.e. ‘position in the school’ and ‘total years worked in education’. The data as such suggested that school leaders or staff that have more than twenty years of working experience in education were more likely to report their school is responsive to staff needs. Also here there was some overlap between these variables as many school leaders in the sample had more than 20 years of experience in education.

8.6 Discussion and conclusion

8.6.1 Discussion

This study set out to examine the relationship between the SLO and staff job satisfaction and the organisation's responsiveness to staff needs. Based on the management, public administration and

education literatures, two hypotheses were formulated. We tested these using data from the SLO survey of 1703 school leaders, teachers and learning support staff working in 178 schools in Wales. The sample size, its high internal consistency values and the fact that it met regression criteria, attest to the reliability and validity of this study.

The analysis allows for drawing conclusions of relevance to scholars, educators and policy makers internationally. In line with existing research evidence, the regression analysis shows a positive relationship between the SLO and both of the staff job satisfaction variables, and between the SLO and a school's responsiveness to staff needs. So referring back to Chapter 4, the fact that these relationships are in line with what is suggested by theory and empirical evidence provide further evidence of the (predictive) validity of the SLO scale (DeVellis, 2016).

Furthermore, the regression analysis supports the view that 'the sum is larger than the individual parts' (see Chapter 3) when considering the seven dimensions of the SLO model. While the β 's for the individual SLO dimensions were found to vary and barely came higher than 0.3 (see Table 8.4), when consolidated into one, the β 's for the average SLO score (i.e. the SLO index) increased to above 0.7 for all three dependent variables (see Table 8.3).

These findings would seem to suggest that when the individual SLO dimensions are combined, they strengthen one another and as such have a greater positive influence on staff outcomes and possible other outcomes. But recognising the methodological limitations of this study, this is an issue deserving further research attention, for example through qualitative research.

In addition, based on further analysis of the seven underlying SLO dimensions in relation to the three staff outcome measures, a school can take actions that are likely to positively influence staff job satisfaction (see Table 8.5). Promoting team learning and collaboration among its staff, establishing a culture oriented toward enquiry, innovation and exploration, and modelling and growing learning leadership all seem to be important motivational factors that help enhance staff job satisfaction. This would seem particularly relevant for teachers who on average are significantly less positive about their job satisfaction than their colleagues working in leadership positions and those who are learning support staff.

Table 8.5 Summary of relationship SLO dimensions on staff job satisfaction and schools’ responsiveness to staff needs

Staff job satisfaction		Responsiveness to staff needs
‘I find it professionally rewarding to be working at this school’	‘I would recommend this school as a good place to learn with and from colleagues’	‘Our school is responsive to the needs of all of its staff’
SLO components/dimensions that help explain the positive relationships		
<ul style="list-style-type: none"> • creating and supporting continuous learning opportunities for all staff • promoting team learning and collaboration among all staff • establishing a culture of enquiry, innovation and exploration • modelling and growing learning leadership 	<ul style="list-style-type: none"> • promoting team learning and collaboration among all staff • establishing a culture of enquiry, innovation and exploration • embedding systems for collecting and exchanging knowledge for learning • modelling and growing learning leadership 	<ul style="list-style-type: none"> • 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 all staff • modelling and growing learning leadership

Beyond these three common features, other factors appear influential in promoting different aspects of job satisfaction. Continuous learning opportunities for staff seem to add to the sense of feeling it is professionally rewarding to work at a particular school, while the creation of systems and processes, including time, to enable colleagues to share and exchange knowledge and practice are seen as making the school ‘a good place to learn with and from colleagues’.

Furthermore, developing and sharing a vision centred on the learning of all students, ensuring continuous learning opportunities, team learning and collaboration among all staff, and putting in practice the other aspects of learning leadership are likely to positively influence how staff view the responsiveness of their school to their learning and other needs. Finally, a school with a shared and inspiring vision seems to fulfil an important need for staff members.

Though slightly less so in relation to responsiveness to staff needs, the evidence base of the positive relationship between the SLO and staff job satisfaction in other public and private organisations is well-established (Egan, Yang, & Bartlett, 2004; Rose, Kumar, & Pak, 2009; McKinnon, Wu, Chow, & Harrison, 2003). Most of our findings are therefore also likely to be relevant for other public organisations in Wales and internationally.

However, although generalisability was enhanced by using a relatively large random sample of school staff, we can’t automatically generalise the findings to other public sectors: the education profession and school context of Wales are specific. Wales is in the middle of a curriculum reform that is putting additional demands on schools, while creating new opportunities for changing and

innovating their practice. In short, the school sector in Wales is in flux. It would be interesting to test our hypotheses for other types of workers in different public sectors in Wales. Similarly it would be fascinating to examine these hypotheses in other countries.

In addition, as was the case for several of this study's previous chapters, all data are derived from a single, self-reported survey so common source bias could be an issue. Several *ex ante* and *ex post* remedies are applied to cope with common source bias (Podsakoff, 2012). These included: a) clearly labelling the response possibilities, b) emphasising in the introduction letter that there are no right or wrong answers, that we are looking for honest opinions and that participation to the survey is voluntary and anonymous, and (c) pretesting of the survey to ensure relevance and avoid abstract or complex questions. We also conducted an *ex post* remedy by creating a common method factor in Stata. All observed variables were loaded onto the same latent factor and model fit was assessed. We found that all fit indices were unacceptable, which is an indication that there is no common method factor which fits the gathered data. We are therefore confident that common source bias does not impede the validity and relevance of this study's findings (George & Pandey, 2017; Podsakoff, 2012).

It should also be noted that (a) the SLO survey was the best means for measuring the concept and its association with job satisfaction and responsiveness to staff needs as no large-scale, alternative and reliable data was available, (b) we measured perceptions and attitudes towards the school and the profession which can only be measured on a large scale through a self-reported survey, and (c) the included variables have not been identified by earlier studies as being particularly prone to common source bias (George & Pandey, 2017).

That said, for future research – in Wales and elsewhere – mixed methods research should be considered to complement and enrich the quantitative analysis of the SLO survey data. Future research could also explore contextual and internal mediating factors such as organisational size or school type (i.e. primary or secondary) that the evidence suggests may be of influence on the identified relationships (Silins, Mulford, & Zarins, 2002; Koene, Vogelaar, & Soeters, 2002; Louis & Lee, 2016). National culture would seem a particularly relevant factor to include in future research given its known influence on HR outcomes (Eskildsen, Kristensen, & Antvor, 2010; Andreassi, Lawter, Brockerhoff, & Rutigliano, 2012).

In relation to staff roles, it would also be interesting to examine the perceptions of ‘middle leaders’ and the relationship between their responses to the SLO and HR outcomes. Middle leadership is of increasing interest and concern internationally, and they have a challenging role, often juxtaposed between teachers and school leaders (Stoll, Brown, Spence-Thomas, & Taylor, 2015).

Furthermore, there would be much to gain from extending this investigation by also looking into the relationship between the SLO and student outcomes. Although some evidence suggests that there is a positive relationship between them (Caprara, Barbaranelli, Steca, & Malone, 2006; Klassen & Chiu, 2010; Silins & Mulford, 2004), systematic empirical research on this relationship has been limited to date. A question though would be, is it the traditional, frequently measures of student outcomes that should be explored, or the kinds of competencies that are indicated in references to preparing them for their future in an uncertain and changing world? And, we should not forget that if we are concerned about school being meaningful and satisfying for staff, the same should equally apply for the children. Student well-being is critical (OECD, 2017) and would be an interesting and important student outcome to explore in relation to the SLO.

In a similar vein and in reflecting on the SLO survey, this instrument as mentioned could be further enhanced by including additional items for measuring job satisfaction and/or responsiveness. This would allow for a more holistic measurement of these concepts. In addition, the instrument could be enhanced by adding items for measuring its relationship with other HR outcomes, with particular reference to staff well-being. This seems also relevant for Wales considering the reported workload challenges of educators (Education Workforce Council, 2017), but also for other countries considering the international policy interest for the concept. This interest seems to stem from the growing awareness that in order to meet the needs of increasingly diverse learners, enhancing teacher and school leader professionalism has become essential (Earley & Greany, 2017). In many countries however, as mentioned, this transition towards enhanced professionalism is taking place in difficult conditions in terms of workload, accountability requirements, level of autonomy and budget pressures. As a result of these developments, stress and staff well-being have become issues in a number of education systems.

8.6.2 Conclusion

This chapter has examined the strategies, processes and practices that make up a SLO and are thought to enhance staff job satisfaction and the organisation's responsiveness to their learning and other needs. Its main conclusion is that this is indeed the case; thereby providing further evidence for answering this study's fourth sub-question, "*to what extent is the school as a learning organisation associated with HR outcomes?*".

Policy makers, school staff and other stakeholders in the education sector and other public sectors within Wales and beyond, might find it useful to use our findings when talking to colleagues about embarking on a path of change and innovation and developing their organisations into learning organisations because of the benefits this may bring to staff, the organisation and performance outcomes – in a school context that ultimately means student outcomes (Caprara, Barbaranelli, Steca, & Malone, 2006; Klassen & Chiu, 2010; Silins & Mulford, 2004).

REFERENCES

- Andreassi, J., Lawter, L., Brockerhoff, M., & Rutigliano, P. (2012). *Job Satisfaction Determinants: A Study Across 48 Nations*. Proceedings of 2012 Annual Meeting of the Academy of International Business-US North East Chapter: Business Without Borders, Sacred Heart University.
- Boreham, N., & Reeves, J. (2008). Diagnosing and Supporting a Culture of Organizational Learning in Scottish Schools. *Zeitschrift fur Pädagogik*, 54(5), 637-649.
- Boyne, G. (2002). Concepts and indicators of local authority performance: An evaluation of the statutory framework in England and Wales. *Public Money & Management*, 22(2), 17-24.
- Butt, G., Lace, A., Fielding, A., Gunter, H., Rayner, S., & Thomas, H. (2005). Teacher job satisfaction: Lessons from the TSW pathfinder project. *School Leadership and Management*, 25(5), 455-471.
- Caprara, G., Barbaranelli, C., Steca, P., & Malone, P. (2006). Teachers' self-efficacy beliefs as determinants of job satisfaction and students' academic achievement: A study at the school level. *Journal of School Psychology*, 44(6), 473-490.
- Conway, N., & Brinner, R. (2002). Full-time versus part-time employees: Understanding the links between work status, the psychological contract, and attitudes. *Journal of Vocational Behavior*, 61(2), 279-301.
- Crossman, A., & Harris, P. (2006). Job satisfaction of secondary school teachers. *Educational Management Administration and Leadership*, 34(1), 29-46.
- DeVellis, R. (2016). *Scale development: Theory and applications*. Los Angeles: Sage Publications Ltd.
- Dinham, S., & Scott, C. (1998). A three-domain model of teacher and school executive career satisfaction. *Journal of Educational Administration*, 36(4), 362-378.
- Dolbier, C., Webster, J., McCalister, K., Mallon, M., & Steinhardt, M. (2005). Reliability and validity of a single-item measure of job satisfaction. *American Journal of Health Promotion*, 19(3), 194-198.
- Earley, P., & Greany, T. (2017). *School Leadership and Education System Reform*. London: Bloomsbury Academic.

- Education Workforce Council. (2017). *National Education Workforce Survey, Research Report, April 2017*. Cardiff: Education Workforce Council.
- Egan, T., Yang, B., & Bartlett, K. (2004). The effect of organizational learning culture and job satisfaction on motivation to transfer learning and turnover intention. *Human Resource Development Quarterly, 15*(3), 279-301.
- Enticott, G., Boyne, G., & Walker, R. (2008). The use of multiple informants in public administration research: Data aggregation using organizational echelons. *Journal of Public Administration Research and Theory, 19*(2), 229-253.
- Eskildsen, J., Kristensen, K., & Antvor, H. (2010). The relationship between job satisfaction and national culture. *The TQM Journal, 22*(4), 369-378.
- Estyn. (2018). *A national evaluation and improvement resource for schools*. Retrieved from Estyn: <https://www.estyn.gov.wales/inspection/national-evaluation-and-improvement-resource-schools>.
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. London: Sage Publications Ltd.
- George, B., & Desmidt, S. (2018). Strategic-decision quality in public organizations: An information processing perspective. *Administration & Society, 50*(1), 131-156.
- George, B., & Pandey, S. (2017). We Know the Yin—But Where Is the Yang? Toward a balanced Approach on Common Source Bias in Public Administration Scholarship. *Review of Public Personnel Administration, 37*(2), 245-270.
- George, B., & Pandey, S. (2017). We Know the Yin—But Where Is the Yang? Toward a Balanced Approach on Common Source Bias in Public Administration Scholarship. *Review of Public Personnel Administration, 37*(2), 245-270.
- Klassen, R., & Chiu, M. (2010). Effect on teachers' self-efficacy and job satisfaction: Teacher gender, years of experience, and job stress. *Journal of Educational Psychology, 102*(3), 741-756.
- Koene, B., Vogelaar, A., & Soeters, J. (2002). Leadership effects on organizational climate and financial performance: local leadership effect in chain organizations. *Leadership Quarterly, 13*, 193-215.
- Krause, G., & Douglas, J. (2004). Institutional design versus reputational effects on bureaucratic performance: Evidence from U.S. government macroeconomic and fiscal projections. *Journal of Public Administration Research and Theory, 15*(2), 281-306.

- Louis, K., & Lee, M. (2016). Teachers' capacity for organizational learning: the effects of school culture and context. *School Effectiveness and School Improvement*, 27(4), 534-556.
- McKinnon, J., Wu, A., Chow, C., & Harrison, G. (2003). Organizational culture: Association with commitment, job satisfaction, propensity to remain and information sharing in Taiwan. *International Journal of Business Studies*, 11(1), 25-44.
- McNabb, D. (2015). *Research Methods in Public Administration and Nonprofit Management (second edition)*. New York: Routledge.
- Nagy, M. (2002). Using a single-item approach to measure facet job satisfaction. *Journal of Occupational and Organizational Psychology*, 75(1), 77-86.
- OECD. (2014). *Improving Schools in Wales: An OECD Perspective*. Paris: OECD Publishing.
- OECD. (2014). *Talis 2013 Results: An International Perspective on Teaching and Learning*. Paris: OECD Publishing.
- OECD. (2017). *PISA 2015 Results (Volume III): Students' Well-Being*. Paris: OECD Publishing.
- OECD. (2018). *Developing Schools as Learning Organisations in Wales*. Paris: OECD Publishing.
- Örtenblad, A. (2002). A typology of the idea of learning organization. *Management Learning*, 33(2), 213-230.
- Podsakoff, P. S. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, 63, 539-569.
- Rose, R., Kumar, N., & Pak, O. (2009). The effect of organisational learning on organisational commitment, job satisfaction and work performance. *The Journal of Applied Business Research*, 25(6), 55-65.
- Schleicher, A. (2018). *World Class: How to Build a 21st-Century School System*. Paris: OECD Publishing.
- Senge, P., Cambron-McCabe, N., Lucas, T., Smith, B., & Dutton, J. (2012). *Schools That Learn*. New York: Crown Business.
- Silins, H., & Mulford, B. (2004). Schools as learning organizations: Effects on teacher leadership and student outcomes. *School Effectiveness and School Improvement*, 15(3-4), 443-466.
- Silins, H., Mulford, B., & Zarins, S. (2002). Organisational learning and school change. *Educational Administration Quarterly*, 38(5), 613-642.

- Stoll, L., Brown, C., Spence-Thomas, K., & Taylor, C. (2015). Perspectives on teacher leadership for evidence-informed improvement in England. *Leading and Managing*, 21(2), 76-91.
- Thomas, P., & Palfrey, C. (1996). Evaluation: Stakeholder-focused criteria. *Social Policy & Administration*, 30(2), 125-142.
- Todman, J., & Dugard, P. (2007). *Approaching Multivariate Analysis: An Introduction for Psychology*. Hove: Psychology Press.
- UNPAN. (2015). *Responsive and accountable public governance*. New York: Department of Economic and Social Affairs Responsive and Accountable Public Governance.
- Walker, R., & Boyne, G. (2006). Public management reform and organizational performance: An empirical assessment of the U.K. Labour government's public service improvement strategy. *Journal of Policy Analysis and Management*, 25(2), 371-393.
- Wanous, J., Reichers, A., & Hudy, M. (1997). Overall job satisfaction: how good are single-item measures? *Journal of Applied Psychology*, 82(2), 247-252.
- Watkins, K., & Marsick, V. (1996). *In action: Creating the learning organization*. Alexandria: American Society for Training and Development.
- Welsh Government. (2017). *Education in Wales: Our national mission*. Cardiff: Welsh Government.
- Welsh Government. (2019). *Schools as learning organisations*. Retrieved from HWB: <https://hwb.gov.wales/storage/f87e720f-8568-4a60-9383-55e20b9a1bb7/schools-in-wales-as-learning-organisations.pdf>.

CHAPTER 9. CONCLUSIONS AND DISCUSSION

9.1 Introduction

This dissertation set out to clarify the concept of the school as a learning organisation and gain a better understanding of the factors of influence on its development. In addition, it set out to explore whether the school as a learning organisation, as often assumed, is positive associated with HR outcomes – or differently said, it indeed is a good place to work. In this respect, the following research question was formulated to guide the study, “*what are the characteristics, antecedents and HR related outcomes of a school as a learning organisation?*”

In this final chapter, the main findings will be summarized (Section 9.2). Based on these findings, the central research question of this study will be answered in Section 9.3. In the following section (9.4), the contribution of our research to this question will be assessed. After reflecting on the methodology Section 9.5 presents a number of suggestions for a comprehensive research agenda to advance the learning organisation – in theory and practice – in the field of education, as well as in other public sectors (Section 9.6). The chapter concludes by making recommendations for practice (Section 9.7).

9.2 Summary of the main findings

This dissertation includes nine chapters, five of which empirical, that contribute to answering the main research question of this study. This section provides a summary of the main findings for each of this study’s sub-questions.

The first sub-question, “*how can the school as a learning organisation be defined and conceptualized?*”, was examined through a literature review in Chapters 2 and 3. **Chapter 2** consisted of a multi-disciplinary literature review on the concept of the learning organisation and the school as a learning organisation (SLO) in particular. It included other relevant literatures like those on organisational change, organisational behavior, (adult) learning theories and school effectiveness and improvement literatures, to define how these relate to and could enrich the SLO concept.

A first finding was that although the SLO literature is not as vast as the general learning organisation literature, they have in common that the scholarly interpretations of the concept vary, sometimes considerably. Some common characteristics however emerged from the literature. First, scholars

see the SLO as a necessity for dealing with the rapidly changing external environment, regardless of the context in which the school operates. Second, the SLO is defined as ‘organic’ and closely connected to the external environment. Third, the SLO literature is adamant about the importance of individual, group and organisational learning with inquiry, problem solving and experimentation as key drivers of change and innovation in education. Fourth, the SLO literature highlights both the beliefs, values and norms of employees for continuous and collaborative learning, as well as the processes, strategies and structures for creating the conditions for such learning, experimentation and innovation to flourish.

Several scholars have brought these common characteristics together in integrated SLO models. The literature review suggested such models have the greatest potential for advancing the SLO concept in research and practice because of the clarity and operational guidance they provide, with particular reference to the (school as a) learning organisation model of Watkins and Marsick (1996; 1999). It also supported using the seven dimensions of Watkins’ and Marsick’s model as a theoretical foundation for the development of our own SLO model (in Chapter 3), although there was scope for refinement of this model and its framework of indicators to further strengthen its applicability to contemporary school organisations.

First, was the need for more strongly emphasising new ways of doing things and striving for sustainable educational innovations. This also required revisiting their model to see how ICTs, which many consider to be an important driver for educational change and innovation, could be brought more to the fore. Second, was the need for more strongly emphasising the promotion of school-to-school collaborations and networked peer learning.

Third, while Watkins and Marsick, like several other SLO scholars, were clear about the process for developing a vision in that it should be a ‘shared process’ involving teachers, school leaders and other local stakeholders, they said little about the content of this vision. This risks diluting developmental efforts and ensuring all students are provided with the skills to prepare them for life in the 21st century – schools’ core mission, whether a learning organisation or not. Fourth, support staff should not be overlooked; a SLO depends on the joint efforts of all of its staff to blossom and continue thriving. These findings were taken forward in the development of our own SLO model (in Chapter 3).

Drawing from a literature review (that was started in Chapter 2) and the expert opinions of a small network of international experts, **Chapter 3** proposed an integrated SLO model; thereby answering the first sub-question of this study, “*how can a school as a learning organisation be conceptualized?*”. Building on the learning organisation model of Watkins and Marsick (1996; 1999) we defined a SLO as one in which the collective endeavour is focused on realising seven action-oriented dimensions:

- 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 all 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.
- Modelling and growing learning leadership.

These dimensions and their underlying characteristics, i.e. “elements”, highlight both what a school aspires to be and the processes it goes through as it develops itself into a learning organisation. In short, a SLO is defined as having 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.

The literature review also suggested there is a set of four transversal or cross-cutting themes that flow through all seven dimensions: the four ‘Ts’; trust, time, technology and thinking together. Although some of these themes may seem more pertinent to one dimension or element than to another, all four have an impact on the whole.

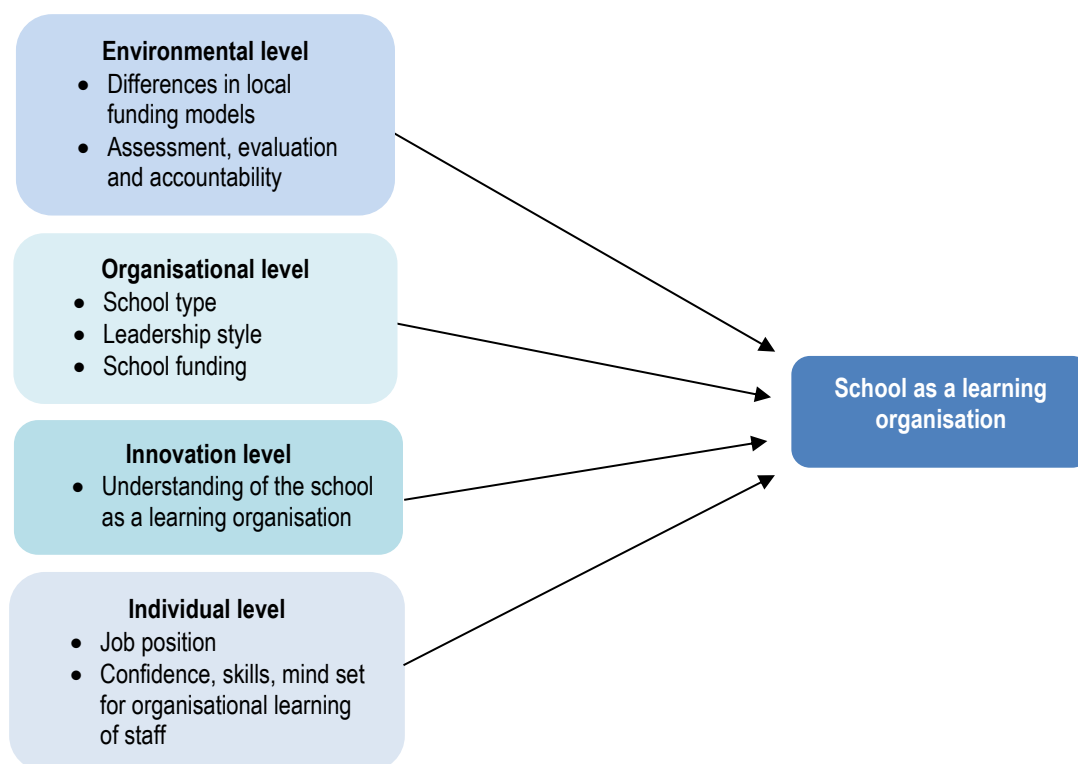
An open question that emerged from the literature review in formulating the SLO model was when looking at its seven dimensions whether ‘the sum of its parts is greater than the individual parts’; meaning that the individual dimensions strengthen each other when they are jointly implemented. Chapters 7 and 8 presents our initial attempt at looking into this issue, though recognising the methodological limitations beforehand (see below).

Following the definition and conceptualization of the SLO in an integrated model, **Chapter 4** examined the second sub-question of this study, “*how can a school as a learning organisation be measured?*”. It tested our model through the development of a SLO scale, using the SLO survey data of 1703 school staff in Wales. The findings of the principal component analysis to a large extent supported the theorised SLO model. The data however revealed a scale consisting of eight dimensions, rather than the theorised seven dimensions. The data suggested that the dimension “developing a shared vision centred on the learning of all students” consisted of two dimensions. These were labelled as “shared vision centred on the learning of all students” and “partners contributing to the school’s vision”.

The construct validity of the scale was further examined by looking at the item-test correlation and the expected reliability after deleting each of the items. This showed that none of the items needed to be deleted. These efforts resulted in a 65-item scale across eight dimensions that allows for the holistic measurement of a SLO; thereby answering the second sub-question of this study.

In response to the third sub-question of this study, “*what antecedents influence schools in developing as learning organisations?*”, the analysis of Chapters 5 and 6 revealed eight innovation antecedents across the four category levels proposed by De Vries, Bekkers and Tummers (2014). These are presented in Figure 9.1 and will be discussed in detail below.

Figure 9.1 Innovation antecedents influencing schools developing as learning organisations



Chapter 5 started the examination of the antecedents of influence of schools developing as learning organisations – the third sub-question of this study. It aimed to expand on the literature by exploring the influence of a selection of innovation antecedents on schools developing as learning organisations. As mentioned, the categorisation of innovation antecedents of De Vries, Bekkers and Tummers (2014) was adopted for this purpose. They categorised innovation antecedents on the basis of four levels:

- Environmental level: external context (e.g. the policy objective to develop schools as learning organisations, support offered by the system to schools).
- Organisational level: aspects that include the structural and cultural features of an organization (e.g. availability organisational resources, leadership style).
- Innovation level: intrinsic attributes of an innovation (e.g. complexity of the innovation as perceived by prospective adopters).
- Individual/employee level: characteristics of individuals who innovate (e.g. innovative or entrepreneurial employees).

Hierarchical linear modelling (HLM) was used to explore the relationship between the variables school type and the socio-economic background of schools (two organisational level antecedents), and staff position (individual level antecedent) and a SLO, which itself can be considered an organisational process innovation (Damanpour & Schneider, 2009). The chapter as such examined only two categories of innovation antecedents: at the organisational level and the individual level (De Vries, Bekkers, & Tummers, 2014).

The HLM showed school type to be a significant factor to schools developing as learning organisations (see Figure 9.1). It showed that staff in secondary schools are less likely to perceive their school as a learning organisation than those in primary schools. The larger size of secondary schools and their more compartmentalised structure, which make it harder to collaborate across departments and the organisation as a whole, may explain these findings. In addition, the evidence suggested that secondary school leaders in Wales do not always do enough to encourage collaborative working and learning, and the exchange of information and knowledge across the whole organisation. To meet these challenges, it would seem important to continue investing in the capacity of present and future secondary school leaders in Wales, with a particular role for the recently established National Academy for Educational Leadership and the regional consortia (i.e. the regional improvement services) (OECD, 2017; 2018).

The HLM analysis also showed that a school's socio-economic background, measured through the proportion of students receiving free school meals (FSMs), is not a confounding factor for schools developing as learning organisations. This suggests that schools with a larger proportion of FSM students are just as likely to develop as learning organisations as those with lower proportions of FSM students. This is an important finding for policy and research that corroborates earlier findings that showed that the development as learning organisations is very well possible for socio-economically disadvantaged schools (Austin & Harkins, 2008; Moloji, 2010; Moloji, Grobler, & Gravett, 2006).

The analysis further revealed that job position (individual level antecedent) was a significant factor to schools developing as learning organisations (see Figure 9.1). The HLM analysis showed that school leaders were more likely to perceive their school to function as a learning organisation than teachers and learning support staff in Wales. Although there are bound to be some differences in perceptions between staff categories, as some staff may simply be better informed due to the nature

of their work, the evidence suggests there is a need for more professional dialogue and sharing of information among staff in different positions. This seems particularly an area for improvement in secondary schools.

Chapter 6 continued the exploration of the antecedents of influence on schools developing as learning organisations that was started in Chapter 5. A sequential explanatory research design was adopted in which quantitative data, from the SLO survey, was first analysed. Based on the analysis, positive and negative outlying cases were selected to identify best practices and pitfalls through a comparative multi-case study analysis. Data were collected from head teachers of two schools, one primary- and one secondary school, that had a high average score on the SLO scale (> 4.3 , on a five-point Likert scale), i.e. they seemed to have put in practice many, if not all of the characteristics that make a SLO. Data were collected from a further two schools, again a primary- and secondary school. These schools had a low average SLO score (< 3.7) and as such seemed far removed from functioning as learning organisations. The semi-structured interviews with the head teachers of these schools were aimed to enrich and deepen our understanding of the results of the previous chapter; thereby further informing the third sub-question of this study, “*what antecedents influence schools in developing as learning organisations?*”.

The comparative case study analysis pointed to several antecedents of influence. First, are the differences in levels of confidence, skills and mind set of staff to engage in organisational learning (individual level antecedent, see Figure 9.1). For the two schools with a relatively low average SLO score many of its staff seemed to lack the confidence, skills and mind set to engage in collaborative learning and working and turn to colleagues for advice. For the schools with a higher average SLO score this seemed not an issue. Second, the analysis revealed a similar pattern concerning the intrinsic attributes of the SLO. Staff in the two schools with a low average SLO score seemed to have only a limited understanding of Wales’ SLO model and how it can support school improvements and fits the curriculum reform effort (innovation level antecedent).

As Figure 9.1 shows, at the organisational level two antecedents stood out: Leadership style and school funding (i.e. budget pressures). Those leaders that could be described as transformational leaders and/or proactive change agents, i.e. fitting our understanding of a leader in a learning organisation (see Chapter 3), seem essential for moving the school forward and for establishing a sustainable learning culture in them. Budget pressures were reported as negatively influencing

schools' ability to develop as learning organisations and seemed a particular issue for primary schools. This finding resonates with other studies that show that larger organisations (i.e. secondary schools) have more slack in resources that can be devoted to organisational learning than smaller organisations (i.e. primary schools) (Damanpour & Schneider, 2009; Walker, 2006).

Furthermore, differences in local funding models, as well as the high-stakes assessment, evaluation and accountability arrangements (two environmental antecedents) were found to negatively influence schools' ability to develop as learning organisations. These factors were raised by all head teachers, so with no differences between the high- and low scoring schools on the SLO scale.

The high-stakes assessment, evaluation and accountability arrangements were possibly the biggest challenge for schools developing as learning organisations in Wales, in particular for secondary schools as this is where as one head teacher noted "the pressure of accountability arrangements is felt most". Although the UK context is quite specific in terms of for example the media attention devoted to performance data, the case of Wales does suggest that accountability arrangements, when perceived as high-stakes by the education profession and other stakeholders, can serve as a formidable barrier for schools developing as learning organisations (OECD, 2018). This finding may be labelled as what some have referred to as the 'perverted effects' of New Public Management principles (Radin, 2006) that up to recently have greatly influenced the education sector and other public sectors of Wales, as well as those of many other countries around the globe (Diefenbach, 2009; Manning, 2001).

Recent paradigmatic shifts in public administration, often labelled the New Public Governance movement, have however called for more attention to be paid to such things as learning, trust, and system thinking and networks (Osborne, 2006; Osborne, 2013). These messages strongly resonate with the (school as a) learning organisation and the overall direction taken by Welsh Government in the education sector in recent years (OECD, 2017). In the area of strategic monitoring and evaluation, New Public Governance emphasises a greater focus on processes, stressing service effectiveness and outcomes that rely upon the interaction of public organisations with their environment. It argues that performance information can indeed be helpful, but not if it is used to stimulate blame gaming among actors or if it exerts excessive control that in turn may constrain creativity and innovation. Rather, strategic monitoring and evaluation and knowledge management should centre on learning within and beyond the organisation in order to ensure that performance

information is purposefully used to adapt strategies and processes to a changing environment (Kroll, 2015).

These general trends in public administration resonate strongly with recent developments of Wales' school system. Wales finds itself in the middle of a curriculum reform and is redefining its assessment, evaluation and accountability arrangements to focus not just on outcomes, but also on the processes that are essential for their realisation (OECD, 2018). The ongoing review of assessment, evaluation and accountability arrangements is intended to be used to encourage and give people the confidence to do things differently and engage in critical reflections – some of the key characteristics of a SLO.

In addition, three of the four 'Ts' of the SLO – trust, time and thinking together, were frequently mentioned in the interviews as factors positively influencing schools' efforts to become learning organisations. The fourth, technology, surprisingly wasn't mentioned. Future research on the antecedents of the SLO (in Wales and beyond) may therefore look more explicitly into the role of technology on schools developing as learning organisations.

The fourth sub-question of this study, *“to what extent is the school as a learning organisation associated with HR outcomes?”*, was examined in Chapters 7 and 8. In line with existing research evidence, this question can be answered affirmatively on the basis of the findings of both chapters. **Chapter 7** analysed the relationship between the SLO and teachers' job satisfaction with the current work environment and their self-efficacy across 35 countries and economies that participated in TALIS 2013 and met the sampling requirements. Exploratory factor analysis and reliability analysis was applied to 22 survey items of the TALIS 2013 teacher questionnaire that responded to our SLO model. Four factors were identified – “embedded systems”, “professional learning engagement”, “distributed leadership”, “professional learning barriers”, which allowed for exploring the relationship between the SLO and teachers' job satisfaction with the current working environment and their self-efficacy through multiple regression analysis.

The regression analysis showed that in line with existing research evidence there is a positive relationship between all four identified SLO factors and teacher's job satisfaction with the current working environment (see Table 9.1); thereby expanding the steadily growing research evidence on the relationship between the learning organisation and job satisfaction in the field of education and

other (public) sectors (Kim & Han, 2015; Egan, Yang, & Bartlett, 2004; Rose, Kumar, & Pak, 2009; McKinnon, Wu, Chow, & Harrison, 2003; Gardiner & Whiting, 1997; Erdem, İlğan, & Uçar, 2014). The data suggests that in particular “professional learning engagement” and “distributed leadership” are critical for teachers’ job satisfaction with their work environment.

Table 9.1 Summary of relationship between SLO and teacher self-efficacy and job satisfaction with working environment

	Self-efficacy	Job satisfaction with working environment
School as a learning organisation	√	√
SLO factors:		
Embedded systems	√	√
Professional learning engagement	√	√
Distributed leadership	√	√
Professional learning barriers	√	√
Respondents	Teachers	
Survey	TALIS 2013	
Country	35 countries and economies	

The evidence as such suggests that the investment in “distributed leadership”, ensuring staff to “engage in professional learning”, “reducing learning barriers” and “embedding systems for knowledge sharing and learning” are important actions for creating the conditions for teachers’ job satisfaction with their current working environment to thrive. Here lies an important task for school leaders (Harris & Jones, 2018). However, while committed school leaders are key to the success of schools developing as learning organisations, without government/policy support for professional learning and reducing learning barriers schools are unlikely to develop as learning organisations (OECD, 2018) which our study shows is important for enhancing teachers’ job satisfaction.

Second, the regression analysis revealed a positive relationship between all four SLO factors and teachers’ self-efficacy, although here the β ’s were quite small. The factor “embedded systems” was found to be the most influential on teachers’ self-efficacy.

Coming back to the small β ’s that were identified for the four SLO factors in relation to teacher self-efficacy, we decided to repeat the regression analysis but this time with an index of the SLO as independent variable. This was done to examine if ‘the sum of its parts (i.e. the SLO factors) is greater than the individual parts’ as reasoned in Chapter 3. The analysis suggested this to be the case by revealing a β of 0.23 for the SLO index which was significantly higher than any of the

individual SLO factors. A similar pattern was revealed for the dependent variable job satisfaction with the work environment, which showed an even higher β of 0.35.

Although recognising the methodological limitations of this study that call for further research on this issue, these initial findings would seem to suggest that when the individual SLO factors/dimensions are combined, they strengthen one another and as such have a greater positive influence on teacher self-efficacy and job satisfaction. The analysis of Chapter 8 allowed for further looking into this issue.

Chapter 8 continued the investigation of the SLO and its relationship with a selection of HR outcomes, but this time in only one country, i.e. Wales, using the purposefully designed SLO survey that was discussed in Chapter 4. Multiple regression analysis was used to explore the relationship between the SLO and the job satisfaction of school staff – i.e. school leaders, teachers and learning support staff – and the responsiveness of schools to their needs. In line with existing research evidence, the regression analysis showed a significant and positive relationship between the SLO and both of the staff job satisfaction variables. Similarly, the analysis showed a significant and positive relationship between the SLO and a school's responsiveness to staff needs (Table 9.2). Elaborating on the analysis of Chapter 4, the fact that these relationships are in line with what is suggested by theory and empirical evidence provide further evidence of the (predictive) validity of the SLO scale (DeVellis, 2016).

Further analysis of the underlying SLO dimensions suggested that “promoting team learning and collaboration among its staff”, “establishing a culture oriented toward inquiry, innovation and exploration”, and “modelling and growing learning leadership” are all important for enhancing staff job satisfaction. This would seem particularly relevant for teachers who on average are significantly less positive about their job satisfaction than their colleagues in leadership positions. Beyond these features, certain SLO dimensions were found influential in promoting different aspects of job satisfaction. Continuous learning opportunities for staff seemed to add to the sense of ‘feeling it is professionally rewarding to work at a particular school’, while the creation of systems for sharing and exchanging knowledge and learning are important for making the school ‘a good place to learn with and from colleagues’.

Table 9.2 Summary of relationship between SLO and staff job satisfaction and schools’ responsiveness to staff needs

	Job satisfaction		School’s responsiveness to staff needs
	“I find it professionally rewarding to be working at this school”	“I would recommend this school as a good place to learn with and from colleagues”	
School as a learning organization	√	√	√
SLO Dimensions:			
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 all 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			
Modelling and growing learning leadership	√	√	√
Respondents	School leaders, teachers, teaching support staff		
Survey	SLO survey		
Country	Wales (UK)		

In addition, as Table 9.2 shows “developing and sharing a vision centred on the learning of all students”, “ensuring continuous learning opportunities”, “team learning and collaboration among all staff”, and putting in practice the other aspects of “learning leadership” are likely to positively influence how staff view the responsiveness of their school to their learning and other needs.

In sum, though slightly less so in relation to schools’ responsiveness to staff needs, the evidence base of the positive relationship between the SLO and staff job satisfaction in other public and private organisations is well-established (Egan, Yang, & Bartlett, 2004; Rose, Kumar, & Pak, 2009; McKinnon, Wu, Chow, & Harrison, 2003). Most of our findings are therefore also likely to be relevant for other public organisations in Wales and internationally.

In addition, in line with the findings of Chapter 7, the regression analysis would seem to support the view that ‘the sum of its parts is greater than the individual parts’ when considering the seven dimensions of the SLO. While the β ’s for the individual SLO dimensions were found to vary and

barely came above 0.30, the β 's for the average SLO score (i.e. the SLO index) increased to above 0.70 for all three dependent variables. Although this is an issue requiring further examination, these initial findings seem to suggest that when the individual SLO dimensions are combined, they strengthen one another and as such have a greater positive influence on staff outcomes and possible other outcomes. But as mentioned, recognising the methodological limitations of this study, this is an issue deserving further research attention, for example using qualitative research.

9.3 Answering the central research question

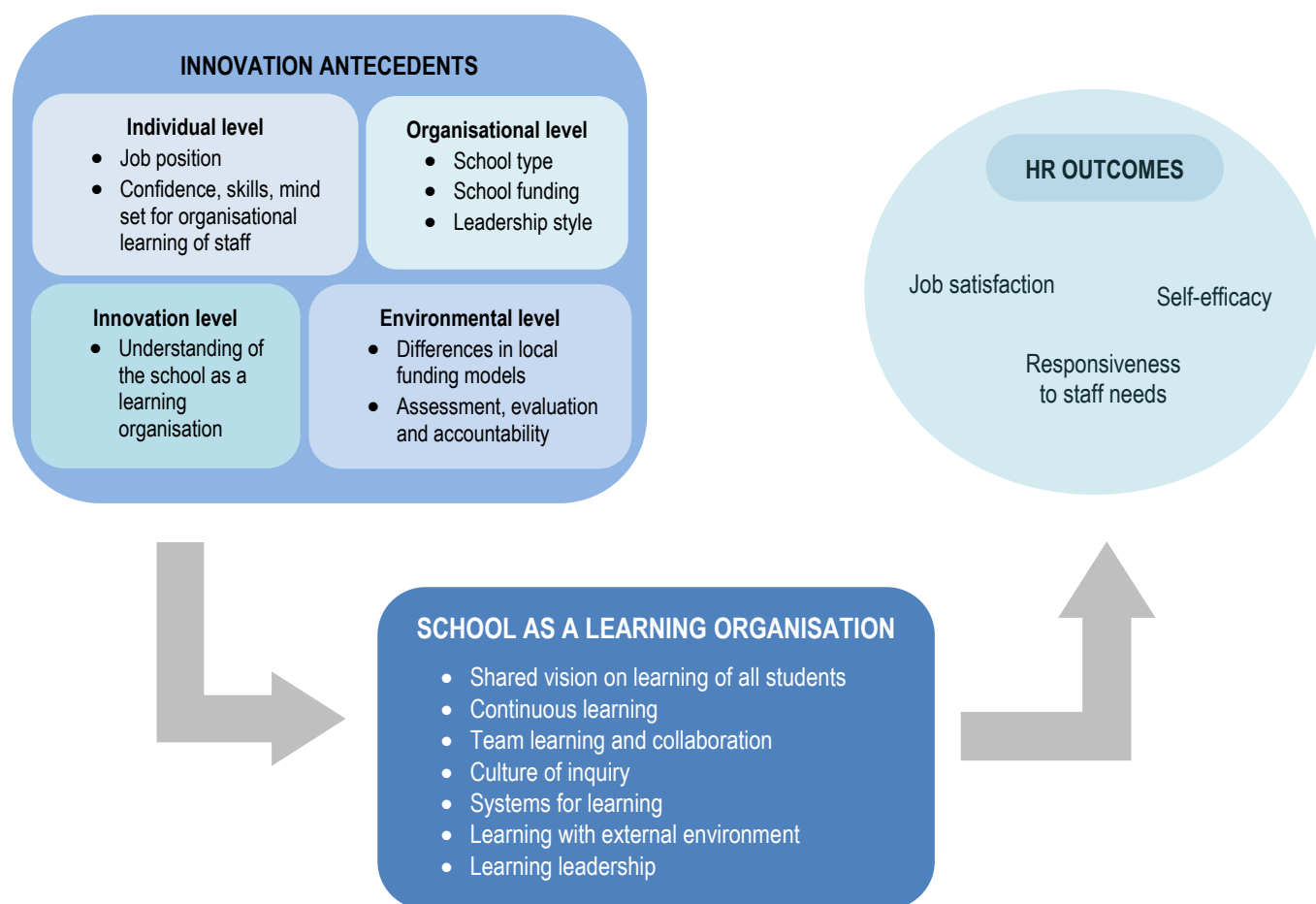
Based on the main findings of this study (Section 9.2), we can now answer the central research question of this dissertation, “*what are the characteristics, antecedents and HR related outcomes of a school as a learning organisation?*”. This section summarises the quantitative and qualitative analysis of this study.

Building on an in-depth review of the literature and inputs provided by a network of international experts, we defined a SLO as “having 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”. In such a school the collective endeavor is focused on realising seven action-oriented dimensions (see Figure 9.1), with a set of four transversal or cross-cutting themes that flow through all seven dimensions: the four ‘Ts’; trust, time, technology and thinking together.

Testing of the model however revealed a SLO scale consisting of 65 items across eight dimensions, rather than the theorised seven dimensions. The data suggested that the dimension “developing a shared vision centred on the learning of all students” consisted of two dimensions.

The analysis also showed the scale to demonstrate good psychometric qualities and that it can be used for the holistic measurement of the SLO and guiding the efforts of policy makers, practitioners, scholars and others interested in developing their organisations into learning organisations. Additional research, both theoretical and applied, is needed however to further explore the scale and its associated value to strengthen the current evidence base on the SLO and move towards a common understanding of the concept internationally. Adaptation of the scale to the local context may help advance the concept in research and practice, and should not be limited to educational institutions. Other public organisations may choose to adapt the SLO scale to suit their own organisations.

Figure 9.2 Summary of main relationships



In addition, Figure 9.2 shows eight innovation antecedents that were identified as influencing schools in developing as learning organisations. The study confirms that for developing schools as learning organisations it is important to look beyond the individual- or organisational levels and consider other innovation antecedents, like the (perceived) complexity and understanding of the concept and its necessity by those who are expected to help realise it, or the influence of government policies. On the latter, this study showed that ‘high-stakes’ assessment, evaluation and accountability arrangements provide a formidable challenge for schools developing as learning organisations. This study as such points to the pivotal role of policy makers, administrators and potential other system leaders in reducing barriers and creating the conditions for a learning culture to thrive in schools and other types of public organisations. These findings should inform all parties involved when planning and implementing actions that aim to develop their organisations as learning organisations.

This study furthermore shows that the SLO, indeed as expected, is positively associated with HR outcomes. Both the cross-country analysis and the analysis of this relationship in Wales showed positive and significant relationships. Figure 9.2 summarizes the most important relationships uncovered.

This study's findings are important considering the evidence that shows that positive HR outcomes in turn are likely to positively influence organisational performance – in a school context that ultimately means better student outcomes. In addition, internationally there is a growing interest in the positive influence of HR outcomes in the field of education. Education professionals nowadays are often faced with many pressures that may negatively influence HR outcomes. As a result of these developments, stress and HR outcomes such as job satisfaction or staff well-being more broadly have become part of the policy debate in a seeming growing number of countries. This study has contributed to the debate on the topic by defining the strategies, processes and practices that make a SLO and allow for responding to these challenges; the SLO was found to positively influence staff job satisfaction, self-efficacy and the responsiveness of the school to their needs.

The regression analysis also showed that teachers and learning support staff on average are significantly less positive about HR outcomes than their colleagues working in leadership positions. Similarly, teachers and learning support staff are also less likely to perceive their school as a learning organisation than school leaders. Although there are bound to be some differences in perceptions between staff categories, as some staff may simply be better informed due to the nature of their work, the sizable differences identified in this study suggest there is a need for more collaborative learning and working, sharing of knowledge, engaging in open dialogue and other key aspects of a learning organisation among staff in different positions in Wales to develop their school as such – and through this enhance job pleasure. This study suggests here lies a particular task for secondary schools. The analysis gave insight into what aspects school leaders, who play a vital role in creating the conditions for a learning organisation to thrive and for promoting positive HR outcomes, could focus on enhancing HR outcomes (see Table 9.1 and 9.2).

Policy makers, educators and others working in the field of education and other public sectors can use the findings and insights of this study as supporting evidence in recommending people to embark on a path of developing their organisations as learning organisations – giving them guidance

on how to do this, because of the benefits this may bring to them, the organisation and organisational performance.

9.4 Contributions of our research

This section discusses the contributions of our research to the literature. This study has contributed to research in four main ways: 1) clarification of the SLO concept; 2) the identification of several antecedents of influence on schools developing as learning organisations; 3) examining its relationship with positive HR outcomes; and 4) positioning the SLO in the public innovation literature. These will be elaborated upon in the text below.

9.4.1 Clarification of the school as learning organisation concept

One of the main concerns regarding the learning organisation concept, in the field of education and in general, is the lack of clarity that seems to have been a major factor in its limited advance in the literature and practice (Zederayko, 2000; Örténblad, 2002; Gandolfi, 2006; Schleicher, 2012). This dissertation has responded to this lack of clarity in the literature in two ways:

First, this study contributes to the (school as a) learning organisation literature by defining an integrated SLO model that includes several important extensions of the concept. We conducted a systematic analysis of the learning organisation literature – in general and within a school context in particular. Other relevant literatures were explored like those on organisational change, (adult) learning and school effectiveness to define how these relate to and could enrich the school as learning organisation concept. We asked the views of an international network of experts to reflect on and contribute to our analysis of the literature, resulting in an integrated SLO model that includes four extensions to the concept.

To begin with, although most of the literature is clear about the necessity and process of developing a vision which should be a ‘shared process’ involving teachers, support staff, school leaders, students, parents and other local stakeholders, little is said about the content of this vision. This risks diluting developmental efforts and ensuring all students are provided with the skills to prepare them for life in the 21st century – schools’ core mission, whether a learning organisation or not. Our model includes such a vision.

In addition, there is a need for more strongly emphasising new ways of doing things and striving for sustainable educational innovations and for education professionals to develop as high-quality knowledge workers requires them to engage in networked learning and collaboration across school boundaries, for example with staff in other schools, the community and higher education institutions (Prenger, Poortman, & Handelzalts, 2018; Schleicher, 2012; Harris & van Tassell, 2005). Contrary to much of the literature our model includes a strong focus on such external connections.

Furthermore, much of the SLO literature is silent about learning support staff, this while the joint efforts of all of staff are needed for a learning organisation to blossom and continue thriving (Silins, Mulford, & Zarins, 2002; Yang, Watkins, & Marsick, 2004; Örténblad, 2002). Our model as such recognizes the views and contributions of school leaders, teachers and learning support staff.

Further research on and empirical validation of the model is however needed to strengthen the current evidence base on the SLO and move towards a common understanding of the concept internationally. This study has taken an initial step to doing just that by developing a SLO scale.

Second, this study has developed and tested a scale that allows for the holistic measurement of the SLO. The developed SLO scale allows for bridging theory and practical relevance of the study. Although other scales on the SLO have been developed (Bowen, Rose, & Ware, 2006; Akram, Watkins, & Sajid, 2013; Silins, Zarins, & Mulford, 2002) they in our view do not allow for a holistic measurement of the concept, are few in number and are not always easily accessible. The SLO scale is made freely made available (OECD, 2018) and as such provides scholars with an additional, accessible tool to use in their research. The option of being able to select a scale that best fits the local context of a given school may help advance the SLO in theory and practice.

The adaptation of the scale to the local context should not be limited to educational institutions however. While concluding this study, work was ongoing in Wales to adapt the scale to suit local authorities and Welsh Government departments. Other public organisations in Wales and other countries may follow these examples and choose to adapt the SLO scale to suit their own organisations.

The principal component analysis and reliability analysis suggested there may be a need for a theoretical extension of our SLO model. The analysis revealed an eight-dimension model, rather than the seven dimensions that were theorized. But as mentioned further testing of our SLO model

and corresponding scale in different contexts is needed to confirm or reject the hypothesis that a SLO indeed as theorized consists of seven dimensions.

9.4.2 The influence of innovation antecedents on schools in developing as learning organisations

This study contributes to a greater insight in the factors or innovation antecedents that influence schools in developing as learning organisations. This is again an area of research that has received relatively little attention to date. It is important to take stock of these antecedents as the understanding of how to create schools that are learning organisations has remained an elusive phenomenon (Gandolfi, 2006; Silins, Zarins, & Mulford, 2002; Harris & Jones, 2018).

This study has cast the SLO concept in the public innovation literature. It argued that the (school as a) learning organisation can be considered an organisational process innovation which occurs in the structure, strategy, administrative processes and could include the introduction of new management practices or a new organisational structure (Light, 1999; Walker, 2006). In the case of the SLO all of these changes and innovations are geared towards creating the conditions for a learning culture to emerge and be sustained. Using the categorisation of innovation antecedents proposed by De Vries, Bekkers and Tummers (2014) this study took stock of the existing knowledge on the antecedents of the SLO and expanded on it through further empirical research in the form of regression analysis and comparative case study analysis. The first showed (as mentioned above) that school type and job position were significant factors of influence (see Figure 9.1 and 9.2).

The comparative case study analysis pointed to several additional innovation antecedents (De Vries, Bekkers, & Tummers, 2014). First, at the individual level the analysis pointed to the variance in the levels of confidence, skills and mind sets of staff for organisational learning as a factor of influence on schools developing as learning organisations. Second is their understanding of the SLO and its potential for guiding school improvement efforts (i.e. an innovation level antecedent). Furthermore, at the organisational level two innovation antecedents stood out; leadership style and budget pressures. In addition, differences in local funding models, as well as the high-stakes assessment, evaluation and accountability arrangements (i.e. two environmental antecedents) were found to negatively influence schools' ability to develop as learning organisations. The latter as mentioned is particularly important and seems to be providing additional challenges for secondary schools in Wales. The findings suggests that when accountability arrangements are perceived as high-stakes these can serve as a formidable barrier for schools developing as learning organisations (OECD,

2018); a finding that is supported by research on other public organisations (Diefenbach, 2009; Manning, 2001) and that has pointed to the ‘perverted effects’ of New Public Management principles (Radin, 2006) that have influenced the public sectors of a great number of countries around the world.

The objective to develop schools as learning organisations and its incorporation in the new assessment, evaluation and accountability arrangements in Wales fits the recent paradigm shift in the field of public administration, often referred as New Public Governance, which as mentioned focusses attention to such things as learning, trust, networking and monitoring of processes and outcomes, that resonate well with the learning organisation. Consequently, theoretical reasoning, as well as this study’s findings suggest that the SLO has the potential to be at the heart of the New Public Governance movement in the field of education. We believe this to be a connection worthy of further research (see below).

9.4.3 The relationship with positive HR outcomes

Responding to the main research question of this dissertation, *this study contributes to the SLO and performance research. It does this by empirically supporting the evidence base on the SLO having a positive influence on a selection of HR outcomes.* Empirical research evidence on the relationship between the learning organisation and positive HR outcomes, like staff job satisfaction or self-efficacy has been steadily growing throughout the years and clearly points to a positive relationship when examining the management and public management literatures (Kim & Han, 2015; Egan, Yang, & Bartlett, 2004; Rose, Kumar, & Pak, 2009; McKinnon, Wu, Chow, & Harrison, 2003). Although research in the field of education points towards similar positive findings (Razali, Amira, & Shobri, 2013; Erdem, İlğan, & Uçar, 2014) the evidence base is less extensive, in particular across countries.

This study has responded to this by empirically examining whether the SLO has a positive influence on a selection of positive HR outcomes, i.e. job satisfaction, self-efficacy and the school’s responsiveness to staff needs. The regression analysis showed this is indeed the case and as such confirms the benefits for staff to develop their organisation as a learning organisation. This is important considering the research evidence that shows that positive HR outcomes in turn positively influence performance outcomes; student outcomes in an education context.

9.5 Methodological reflections

This section reflects on the methodology of this study, starting with a reflection on the research design (Section 9.5.1). This is followed by a discussion on the measurement of central concepts (Section 9.5.2) and analysis techniques (Section 9.5.3). These sections address both the methodological strengths and limitations of the research.

9.5.1 Research design

A strength of the research design is the applied funnel approach (Barker, 2014). In the first part of the study in which a broad topic or concept is lacking clarity – the SLO – is theorised into an integrated model by drawing from an in-depth examination of the literature on the (school as a) learning organisation and related concepts and literatures. A small network of international experts contributed to this; thereby adding an additional layer of rigour to the process.

The SLO model was then tested for construct validity and applied in the following empirical chapters through different datasets and methodologies. In Chapter 4 the model was tested using a specifically designed SLO survey to which 1703 school leaders, teachers and learning support staff in schools across Wales responded. The identified SLO scale and survey data were used in two of the following empirical chapters, Chapters 5 and 8. In addition to using a random sampling approach that resulted in a dataset which sufficiently matched the overall school population in Wales (OECD, 2018), by including multiple actors, multiple ratters and multiple sources several frequently uttered methodological issues in survey research were resolved (Lee, Jennifer, & Timothy, 2012; Haverland & Yano, 2012; George, Desmidt, Nielsen, & Baekgaard, 2017; Boreham & Reeves, 2008).

First, the combination of data sources from multiple actors (i.e. school leaders, teachers and learning support staff) showed that there was a difference between how school leaders perceive their organisation and HR outcomes, compared to teachers and learning support staff. This result emphasizes the importance of making a clear distinction between different actor groups in future research. Second, this study used ratings from school leaders, teachers and learning support staff in contrast to studies that rely on a single viewpoint. By asking several respondents from each sub-population, we could determine whether respondents were consistent in their observations and this is important with respect to the reliability and validity of the research results (Lee, Jennifer, & Timothy, 2012).

Third, a strength of the study is that different data sources were used to answer our sub-research questions. As mentioned above, the literature review was complemented with the reflections and feedback of a small network of international experts. Also the investigation of the antecedents of schools developing as learning organisations was given shape through survey research that was then complemented with data obtained from interviews as part of a comparative case study analysis. In addition, the investigation of the relationship of the SLO and positive HR outcomes was operationalised by using two different surveys. Through these measures the risk of common source bias was avoided (George & Pandey, 2017; Podsakoff, 2012).

Despite these strengths, the data also have an important limitation in that the study made use of a cross-sectional design. The measurements were made at one point in time and as such don't allow for making causal claims. This study as such also did not respond to the calls of some scholars for longitudinal research on the SLO to better understand the factors that influence schools in making this transformation and be sustained (Retna & Tee, 2006; Giles & Hargreaves, 2006; Zederayko, 2000).

9.5.2 Reflection on the used analysis techniques

This study carried out five types of analysis: 1) a literature review; 2) principal component and reliability analysis; 3) hierarchical linear modelling (HLM); 4) a comparative case study analysis; and 5) regression analysis. For each sub-question of the study, the best suiting methodology was chosen given also the available data.

In this respect, a systematic literature review was founded on focused searches of nine electronic databases using the search terms 'school as learning organisation' and 'learning school', and contacts with leading scholars in this area of work have led to the identification of a total of thirty-two publications. The analysis was operationalized in an integrated SLO model that as mentioned was further refined through the contributions of international experts. This combination of conducting an in-depth literature review and having experts reflect on and deepen the analysis we believe has further strengthened the analysis and resulting SLO model.

For the development of the SLO scale (in Chapter 4) principal component analysis and reliability analysis were applied. Principal component analysis is a proven procedure in scale development, commonly used in the social sciences (Field, 2013; Tummers, 2012). At this early stage in

developing a SLO scale, this method is favoured over methods that test hypothesised groups, such as confirmatory factor analysis.

Chapter 5 used HLM to take account of the hierarchical structure of the data (Byrne, 2010; Field, 2013): two independent variables were measured at the organisational level, i.e. school type and the socio-economic status of the school's student population, and one at the individual level; staff job position (De Vries, Bekkers, & Tummers, 2014). The dependent variable (staff perceptions of) the SLO was also analysed at the individual level. The applicability of HLM analysis was controlled for by constructing a random intercept model in Stata without including any independent or control variables. The analysis showed the applicability of HLM, allowing for moving forward with the analysis.

A problem that this study had to deal with was the limited number of antecedents that could be investigated through the HLM. Although the intend was to use a school background questionnaire to accompany the SLO survey, this option was rejected by Welsh Government at the time. The alternative of matching the SLO survey data with the publicly available administrative data limited the number of antecedents for investigation. Drawing lessons from this experience, future research should insist on using a school background questionnaire (be completed by the head teacher) as this will allow for the investigation of a wider range of antecedents believed to be of influence on schools developing as learning organisations.

This study responded to this limitation in Chapter 6 however, by conducting a comparative case study analysis to expand on and deepen the investigation of the antecedents on schools developing as learning organisations. This study as such adopted a sequential explanatory research design (Creswell & Plano Clark, 2007), where quantitative data is first gathered and based on the analysis, positive and negative outlying cases are selected to identify best practices and pitfalls through a comparative multi-case study (Eisenhardt & Graebne, 2007). This sequential explanatory approach proved very insightful and as such is something to be considered for future research on the antecedents of the SLO.

In Chapters 7 and 8 regression analysis were used to understand the relation between the SLO and a number of HR outcomes. For the regression analysis of the TALIS data (in Chapter 7) dummy variables for the countries and economies were included in the analysis to account for the

confounding influence of country-level variables and control for the nested nature of the data (i.e. schools are nested in countries). For Chapter 8, the cluster robust standard errors option in Stata was used to take account of the nested nature of the data, i.e. within schools, and that errors as such were not identically and independently distributed (Cameron, 2015).

Another issue this study had to deal with was the examination of the relationship between the SLO which is an organisational-level concept, and a number of HR outcomes which were variables at the individual-level. We responded to this challenge by utilising the perceptions of staff in the extent they perceive their school to function as a learning organisation (rather than aggregating their perceptions into one school score) and thereby ensured all variables were analysed at the same level of analysis, i.e. the individual level. This choice was informed by the organisational climate literature which in many cases adopts a similar approach (Hunt & Ivergard, 2007; Gould-Williams, 2007; Vashdi, Vigoda-Gadot, & Sholmi, 2012).

9.5.2 Reflection on the measurement of central concepts

This study as mentioned made use of different data sources, including data obtained through the SLO survey (Chapters 4, 5 and 8) and OECDs TALIS survey (Chapter 7). As a result, the measurements of the main concepts are not identical in each of the empirical chapters.

TALIS allowed for exploring the SLO and the relationship with teacher job satisfaction and self-efficacy. An obvious limitation stemming from the use of a non-purposefully designed survey is that it did not allow for the holistic measurement of the SLO – contrary to the SLO survey/scale. Only three SLO factors could be measured through TALIS when adopting a rigorous method like exploratory factor analysis in combination with reliability analysis.

Having said that the analysis showed the potential of using TALIS to explore some of the key characteristics that make a SLO and their relationship with HR outcomes, like teachers' job satisfaction and self-efficacy across countries. In particular the potential for doing cross-country research at such a large scale provides an important and underutilised avenue for enriching both theory and practice on the SLO.

A similar challenge arose around the concept job satisfaction. First, there is the difference that TALIS measures job satisfaction with the work environment only for teachers and head teachers

(i.e. principals), while the SLO survey explores the concept also for other school leaders (deputy head teachers and assistant head teachers) and learning support staff.

Second, TALIS measures the teacher job satisfaction with the work environment through four survey items that make up one factor. The SLO survey measures job satisfaction, through two variables: ‘I find it professionally rewarding to be working at this school’ and ‘I would recommend this school as a good place to learn with and from colleagues’. Although a multi-item measurement of job satisfaction may have been preferred as it allows for the more holistic measurement of this concept, efforts to limit the size of the survey had resulted in the selection of only two variables. Various studies however have shown that the choice of such an approach is not necessarily less effective (Nagy, 2002; Dolbier, Webster, McCalister, Mallon, & Steinhardt, 2005; Wanous, Reichers, & Hudy, 1997).

Still, we recognise that the SLO survey could be enhanced through additional items for measuring staff job satisfaction, as well the school’s responsiveness to staff needs. In addition, other HR outcomes like for example staff well-being or staff engagement could as mentioned be incorporated given their relevance for policy, practice and research.

9.6 Future research agenda

This section reflects on a number of theoretical and practical issues that emerged from the study, from which recommendations for future research will be derived. The findings of this study have been presented during several events and meetings with scholars, educators and policy makers of a number of OECD countries, most notably those from Wales, the Netherlands and Latvia, and analysts from the OECD Directorate for Education and Skills. The proposed areas for further research presented below are informed by these discussions.

9.6.1 Further investigation of the learning organisation and its measurement in education and other public sectors

As noted, there is a lack of clarity around the SLO concept in the literature. Despite some advances by different scholars (Silins, Mulford, & Zarins, 2002; Bowen, Rose, & Ware, 2006) the evidence on the construct or key characteristics that make a SLO is still thin. This study has aimed to respond to this gap in research knowledge by proposing an integrated SLO model and developing a reliable

scale that allows for its holistic measurement. The principal component analysis and reliability analysis as mentioned revealed a 65-item SLO scale consisting of eight dimensions, rather than the seven theorised dimensions.

A logical direction for further research would be to retest the scale among school staff in Wales. The online SLO survey that has been made available for all schools to use in support of their school self-evaluation and improvement planning efforts may allow for mining the data for this purpose. If this path is pursued, principal component analysis or exploratory factor analysis could be complemented with or replaced by confirmatory factor analysis. It would be particularly interesting to explore whether the data once more reveals an eight-dimension scale, rather than the theorised seven-dimension scale.

To realise the objective of developing a holistic SLO model and scale that is applicable to different contexts of course calls for the external validation of the scale by testing it in other countries. For other countries it may be desirable to start by reviewing the scale to align it to the local context. Principal component analysis or exploratory factor analysis and reliability analysis may be used to validate the scale. It will be interesting to learn whether the data from other countries supports the theorised seven-dimension SLO scale or whether similar to Wales an eight-dimension scale is found. At a certain point in time, for example after having tested the scale in two or three additional countries, it would seem advisable to 'take stock' and see how the scale holds up in and across different contexts.

This research would also provide a valuable insight into the question to what extent schools have developed as learning organisations. The findings of this study suggest that a considerable proportion of schools in Wales is still far removed from realising this objective. When aggregating the SLO survey response data to one school score for example, the data showed that some 42% of schools seemed to have put in practice four or less of the seven SLO dimensions, with 30% of schools reporting the realisation of only two or fewer. It is important for Wales to continue monitoring the progress schools are making towards realising this education objective (Welsh Government, 2017), as well as for other countries that aim to develop their schools as learning organisations and/or establish collaborative learning cultures across their school systems. This however is a largely unexplored area of research, especially across countries, worthy of a systematic

investigation and that may provide opportunities for peer learning between countries. The identified SLO scale could contribute to such an effort.

In addition, agreeing with Watkins and Kim (2017), the influence of national culture on the development of learning organisations is an area that needs systematic investigation. In a preliminary study on the effect of national culture, using a matched set of data from six countries that incorporated Hofstede's data on national culture characteristics, the authors for example found that 'individualism' negatively correlated with the learning organisation dimensions (Watkins & Kim, 2017). These findings suggest that cultural differences may affect how learning organisations are understood. Further research as such is needed to investigate the influence of cultural factors on schools developing as learning organisations, as well as to investigate the cross-cultural construct validity of the SLO scale. An analysis of the data across countries may call for revisiting the theorised SLO model. These efforts will further the understanding of the characteristics that make a SLO; the first sub-question of this study.

The further examination of the learning organisation concept and its measurement should however not be limited to schools, but cover all education institutions. The interest for the learning organisation is not limited to primary- and secondary schools, but rather has received the interest of educators, policy makers and scholars working on higher education institutions (Husseina, Omara, Noordina, & Ishaka, 2016; Rusa, Chirica, Ratiua, & Baban, 2014) and early childhood education and care institutions (Colmer, 2008; Government of British Columbia, 2018). Their transformation into learning organisations is essential for creating a learning culture across all parts of the education system, i.e. for establishing a 'learning system'.

Similarly, further research on the learning organisation and its measurement should also focus on other public organisations. As Chapter 2 showed, the concept of the learning organisation has received the necessary attention from policy makers, practitioners and scholars working in other public sectors (than education) because of the benefits this may bring to the staff working in them, as well as for enhancing organisational performance (Glennon, Hodgkinson, & Knowles, 2019; Bin Mohd, 2005; Brown & Brudney, 2003). A modified SLO model and scale could contribute to the efforts of these people to change their organisations into learning organisations. A multi-sector research agenda on the learning organisation in public organisations could support their efforts and as such advance the concept in both theory and practice.

In addition, the statistical analysis of Chapters 7 and 8 suggested that when looking at the SLO dimensions ‘the sum is greater than the individual parts’, meaning that when they are combined they may strengthen each other in terms of their influence on positive HR outcomes. Recognising the methodological limitations of this study, these are interesting findings that deserve further attention. Qualitative research, either or not in combination with quantitative research, may inform ‘theory-building’ on this issue and as such could further enrich and deepen our understanding of the SLO. Again, this investigation should not be limited to education institutions and could be part of the proposed multi-sector research agenda on the learning organisation in public organisations.

9.6.2 The relation between the school as a learning organisation and student outcomes

This study has not made an empirical investigation into the relationship between the SLO and student outcomes. This was a deliberate choice to ensure sufficient focus to this study that primarily set out to explore the relationship between the SLO and positive HR outcomes. This choice was also partially based on practical considerations in that access to reliable data on student outcomes would have been difficult, if not impossible to obtain.

Although there is some research evidence pointing to the conclusion that the SLO positively influences student outcomes (Caprara, Barbaranelli, Steca, & Malone, 2006; Silins & Mulford, 2004; Klassen & Chiu, 2010) the evidence base is limited to date. A positive finding from these studies is that – in line with our understanding of the SLO, several scholars define student outcomes more broadly than merely in terms of academic outcomes. They include the teaching and learning of socio-emotional outcomes like student motivation, participation and well-being. This we strongly believe is the right way forward to ensure students are prepared for life in the 21st century.

A systematic investigation of the relationship between the SLO and student outcomes, within and across different country contexts, is necessary to respond to the gap in research knowledge and in our view is long overdue, also because of its potential implications for research, policy and practice. Ideally this is done through longitudinal research as this will allow for exploring whether the journey towards becoming a learning organisation indeed enhances student outcomes over time.

9.6.3 Continue exploring the influence of the school as a learning organisation on positive HR outcomes

This study set out to examine the question whether the SLO is associated with positive HR outcomes. As noted in Chapter 1, systematic research on this important research/policy question has been limited to date. This study has aimed to respond to this gap in research knowledge and our findings are certainly encouraging. In line with existing research evidence (Caprara, Barbaranelli, Steca, & Malone, 2006; Razali, Amira, & Shobri, 2013; Erdem, İlğan, & Uçar, 2014; Klassen & Chiu, 2010) its main conclusion is that this is indeed the case.

Further research within and across countries, ideally longitudinal research, is as such needed to expand the evidence base to convince policy makers, educators and other stakeholders in the education sector to develop their schools as learning organisations because of the benefits this may bring to the people working in them. Also here the influence of national culture would seem a relevant factor to include in future research given its known influence on HR outcomes (Eskildsen, Kristensen, & Antvor, 2010; Andreassi, Lawter, Brockerhoff, & Rutigliano, 2012).

In addition, other HR outcomes than explored in this study could be looked into. Staff well-being seems a particularly relevant HR outcome to examine in our view given the seeming growing policy and research interest for the concept. This interest seems to stem from the growing awareness that in order to meet the needs of increasingly diverse learners, enhancing teacher and school leader professionalism has become essential (Earley & Greany, 2017; OECD, 2017). As mentioned, in many countries however this transition towards enhanced professionalism is taking place in difficult conditions in terms of workload, accountability requirements, level of autonomy and budget pressures. As a result of these developments, stress and staff well-being have become issues in a number of education systems.

Again, a multi-public sector research agenda should be considered as it may further strengthen the evidence base on the relationship between the development of public learning organisations and HR outcomes.

9.6.4 Investigation of the antecedents of schools develop as learning organisations

This study looked into the antecedents that enable or hinder schools in developing as learning organisations. This as mentioned is another area of research that has received relatively little attention to date (Finnigan & Daly, 2012; Harris & Jones, 2018). The analysis of this study confirms the view that a school does not transform into a learning organisation on its own. Rather it needs the right conditions and in some cases needs to overcome some barriers for a learning culture to blossom in a school and be sustained. Some of these factors are under the control of people working in schools, while others depend on and are part of the mandate of other parties beyond the school boundaries. This study for example showed that secondary schools are finding it more challenging to develop as learning organisations partly due to their more compartmentalised structure and leadership practices. This is important information for designing effective improvement strategies. In some cases external support may need to be mobilised. Our findings however are only limited to Wales so a logic direction for further research would be to expand this analysis to other countries and examine possible differences and commonalities.

Future research should aim at gaining a better understanding of the individual-, innovational- (e.g. perceived complexity of the SLO), organisational- (e.g. school size, slack of resources, leadership style, etc.) and environmental innovation antecedents that may influence schools in developing as learning organisations, in positive or negative ways; thereby strengthening the theoretical linkages and empirical evidence between the learning organisation and public innovation literatures. For example, although our study shed some light on the issue, what is required in terms of system-level policies and support structures to promote schools to develop as learning organisations is not yet well understood.

Adding to the above, the educational leadership field has accumulated findings, from a wide range of international, empirically-based studies, highlighting the positive impact that leadership has on organisational learning and outcomes (Harris & Jones, 2018; Silins & Mulford, 2004). Also our study showed that leadership is the essential ingredient that binds all of the separate parts of the learning organisation together. Creating a SLO will in many cases require a significant cultural shift, a change of mind-sets and a school wide commitment to self-reflection and continuous learning and improvement. Ideas are rarely as powerful as the actions that emanate from them and this is exactly where the challenge lies. Evidence on the actual actions that school leaders and

system leaders – both formal and informal leaders – have taken to develop their schools as learning organisations is thin (Harris & Jones, 2018). Further survey research, ideally in combination with in-depth case study analysis and that extends a certain period of time (i.e. is longitudinal) may help enhance our understanding of the roles, capacities and actions of school leaders and system leaders in developing a sustainable learning culture across school systems.

In addition, as mentioned earlier, the interviews with the head teachers in Chapter 6 showed that three of the four transversal ‘Ts’ – trust, time and thinking together – that cut across all SLO dimensions indeed as theorised are factors positively influencing schools’ ability to develop as learning organisations. The fourth, technology, wasn’t mentioned at all in the interviews to our surprise however. Future research on the antecedents of the SLO should therefore consider looking more explicitly into these four ‘Ts’ with particular reference to the influence of technology on schools developing as learning organisations.

However, it is important that such a research agenda recognises that antecedents can be either a driver or a barrier, depending on the specific context. A factor such as national culture is for example of great relevance to take into account, especially when doing cross-country research.

The research agenda should furthermore be sufficiently linked to other existing theories. Contingency theory may be of relevance as it has been promoted in public management research in support of the notion there is no one-size fits all set of injunctions to resolve public management issues (O’Toole & Meier, 1999), as was noted above. It views organisational design as ‘a constrained optimization problem’, meaning that an organisation must try to maximize performance by minimizing the effects of varying external and internal factors (Walker, 2007). Having said, the pro-active and action-oriented nature of a learning organisation also argues for maximising the effects of external and internal factors. Other existing theories could therefore be explored to complement the theoretical insights provided by contingency theory. For example, research on the diffusion of innovation could provide a theoretical underpinning for predicting how patterns of innovation are developed and adopted by organisations (De Vries, Bekkers, & Tummers, 2014).

Also, the literature on the New Public Governance movement with its focus on things as learning, trust, and system thinking and networks, and monitoring of processes and outcomes, as noted

provides a useful point of reference for understanding the development of schools as learning organisations in the context of this recent paradigm shift in the public administration literature.

9.7 Recommendations for practice

This study has several implications for practice. First, is the practical relevance of the integrated SLO model and scale for supporting school improvement processes. The SLO model and its seven action-oriented dimensions highlight what a school aspires to be and the processes it goes through as it transforms itself into a learning organisation. The model is intended to stimulate thinking and offer practical guidance to school staff, (local) policy makers and all others wanting to develop their schools as learning organisations. The proposed SLO model and identified scale could be integrated in school self-evaluation and improvement processes. Several countries and scholars have developed measurement instruments to help schools in their self-evaluations, some of which are specifically promoting the development of learning cultures in schools (Education Scotland, 2015; OECD, 2013; Devos & Verhoeven, 2003; Bowen, Rose, & Ware, 2006). This option is also currently explored in Wales where efforts are made to integrate Wales' SLO model (Welsh Government, 2019) and the in this study identified scale in school self-evaluation and improvement processes (Estyn, 2018).

Second, the SLO scale can be used by policy makers for system-level monitoring of the progress schools are making towards developing as learning organisations, for identifying strengths and areas for further improvement. Information on these issues could inform improvement strategies. There is a need for caution on the possible setting of objectives and monitoring of the SLO however. The development of SLOs should not be perceived as a high-stakes exercise as this may risk unintended consequences such as 'gaming' or 'blaming and shaming'; practices that have been regularly tied to New Public Management reforms (George, Desmidt, Nielsen, & Baekgaard, 2017; Hood, 2013; Nielsen & Baekgaard, 2015).

As this study showed also Wales, a country whose education system has been highly influenced by New Public Management, has faced this problem in the past. Welsh Government has as such refrained from setting specific targets on the SLO. It instead is considering monitoring progress through anonymous data mining of the online SLO self-assessment survey that can be freely used by schools to support their improvement processes. Wales' SLO model is also being incorporated

in school evaluation processes that have learning and improvement (rather than accountability) as their primary purpose. Other countries may look towards the example of Wales to review their assessment, evaluation and accountability arrangements to ensure they support schools in developing as learning organisations. Agreeing with this decision made by Welsh Government, any decisions on the monitoring on the SLO (or any other policy) should be made with caution and considered in light of the national context to avoid unintended consequences.

Third, in light of the literature that shows the spread of the learning organisation across other sectors, with minor amendments the developed SLO model and scale can also be applied to other public organisations to support improvement processes. Similar as for the field of education, policy makers could then use an amended learning organisation scale to identify strengths and areas for further improvement of public services.

Fourth, eight innovation antecedents that were identified as influencing schools in developing as learning organisations. School leaders, teachers, policy makers and other parties involved should take these antecedents into account in the planning and implementation of actions that are aimed at developing their schools as learning organisations.

Fifth, and last, in line with the existing research evidence, the findings of this dissertation clearly point to the conclusion that developing a SLO has a positive influence on a selection of HR outcomes, which as the evidence suggests in turn is likely to positively influence student outcomes.

As noted above, policy makers, educators, scholars and others working in the field of education and in other public sectors may find it useful to refer to these findings when talking to their colleagues about the option of developing their organisations as learning organisations because of the benefits this may bring to them, the organisation and performance outcomes – in a school context that ultimately means better student outcomes (Caprara, Barbaranelli, Steca, & Malone, 2006; Silins & Mulford, 2004; Klassen & Chiu, 2010).

REFERENCES

- Akram, M., Watkins, K., & Sajid, S. (2013). Comparing the Learning Culture of High and Low Performing High Schools in Pakistan. *Literacy Information and Computer Education Journal*, 4(2), 1022-1028.
- Andreassi, J., Lawter, L., Brockerhoff, M., & Rutigliano, P. (2012). *Job Satisfaction Determinants: A Study Across 48 Nations*. Proceedings of 2012 Annual Meeting of the Academy of International Business-US North East Chapter: Business Without Borders, Sacred Heart University.
- Austin, M., & Harkins, D. (2008). Assessing change: Can organisational learning "work" for Schools? . *The Learning Organization*, 15(2), 105-125.
- Barker, M. (2014). Doing a literature review. In A. Vossler, & N. Moller (Eds.), *The Councelling and Psychotherapy Research Handbook* (pp. 61-73). London: Sage.
- Bin Mohd., M. (2005). The public service as a learning organization: the Malaysian experience. *International Review of Administrative Sciences*, 71(3), 463-474.
- Boreham, N., & Reeves, J. (2008). Diagnosing and Supporting a Culture of Organizational Learning in Scottish Schools. *Zeitschrift fur Pedagogik*, 54(5), 637-649.
- Bowen, G., Rose, R., & Ware, W. (2006). The Reliability and Validity of the School Success Profile Learning Organization Measure. *Evaluation and Program Planning*, 29, 97-104.
- Brown, M., & Brudney, J. (2003). Learning Organizations in the Public Sector? A Study of Police Agencies Employing Information and Technology to Advance Knowledge. *Public Administration Review*, 63(1), 30-43.
- Byrne, B. (2010). *Structural Equation Modeling in AMOS*. New York: Routledge Taylor Francis Group.
- Cameron, A. (2015). A Practitioner's Guide to Cluster - Robust Inference. *The Journal of Human Resources*, 50(2), 317-372.

- Caprara, G., Barbaranelli, C., Steca, P., & Malone, P. (2006). Teachers' self-efficacy beliefs as determinants of job satisfaction and students' academic achievement: A study at the school level. *Journal of School Psychology, 44*(6), 473-490.
- Colmer, K. (2008). Leading a learning organisation: Australian early years centres as learning networks. *European Early Childhood Education Research Journal, 16*(1), 107-115.
- Creswell, J., & Plano Clark, V. (2007). *Designing and Conducting Mixed Methods Research*. Thousand Oaks: Sage.
- Damanpour, F., & Schneider, M. (2009). Characteristics of Innovation and Innovation Adoption in Public Organizations: Assessing the Role of Managers. *Journal of Public Administration Research and Theory, 19*(3), 495-522.
- De Vries, H., Bekkers, V., & Tummers, L. (2014). Innovation in the public sector: A systematic review and future research agenda. *Public Administration Review, 94*(1), 146-166.
- DeVellis, R. (2016). *Scale development: Theory and applications*. Los Angeles: Sage Publications Inc.
- Devos, G., & Verhoeven, J. (2003). School Self-Evaluation - Conditions and Caveats. The Case of Secondary Schools. *Educational Management & Administration, 31*(4), 403-420.
- Diefenbach, T. (2009). New public management in public sector organizations: the dark sides of managerialistic 'enlightenment'. *Public administration, 87*(2), 892-909.
- Dolbier, C., Webster, J., McCalister, K., Mallon, M., & Steinhardt, M. (2005). Reliability and validity of a single-item measure of job satisfaction. *American Journal of Health Promotion, 19*(3), 194-198.
- Earley, P., & Greany, T. (2017). *School Leadership and Education System Reform*. London: Bloomsbury Academic.
- Education Scotland. (2015). *How Good Is Our School?* Edinburgh: Education Scotland.

- Egan, T., Yang, B., & Bartlett, K. (2004). The effect of organizational learning culture and job satisfaction on motivation to transfer learning and turnover intention. *Human Resource Development Quarterly*, 15(3), 279-301.
- Eisenhardt, K., & Graebne, M. (2007). Theory Building From Cases: Opportunities And Challenges. *Academy of Management Journal*, 50(1), 25-32.
- Erdem, M., İlğan, A., & Uçar, H. (2014). Relationship between Learning Organization and Job Satisfaction of Primary School Teachers. *International Online Journal of Educational Sciences*, 6(1), 8-20.
- Eskildsen, J., Kristensen, K., & Antvor, H. (2010). The relationship between job satisfaction and national culture. *The TQM Journal*, 22(4), 369-378.
- Estyn. (2018). *A national evaluation and improvement resource for schools*. Retrieved from Estyn: <https://www.estyn.gov.wales/inspection/national-evaluation-and-improvement-resource-schools>.
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. London: Sage Publications Ltd.
- Finnigan, K., & Daly, A. (2012). Mind the Gap: Organizational Learning and Improvement in an Underperforming Urban System. *American Journal of Education*, 119, 41-61.
- Gandolfi, F. (2006). Can a School Organization be Transformed into a Learning Organization? *Contemporary Management Research*, 2(1), 57-72.
- Gardiner, P., & Whiting, P. (1997). Success factors in learning organizations: an empirical study. *Industrial and Commercial Training*, 29(2), 41-48.
- George, B., & Pandey, S. (2017). We Know the Yin—But Where Is the Yang? Toward a balanced Approach on Common Source Bias in Public Administration Scholarship. *Review of Public Personnel Administration*, 37(2), 245-270.
- George, B., Desmidt, S., Nielsen, P., & Baekgaard, M. (2017). Rational planning and politicians' preferences for spending and reform: Replication and extension of a survey experiment. *Public Management Review*, 19(9), 1251-1271.

- Giles, C., & 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.
- Glennon, R., Hodgkinson, I., & Knowles, J. (2019). Learning to manage public service organisations better: A scenario for teaching public administration. *Teaching Public Administration*, 37(1), 31-45.
- Gould-Williams, J. (2007). HR practices, organizational climate and employee outcomes: evaluating social exchange relationships in local government. *The International Journal of Human Resource Management*, 18(9), 1627-1647.
- Government of British Columbia. (2018). *Early Learning Organizations*. Retrieved from <https://www2.gov.bc.ca/gov/content/education-training/early-learning/teach/training-and-professional-development/early-learning-organizations>.
- Harris, A., & Jones, M. (2018). Leading Schools as Learning Organizations. *School Leadership & Management*, 38(4), 351-354.
- Harris, M., & van Tassell, F. (2005). The professional development school as learning organization. *European Journal of Teacher Education*, 28(2), 179-194.
- Haverland, M., & Yano, D. (2012). A Hitchhiker's Guide to the Public Administration Research Universe: Surviving Conversations on Methodologies and Methods. *Public Administration Review*, 72(3), 401-408.
- Hood, C. (2013). *The Blame Game: Spin, Bureaucracy, and Self-Preservation in Government*. Princeton: Princeton University Press.
- Hunt, B., & Ivergard, T. (2007). Organizational climate and workplace efficiency. *Public Management Review*, 9(1), 27-47.
- Husseina, N., Omara, S., Noordina, F., & Ishaka, N. (2016). Learning Organization Culture, Organizational Performance and Organizational Innovativeness in a Public Institution of Higher Education in Malaysia: A Preliminary Study. *Procedia Economics and Finance*, 37, 512-519.

- Kim, Y., & Han, S. (2015). Assessing the effects of learning organization characteristics in Korean non-profit organizations: Focusing on the association with perceived financial performance and employee satisfaction. *International Review of Public Administration*, 20(2), 177-193.
- Watkins, K. & Kim, Y.(2017). Current status and promising directions for research on the learning organisation. *Human Resource Development Quarterly*, 29(1), 15-29.
- Klassen, R., & Chiu, M. (2010). Effect on teachers' self-efficacy and job satisfaction: Teacher gender, years of experience, and job stress. *Journal of Educational Psychology*, 102(3), 741-756.
- Kroll, A. (2015). Drivers of performance information use: Systematic literature review and directions for future research. *Public Performance & Management Review*, 38(3), 459-486.
- Lee, G., Jennifer, B., & Timothy, J. (2012). Survey Research in Public Administration: Assessing Mainstream Journals with a Total Survey Error Framework. *Public Administration Review*, 72(1), 87-97.
- Light, P. (1999). *Sustaining Innovation. Creating Nonprofit and Government Organizations that Innovate Naturally*. San Francisco: Jossey-Bass.
- Manning, N. (2001). The legacy of the New Public Management in developing countries. *International Review of Administrative Sciences*, 67(2), 297-312.
- McKinnon, J., Wu, A., Chow, C., & Harrison, G. (2003). Organizational culture: Association with commitment, job satisfaction, propensity to remain and information sharing in Taiwan. *International Journal of Business Studies*, 11(1), 25-44.
- Moloi, K. (2010). How can schools build learning organisations in difficult education contexts? *South African Journal of Education*, 30(1), 621-633.
- Moloi, K., Grobler, B., & Gravett, S. (2006). Educators' perceptions of the school as a learning organization in the Vanderbijlpark-North District, South Africa. *South African Journal of Education*, 22(2), 88-94.
- Nagy, M. (2002). Using a single-item approach to measure facet job satisfaction. *Journal of Occupational and Organizational Psychology*, 75(1), 77-86.

- Nielsen, P., & Baekgaard, M. (2015). Performance information, blame avoidance, and politicians' attitudes to spending and reform: Evidence from an experiment. *Journal of Public Administration Research and Theory*, 25(2), 545-569.
- O'Toole, L., & Meier, K. (1999). Modeling the impact of public management. The implications of structural context. *Journal of Public Administration Research and Theory*, 9(4), 505-526.
- OECD. (2013). *Synergies for Better Learning*. Paris: OECD Publishing.
- OECD. (2017). *PISA and TALIS Synergies, 44th meeting of the PISA Governing Board, 6-8 November 2017, EDU/PISA/GB(2017)21*. Paris: OECD Publishing.
- OECD. (2017). *The Welsh Education Reform Journey: A Rapid Policy Assessment*. Paris: OECD Publishing.
- OECD. (2018). *Developing Schools as Learning Organisations in Wales*. Paris: OECD Publishing.
- Örtenblad, A. (2002). A Typology of the idea of Learning Organization. *Management Learning*, 33(2), 213-230.
- Osborne, S. (2006). The New Public Governance? *Public Management Review*, 8(3), 377-386.
- Osborne, S. (Eds.). (2013). *The New Public Governance?: Emerging Perspectives on the Theory and Practice of Public Governance*. London: Routledge.
- Podsakoff, P.S. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, 63, 539-569.
- Prenger, R., Poortman, C., & Handelzalts, A. (2019). The Effects of Networked Professional Learning Communities. *Journal of Teacher Education*, 70(5), 441-452
- Radin, B. (2006). *Challenging the performance movement: Accountability, complexity, and democratic values*. Washington, D.C.: Georgetown University Press.
- Razali, M., Amira, N., & Shobri, N. (2013). Learning Organization Practices and Job Satisfaction among Academicians at Public University. *International Journal of Social Science and Humanity*, 3(6), 518-521.

- Retna, K., & Tee, N. (2006). The challenges of adopting the learning organisation philosophy in a Singapore school. *International Journal of Educational Management*, 20(2), 140-152.
- Rose, R., Kumar, N., & Pak, O. (2009). The effect of organisational learning on organisational commitment, job satisfaction and work performance. *The Journal of Applied Business Research*, 25(6), 55-65.
- Rusa, C., Chirica, S., Ratiua, L., & Baban, A. (2014). Learning organization and social responsibility in Romanian higher education institutions. *Procedia - Social and Behavioral Sciences*, 142, 146-153.
- Schleicher, A. (2012). *Preparing Teachers and Developing School Leaders for the 21st Century: Lessons from around the World*. Paris: OECD Publishing.
- Silins, H., & Mulford, B. (2004). Schools as learning organizations: Effects on teacher leadership and student outcomes. *School Effectiveness and School Improvement*, 15(3-4), 443-466.
- Silins, H., Mulford, B., & Zarins, S. (2002). Organisational learning and school change. *Educational Administration Quarterly*, 38(5), 613-642.
- 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.
- Tummers, L. (2012). Policy Alienation of Public Professionals: The Construct and Measurement. *Public Administration Review*, 72(4), 516-525.
- Vashdi, R., Vigoda-Gadot, E., & Sholmi, D. (2012). Assessing performance: The impact of organisational climates and politics in public schools' performance. *Public Administration Review*, 91(1), 135-158.
- Walker, R. (2006). Internal and External Antecedents of Process Innovation: A Review and Extension. *Public Management Review*, 16(1), 21-44.
- Walker, R. (2007). An Empirical Evaluation of Innovation Types and Organizational and Environmental Characteristics: Towards a Configuration Framework. *Journal of Public Administration Research and Theory*, 18(4), 591-615.

- Wanous, J., Reichers, A., & Hudy, M. (1997). Overall job satisfaction: how good are single-item measures? . *Journal of applied Psychology*, 82(2), 247-252.
- Watkins, K., & Marsick, V. (1996). *In action: Creating the learning organization*. Alexandria: American Society for Training and Development.
- Watkins, K., & Marsick, V. (1999). Schools as Learning Communities. Sculpting the Learning Community: New Form of Working and Organizing. *NASSP Bulletin*, 83(604), 78-87.
- Welsh Government. (2017). *Education in Wales: Our National Mission*. Cardiff: Welsh Government.
- Welsh Government. (2019). *Schools as Learning Organisations*. Retrieved from HWB: <https://hwb.gov.wales/professional-development/schools-as-learning-organisations/>
- 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.
- Zederayko, G. (2000). Variables in schools becoming learning organizations. *Graduate Student Theses, Dissertations, & Professional Papers*, 10598. The University of Montana.

Summary in English

Introduction

In today's world, schools are expected to prepare students for life and work in a rapidly changing environment, for jobs and the use of technologies of which some have not even been created yet. Against this background, countries are trying to adapt their education systems to the changing times. Organisational change, however, is a complex, multi-faceted process and creating sustainable change is difficult.

In response to the often-disappointing results of reforms and the inability of many contemporary schools to keep their innovations alive, a growing number of academics, policymakers and educators are advocating for schools to be conceptualized as "learning organisations". The argument is that this is the ideal type of school organisation for dealing with the changing external environment, for facilitating change and innovation, and even effectiveness, i.e. improvements in HR outcomes of staff and student outcomes.

Background to the study

Despite the steadily growing support for the development of schools as learning organisations, relatively little is known about whether these, as often assumed, indeed lead to better HR outcomes. Although empirical research supports the existence of a relationship between the learning organisation and positive HR outcomes, research data on this relationship in a school context has been limited so far, especially in multi-country studies.

Further research into this relationship is important for several reasons. First, the literature shows that positive HR outcomes in turn positively influence the performance of the organisation, or better learning outcomes in a school context. Second, in many countries, teachers face difficult conditions such as workload, increasing accountability and budgetary pressures, resulting in stress and challenges for the well-being of staff in general. Research shows that a school as a learning organisation provides a powerful means to meet these challenges and that it can positively influence HR outcomes.

Another question that has received little attention in the literature to date is "how schools actually can be developed as learning organisations?". Most academics agree that creating the conditions for

a school to develop into a learning organisation is far from easy in practice. In addition, part of the challenge is confusion about the concept; academic interpretations vary, sometimes considerably.

Furthermore, little systematic research has been carried out into the antecedents that influence the development of schools as learning organisations. A better understanding of these antecedents can inform interested parties in the formulation of plans for the development of their schools as learning organisations.

Objective, question and relevance of the study

Given the above, the aim of this study is to clarify the concept of the school as a learning organisation and the antecedents that influence the development of such a school. In addition, this study aims to gain an insight into the relationship between the school as a learning organisation and HR outcomes. The relationship with students' learning outcomes is not investigated to give enough focus to the research. The central research question of this study therefore is:

What are the characteristics, antecedents and HR related outcomes of a school as a learning organisation?

Main findings

This study consists of nine chapters. Guided by four sub-questions, these chapters contribute to answering the main research question of this study. The first sub-question, "how can a school as a learning organisation be defined and conceptualized?", was examined in Chapters 2 and 3. **Chapter 2** consisted of a multidisciplinary literature review into the concept of the learning organisation and the school as a learning organisation (SLO) in particular. Despite the different interpretations of the concept, some common features were identified. Several academics have brought these characteristics together in integrated SLO models. We believe that such models have the greatest potential to promote the SLO in research and practice because of the clarity and operational guidance they provide. The literature review supported the use of the learning organisational model of Watkins and Marsick as a theoretical basis for the development of our own SLO model. However, there was room for improvement of this model to enhance its applicability to contemporary school organisations.

First, it was important to place greater emphasis on striving for sustainable educational innovations. Secondly, there was a need to place greater emphasis on promoting cooperation between schools and networks. Third, the content of the school's vision had to be clarified by focusing it on ensuring that all students acquire the knowledge and skills for life in the 21st century – the core mission of any school, whether it be a learning organisation or not. Fourth, there was a need to include teaching support staff in the model.

Based on the literature review that was started in Chapter 2 and the contributions of a small network of international experts, in **Chapter 3** we presented an integrated SLO model consisting of seven action-oriented dimensions: 1) developing and sharing a vision centred on the learning of all students; 2) creating and supporting continuous learning opportunities for all staff; 3) promoting team learning and collaboration among all staff; 4) establishing a culture of inquiry, innovation and exploration; 5) embedding systems for collecting and exchanging knowledge and learning; 6) learning with and from the external environment and larger learning system; and 7) modelling and growing learning leadership. These dimensions and their underlying characteristics (“elements”) indicate what a school aims for, as well as the processes it is going through to develop as a learning organisation. In short, we defined a SLO as “a school that has the ability to change itself routinely and adapt to new environments and circumstances, as its members, individually and together, learn to realize their vision”.

In **Chapter 4**, the second sub-question of this study was examined, “how can a school as a learning organisation be measured?”. We tested the model by developing a SLO scale, using data from the SLO survey that was answered by 1,703 staff members (school leaders, teachers and teaching support staff) in Wales. The results of the component analysis largely supported the model, but revealed a scale consisting of eight dimensions, rather than the theorized seven dimensions. The data suggested that the dimension “developing a shared vision centred on the learning of all students” consisted of two dimensions. These were identified as “shared vision aimed at the learning of all students” and “partners contributing to the school's vision”. Further research into the construct validity of the scale resulted in the identification of a scale consisting of 65 items across eight dimensions that allows for the holistic measurement of a SLO.

In response to the third sub-question of this study, “what antecedents influence schools in developing as learning organisations?”, the analysis of Chapters 5 and 6 and led to the identification

of eight innovation antecedents. In **Chapter 5**, hierarchical linear modeling (HLM) was applied to school data collected by the SLO survey and available administrative data from schools in Wales. The aim was thus to investigate the relationship between the variables school type and the socio-economic background of schools (two organisational level antecedents), and job position (individual level antecedent) and the SLO.

The analysis showed that school leaders were significantly more positive than teachers and teaching support staff in how they regarded their schools to be learning organisations. It showed that staff in secondary schools are less likely to perceive their SLO than those in primary schools. The larger size of secondary schools and their more compartmentalised structure, which make it harder to collaborate across departments and the organisation as a whole, may explain these findings. It therefore would seem important to continue investing in the capacity of present and future secondary school leaders. The HLM analysis also showed that the socio-economic background of a school, measured by the number of students receiving free school meals, is not an obstacle for them to develop as learning organisations.

Chapter 6 continued the investigation of the antecedents that influence schools in developing as learning organisations. Semi-structured interviews were conducted with school leaders from two schools, a primary and a secondary school, who had a high average score on the SLO scale (> 4.3, on a five-point Likert scale); they seemed to have put into practice many, if not all, characteristics of a learning organisation. Data was collected from a further two schools, again a primary and secondary school. These schools had a low average SLO score (<3.7) and thus seemed far removed from functioning as a learning organisation.

The comparative case study analysis pointed to several influential antecedents. First, there were the differences in the confidence, skills and mental attitude of staff to participating in organisational learning (individual level antecedent). For the two schools with a relatively low average SLO score, many of their staff did not seem to have the confidence, skills and mental attitude to commit to learning and working together and turn to colleagues for advice. Secondly, the staff in the two schools with a low average SLO score seemed to have only a limited understanding of the SLO model of Wales, how this could support improvement processes and fits the curriculum reform effort (innovation level antecedent).

At the organisational level, two antecedents stood out: leadership style and school funding. The leaders who could be described as transformational leaders and/or proactive change agents, consistent with our interpretation of a leader in a learning organisation (see Chapter 3), seem essential to advance the school and establish a sustainable learning culture in them. Financial pressures were reported to have a negative influence on the ability of schools to develop as learning organisations and appeared to be a particular problem for primary schools. This finding resonates with other studies in public organisations that show that larger organisations (i.e. secondary schools) have more resources that can be spent on organisational learning than smaller organisations (i.e. primary schools).

In addition, differences in local funding models and the assessment, evaluation and accountability arrangements (two environmental antecedents) were found to negatively influence the development of schools as learning organisations. The assessment, evaluation and accountability arrangements of the Welsh education system seemed to have tempered people's willingness and confidence to do things differently and innovate their practice – key features of the SLO, and seemed particularly challenging for secondary schools.

In addition, three of the four transversal factors, the four “Ts”, of our SLO model – trust, time, thinking together – were identified as having a positive influence on the development of schools as learning organisations. The fourth, technology, was surprisingly not mentioned. Future research into the SLO, in Wales and beyond, may therefore look explicitly at the role of technology in the development of schools as learning organisations.

Chapters 7 and 8 dealt with the fourth sub-question of this study, “to what extent is the school as a learning organisation associated with HR outcomes?”. In line with existing research evidence, this question can be answered affirmatively based on the results of both chapters. **Chapter 7** analyzed the relationship between the SLO and the job satisfaction of teachers with the current working environment and their self-efficacy in 35 countries, using TALIS 2013 data. Exploratory factor analysis and reliability analysis were applied to 22 items of the TALIS 2013 teacher questionnaire corresponding to our SLO model. Four factors were identified – “embedded systems”, “professional learning engagement”, “distributed leadership” and “professional learning barriers”.

Multiple regression analysis showed that there was a positive relationship between all four identified SLO factors and teacher job satisfaction with the current working environment. The data suggest that, in particular “professional learning engagement” and “distributed leadership” are critical to teacher job satisfaction with their working environment. The analysis also showed a positive relationship between all four factors and the self-efficacy of teachers, although the β 's were quite small. The factor “embedded systems” was found to be most influential on teachers’ self-efficacy.

Chapter 8 continued the investigation of the SLO and its relationship with several HR outcomes, but this time in only one country, Wales, and using the SLO survey. In accordance with existing research evidence, the analysis of the multiple regression analysis demonstrated a significant and positive relationship between the SLO and the two variables for job satisfaction of school staff. The analysis also showed a significant and positive relationship between the SLO and the school’s responsiveness to staff needs. Coming back to the results of Chapter 4, the fact that these relationships are consistent with the literature provides further evidence of the (predictive) validity of the SLO scale.

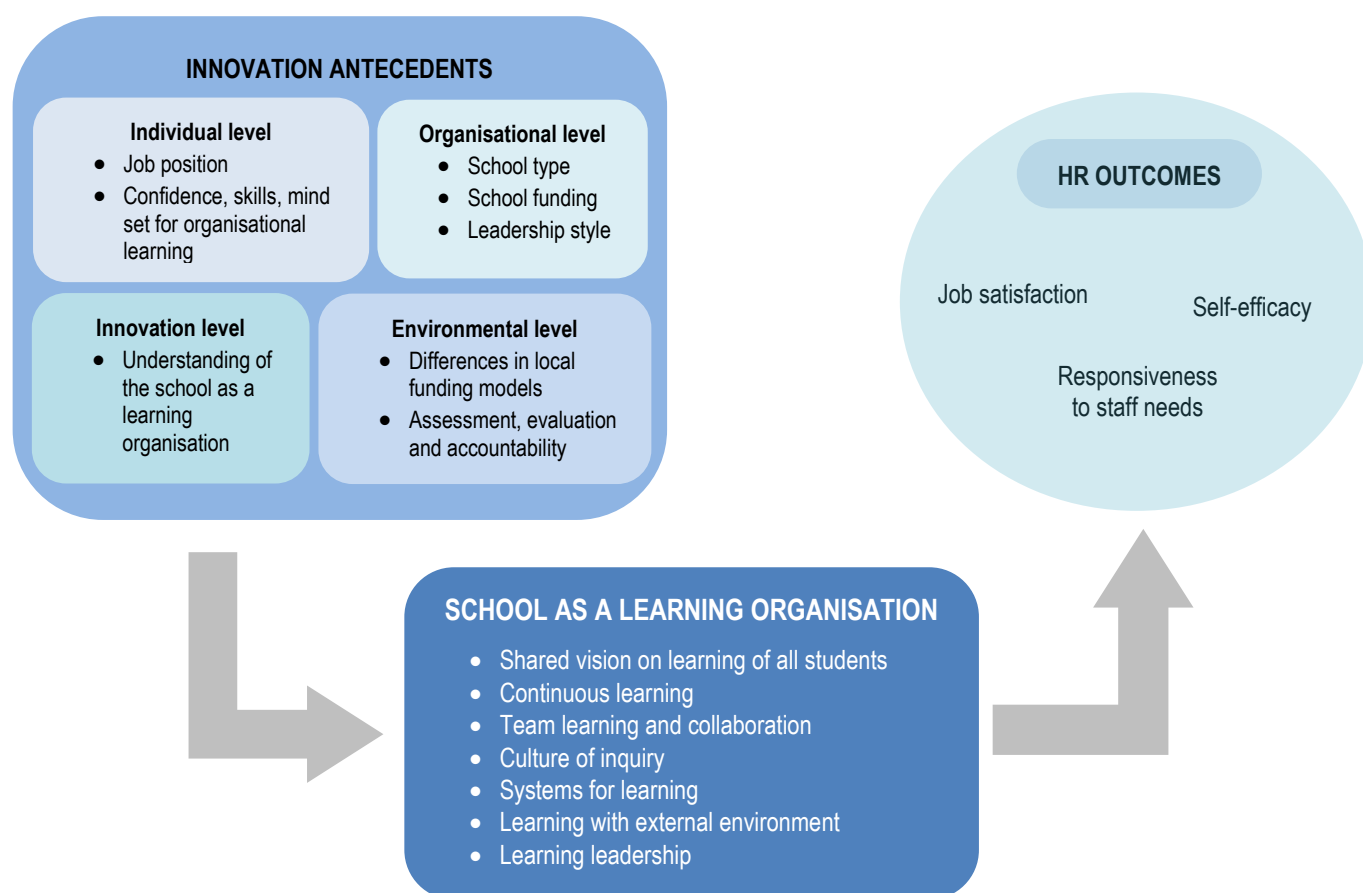
Further analysis of the underlying SLO dimensions suggested that “promoting team learning and collaboration among its staff”, “establishing a culture oriented toward inquiry, innovation and exploration”, and “modelling and growing learning leadership” are all important for enhancing staff job satisfaction. This seems particularly relevant for teachers who are on average considerably less positive about their job satisfaction than their colleagues in leadership positions. In addition, the regression analysis showed that “developing and sharing a vision centred on the learning of all students”, “ensuring continuous learning opportunities”, “team learning and collaboration among all staff”, and putting in practice the other aspects of “learning leadership” are likely to positively influence how staff view the responsiveness of their school to their learning and other needs.

In sum, though slightly less so in relation to schools’ responsiveness to staff needs, the evidence base of the positive relationship between the SLO and staff job satisfaction in other public and private organisations is well-established. Most of our findings are therefore also likely to be relevant for other public organisations in Wales and internationally.

Conclusions and discussion

Based on an in-depth literature review, we defined a SLO as “a school that has the ability to change routinely and adapt to new environments and circumstances, as its members, individually and together, learn to realize their vision”. We theorized that in such a school the collective aim is to realize seven action-oriented dimensions (see Figure 9.2).

Figure 9.2 Summary of main relationships



However, testing the SLO model showed a scale consisting of 65 items across eight dimensions, rather than the theorized seven dimensions. Additional research, both theoretical and applied, is needed however to further explore the scale and its associated value to strengthen the current evidence base on the SLO and move towards a common understanding of the concept internationally.

Furthermore, Figure 9.2 shows the eight identified innovation antecedents that influence the development of schools as learning organisations. School leaders, policy makers and other stakeholders should take these factors into account when planning and implementing activities aimed at developing their schools as learning organisations.

Based on this study, it can also be concluded that, in accordance with the existing research evidence, the SLO has a positive influence on HR outcomes. Figure 9.2 shows the main relationships discovered in this study. The findings of this study are important as mentioned, because positive HR outcomes in turn positively influence the performance of the organisation, or better learning outcomes in a school context. This study also provided insight into the strategies and processes that make a SLO and can positively influence HR outcomes.

Policy makers, leaders, academics and others working in education and other public sectors can use the findings and insights of this study as supporting evidence to persuade people to develop their organisations as learning organisations – and advise them on how to do this, because of the benefits this can have for them, the organisation and organisational performance; in an educational context this ultimately means improving the learning outcomes of all students.

Methodological reflection

A strong point of the research design is the applied funnel approach in the first part of the study. Here, an unclear concept, the SLO, is theorized in an integrated model by means of an in-depth literature review of the (school as) learning organisation and related concepts and literatures. A small network of international experts contributed to this and thereby added an extra layer of rigor to the process.

The model was then tested for construct validity and applied in the following empirical chapters, using different data sets and methodologies. A number of frequently mentioned objections have been addressed in this study by using multiple actors (respondents from different subpopulations) and multiple sources (a combination of datasets and additional collected data). To investigate the assumed relationships, therefore, this study used analysis techniques that allowed us to simultaneously investigate the direct and indirect relationships between independent and dependent variables (regression analysis) and to investigate variables at different levels of analysis (HLM).

However, this study also has a number of limitations, which are important for interpreting the study results. First, the cross-sectional study design did not allow for making causal claims. Furthermore, only a limited number of antecedents could be investigated via the HLM (in Chapter 5). Future research using the SLO survey should therefore consider using an additional school background questionnaire (to be completed by the school leader), so that a wider range of antecedents can be investigated. In addition, as we have done (in Chapter 6), future research should also consider adding a comparative case study analysis as it may enrich and deepen the analysis. The sequential explanatory research design for the identification of schools has proved to be very useful and is therefore something to consider also for future research.

Another challenge that this study had to deal with was that the SLO is a concept at the organisational level, while the HR outcomes examined were variables at the individual level. We responded to this challenge by examining the perceptions of school staff in the extent that they saw their schools to be learning organisations. As a result, all variables were analyzed at the same level; individual level. This choice was informed by the organisational climate literature, which in many cases uses a similar approach.

An obvious limitation that arises from using a non-purposefully designed survey like TALIS is that it does not allow the holistic measurement of the SLO. However, the analysis showed that TALIS can be used to investigate several important characteristics of the SLO and the relationship with HR outcomes. In particular, the potential to conduct research on such a large scale and across so many countries offers an important and underutilized opportunity to enrich both the theory and practice of the (school and) learning organisation.

Another challenge arose around the concept of job satisfaction. First, TALIS measures job satisfaction with the working environment only for teachers and school leaders, while the SLO survey also measures the concept for other school leaders (deputy head teachers and assistant head teachers) and teaching support staff. Secondly, TALIS measures teacher job satisfaction with the work environment through four research items that together form one factor. The SLO survey measures job satisfaction with only two variables. Several studies have shown however that the choice of such an approach is not necessarily less effective. However, we recognize that the SLO survey can be improved by including additional items for measuring job satisfaction, the school's

response to staff needs and other HR outcomes, such as staff well-being or staff engagement with the organisation given their relevance to policy, practice and research.

Recommendations for practice

This study has several practical implications. First, is the practical relevance of the integrated SLO model and its scale for supporting school improvement processes. The model and its seven action-oriented dimensions emphasize what a school aims to pursue, as well as the strategies and processes it goes through to develop as a learning organisation. The model and identified scale can be integrated into school self-assessment and improvement processes, as was done in Wales at the time of the finalization of this study.

Second, the SLO scale can be used by policy makers for system-level monitoring of the progress schools are making towards developing as learning organisations, for identifying strengths and areas for further improvement. Information on these issues could inform improvement strategies. However, caution is advised here. The development of SLOs should not be perceived as a high-stakes exercise as this may risk unintended consequences such as ‘gaming’ or ‘blaming and shaming’; practices that have been regularly tied to New Public Management reforms.

Thirdly, also given the extensive literature of the learning organisation in other public sectors, we believe that the developed SLO model and corresponding scale can be applied in other public organisations with only minor adjustments to support their improvement processes.

Fourth, this study identified eight innovation antecedents that influence the development of schools as learning organisations. Leaders, policymakers and other stakeholders should consider these antecedents in their planning and implementation of activities aimed at developing their organisations as learning organisations.

Fifth and last, in line with existing research evidence, the findings of this study clearly point to the conclusion that developing a SLO has a positive influence on HR outcomes, which in turn will likely positively influence student outcomes.

Summary in Dutch (Samenvatting in het Nederlands)

Inleiding

In de huidige wereld worden scholen geacht studenten voor te bereiden op het leven en werken in een snel veranderende omgeving, voor banen en het gebruik van technologieën waarvan sommige nog niet eens zijn gemaakt. Tegen deze achtergrond proberen landen hun onderwijssystemen aan te passen. Organisatorische verandering is echter een complex, veelzijdig proces en het creëren van duurzame verandering is moeilijk. Als reactie op de vaak teleurstellende resultaten van hervormingen en het onvermogen van veel hedendaagse scholen om hun innovaties in leven te houden pleit een groeiend aantal academici, beleidsmakers en onderwijspersoneel ervoor om scholen te conceptualiseren als 'lerende organisaties'. Het argument is dat dit het ideale type schoolorganisatie is voor het omgaan met de veranderende externe omgeving, voor het faciliteren van verandering en innovatie, en zelfs voor de effectiviteit, dat wil zeggen, verbeteringen in HR-uitkomsten van personeel en studentenresultaten.

Achtergrond van het onderzoek

Ondanks de gestaag groeiende steun voor het ontwikkelen van scholen als lerende organisaties is relatief weinig bekend over de vraag of deze, zoals vaak wordt aangenomen, inderdaad leiden tot betere HR-uitkomsten. Hoewel empirisch onderzoek het bestaan van een relatie tussen de lerende organisatie en positieve HR-uitkomsten ondersteunt, zijn onderzoeksgegevens over deze relatie in een schoolcontext tot nu toe beperkt, vooral in studies betreffende meerdere landen. Verder onderzoek naar deze relatie is belangrijk om verschillende redenen. Ten eerste toont de literatuur dat positieve HR-uitkomsten op hun beurt de prestaties van de organisatie positief beïnvloeden, of te wel betere leerresultaten in een schoolcontext.

Ten tweede worden docenten in veel landen geconfronteerd met moeilijke omstandigheden als werkdruk, toenemende verantwoordingsvereisten en begrotingsdruk, wat resulteert in stress en uitdagingen voor het welzijn van het personeel in het algemeen. Onderzoek toont aan dat een school als lerende organisatie een krachtig middel biedt om op deze uitdagingen aan te gaan en dat het de HR-uitkomsten positief kan beïnvloeden.

Een andere vraag die tot op heden weinig aandacht heeft gekregen in de literatuur, is 'hoe kunnen scholen daadwerkelijk worden ontwikkeld als lerende organisaties?'. De meeste wetenschappers

zijn het erover eens dat het scheppen van de voorwaarden voor een school om zich te ontwikkelen tot een lerende organisatie in de praktijk verre van eenvoudig is. Bovendien ligt een deel van de uitdaging in de verwarring over het concept; de wetenschappelijke interpretaties variëren, soms aanzienlijk.

Verder is er weinig systematisch onderzoek gedaan naar de antecedenten die van invloed zijn op de ontwikkeling van scholen als lerende organisaties. Een beter inzicht in deze antecedenten kan betrokken partijen informeren in de formulering van plannen voor de ontwikkeling van hun scholen als lerende organisaties.

Doelstelling, vraagstelling en relevantie van het onderzoek

Gegeven het bovenstaande, is het doel van dit proefschrift om meer duidelijk te krijgen omtrent het concept van de school als lerende organisatie en de factoren die van invloed zijn op de ontwikkeling van zo'n school. Daarnaast poogt dit proefschrift inzicht te krijgen op de relatie tussen de school als lerende organisatie en HR-uitkomsten. De relatie met leeruitkomsten van leerlingen wordt niet onderzocht om voldoende focus te geven aan het onderzoek. De centrale onderzoeksvraag van dit proefschrift is aldus:

Wat zijn de kenmerken, antecedenten en HR-gerelateerde uitkomsten van de school als lerende organisatie?

Belangrijkste bevindingen

Dit proefschrift bestaat uit negen hoofdstukken. Geleid door vier deelvragen dragen deze hoofdstukken bij aan de beantwoording van de hoofdonderzoeksvraag van deze studie. De eerste deelvraag, “*hoe kan de school als lerende organisatie worden gedefinieerd en geconceptualiseerd?*”, werd onderzocht in hoofdstukken 2 en 3. **Hoofdstuk 2** bestond uit een multidisciplinair literatuuronderzoek naar het concept van de lerende organisatie en de school als een lerende organisatie in het bijzonder. Ondanks de verschillende wetenschappelijke interpretaties van het concept werden enkele gemeenschappelijke kenmerken geïdentificeerd. Verschillende wetenschappers hebben deze kenmerken samengebracht in geïntegreerde school als lerende organisatie modellen. Dergelijke modellen hebben volgens ons het grootste potentieel om de school als lerende organisatie in onderzoek en praktijk te bevorderen vanwege de duidelijkheid en operationele begeleiding die zij bieden. Het literatuuronderzoek ondersteunde het gebruik van het

lerende organisatiemodel van Watkins en Marsick als theoretische basis voor de ontwikkeling van ons school als lerende organisatie model. Er was echter ruimte voor verbetering van dit model om de toepasbaarheid ervan op hedendaagse schoolorganisaties te versterken.

Ten eerste was het van belang meer nadruk te leggen op het streven naar duurzame onderwijsinnovaties. Ten tweede, was er de noodzaak om sterker de nadruk te leggen op de bevordering van de samenwerking tussen scholen en netwerken. Ten derde moest de inhoud van de school's visie worden verduidelijkt door deze te richten op het zorgen dat alle studenten de kennis en vaardigheden krijgen die hen voorbereiden op het leven in de 21e eeuw – de kernmissie van scholen, of het nu een lerende organisatie is of niet. Ten vierde was er behoefte aan het opnemen van lesondersteunend personeel in het model.

Op basis van het literatuuronderzoek dat in hoofdstuk 2 was gestart en de bijdrages van een klein netwerk van internationale experts, hebben we in **Hoofdstuk 3** een geïntegreerd school als een lerende organisatie model gepresenteerd dat uit zeven actiegerichte dimensies bestaat: 1) ontwikkelen en delen van een visie die is gericht op het leren van alle studenten; 2) het creëren en ondersteunen van permanente leermogelijkheden voor al het personeel; 3) bevordering van teamleren en samenwerking tussen alle personeelsleden; 4) een cultuur van onderzoek, innovatie en exploratie opzetten; 5) systemen inbedden voor het verzamelen en uitwisselen van kennis en leren; 6) leren met en van de externe omgeving en het grotere leersysteem; en 7) modellering en groeien van leiderschap voor leren. Deze dimensies en hun onderliggende kenmerken (*'elementen'*), geven zowel aan wat een school beoogt, als de processen die het doormaakt om zich te ontwikkelen als lerende organisatie. Kortom, we definieerden een school als lerende organisatie als “een school die het vermogen heeft zich routinematig te veranderen en aan te passen aan nieuwe omgevingen en omstandigheden, doordat haar leden, individueel en samen, leren om hun visie te realiseren”.

In **Hoofdstuk 4** werd de tweede deelvraag van deze studie onderzocht, “*hoe kan een school als een lerende organisatie worden gemeten?*”. We testten het model door de ontwikkeling van een school als lerende organisatie schaal, gebruikmakend van de data van de school als lerende organisatie enquête (*SLO survey*) die door 1703 personeelsleden (schoolleiders, leraren en lesondersteunend personeel) in Wales was beantwoord. De resultaten van de componentenanalyse ondersteunden in grote mate het model, maar onthulde een schaal bestaande uit acht dimensies, in plaats van de getheoretiseerde zeven dimensies. De data suggereerde dat de dimensie “het ontwikkelen van een

gedeelde visie gericht op het leren van alle studenten” uit twee dimensies bestond. Deze werden benoemd als “gedeelde visie gericht op het leren van alle studenten” en “partners die bijdragen aan de visie van de school”. Verder onderzoek naar de constructvaliditeit van de schaal resulteerde in de identificatie van een schaal bestaande uit 65 items over acht dimensies die de holistische meting van een school als lerende organisatie mogelijk maakt.

De beantwoording van de derde deelvraag van deze studie, “*welke antecedenten beïnvloeden scholen bij de ontwikkeling als lerende organisaties?*”, werd vormgegeven door de hoofdstukken 5 en 6 en leidde tot de identificatie van acht innovatie antecedenten. In **Hoofdstuk 5** werd hiërarchische lineaire modellering (HLM) toegepast op de data van de school als lerende organisatie enquête (*SLO survey*) die gekoppeld was aan beschikbare administratieve gegevens van scholen in Wales. Dit had aldus doel de relatie tussen de variabelen schooltype en de socio-economische achtergrond van scholen (twee antecedenten op organisatieniveau), en personeelsfunctie (antecedent op individueel niveau) en de school als lerende organisatie te onderzoeken. Uit de analyse bleek dat schoolleiders significant positiever zijn dan leraren and lesondersteunend personeel in de mate waarin zij hun scholen beschouwen als lerende organisatie. Ook toonde de analyse aan dat personeel in het secundair onderwijs hun school minder vaak als lerende organisatie waarneemt dan hun collega’s in het primair onderwijs. De grotere omvang van scholen in het secundair onderwijs, de meer gecompartmenteerde structuur en het feit dat schoolleiders in deze scholen onvoldoende samenwerking en gezamenlijk leren bevorderen over de gehele organisatie zijn mogelijk verklaringen voor deze bevindingen. Het lijkt daarom belangrijk om te blijven investeren in de capaciteit van huidige en toekomstige leiders van het secundair onderwijs. De HLM-analyse toonde ook aan dat de socio-economische achtergrond van een school, gemeten door het aantal studenten dat gratis schoolmaaltijden (*free school meals*) ontvangt, geen belemmerende factor is voor scholen om zich te ontwikkelen als lerende organisatie.

Hoofdstuk 6 vervolgende het onderzoek naar de antecedenten die van invloed zijn op de ontwikkeling van scholen als lerende organisaties. Semi-gestructureerd interviews werden afgenomen met schoolleiders van twee scholen, een primair onderwijs- en een secundair onderwijs school, die een hoge gemiddelde score hadden op de school als lerende organisatie schaal (> 4.3, op een Likertschaal van vijf punten); dat wil zeggen ze leken veel, zo niet alle kenmerken van een lerende organisatie in de praktijk te hebben gebracht. Gegevens werden verzameld van nog eens

twee scholen, opnieuw een primair onderwijs- en secundair onderwijs school. Deze scholen hadden een laag gemiddelde school als lerende organisatie score (< 3.7) en leken dus ver verwijderd van het functioneren als een lerende organisatie.

De vergelijkende casestudie-analyse wees op verschillende invloedrijke antecedenten. Ten eerste waren er de verschillen in niveaus van vertrouwen, vaardigheden en mentale instelling van het personeel om deel te nemen aan organisatorisch leren (antecedent op individueel niveau). Voor de twee scholen met een relatief lage gemiddelde school als lerende organisatie score leek veel van hun personeel niet het vertrouwen, de vaardigheden en mentale instelling te hebben om zich in te zetten om samen te leren en werken en zich tot collega's te wenden voor advies. Ten tweede leek het personeel in de twee scholen met een laag gemiddelde school als lerende organisatie score slechts een beperkt inzicht in het school als lerende organisatie model van Wales te hebben, hoe dit verbeteringsprocessen kan ondersteunen en past bij de hervorming van het curriculum (antecedent op innovatieniveau).

Op organisatieniveau springen er twee antecedenten uit: leiderschapsstijl en schoolfinanciering. De leiders die zouden kunnen worden omschreven als transformationele leiders en/of proactieve veranderingsagenten, passend bij onze interpretatie van een leider in een lerende organisatie (zie Hoofdstuk 3), lijken essentieel om de school vooruit te helpen en om een duurzame leercultuur in hen te vestigen. Financiële druk werd gerapporteerd negatief van invloed te zijn op het vermogen van scholen zich te ontwikkelen als lerende organisaties en leek met name een probleem voor scholen in het primair onderwijs. Deze bevinding resoneert met andere onderzoeken die aantoonen dat grotere organisaties (oftewel scholen in het secundair onderwijs) meer middelen hebben die kunnen worden besteed aan organisatie leren dan kleinere organisaties (scholen in het primair onderwijs).

Bovendien bleken verschillen in lokale financieringsmodellen en de beoordelings-, evaluatie- en verantwoordingsarrangementen (twee milieuantecedenten) de ontwikkeling van scholen als lerende organisaties negatief te beïnvloeden. De beoordeling-, evaluatie- en verantwoordingarrangementen van het onderwijssysteem in Wales leken de bereidheid en het vertrouwen van mensen om dingen anders te doen en hun praktijk te vernieuwen te hebben getemperd – belangrijke kenmerken van de school als lerende organisatie, en bleken met name een uitdaging voor scholen in het secundair onderwijs te zijn.

Verder werden drie van de vier transversale factoren, *the four 'Ts'*, van ons school als lerende organisatie model – *trust, time, thinking together* – geïdentificeerd als hebbende een positieve invloed op de ontwikkeling van scholen als lerende organisaties. De vierde, *technology*, werd verrassend genoeg niet genoemd. Toekomstig onderzoek naar de antecedenten van de school als lerende organisatie, in Wales en daarbuiten, kan daarom mogelijk expliciet kijken naar de rol van technologie op de ontwikkeling van scholen als lerende organisaties.

In de hoofdstukken 7 en 8 werd de vierde deelvraag van deze studie behandeld, “*kan de school als lerende organisatie worden geassocieerd met HR-uitkomsten?*”. In overeenstemming met de bestaande literatuur, kan deze vraag bevestigend worden beantwoord op basis van de resultaten van beide hoofdstukken. **Hoofdstuk 7** analyseerde de relatie tussen de school als lerende organisatie en de tevredenheid van docenten met de huidige werkomgeving en hun zelfdoeltreffendheid in 35 landen, met behulp van TALIS 2013 data. Verkennende factoranalyse en betrouwbaarheidsanalyse werden toegepast op 22 items van de TALIS 2013 vragenlijst voor docenten die overeenstemmen met ons school als lerende organisatie model. Vier factoren werden geïdentificeerd – “ingebede systemen”, “deelname aan beroepsmatig leren”, “gedistribueerd leiderschap”, “beroepsmatige leerbarrières”.

Meervoudige regressieanalyse toonde aan dat er een positieve relatie was tussen alle vier geïdentificeerde school als lerende organisatie factoren en de tevredenheid van leraren met de huidige werkomgeving. De gegevens suggereren dat met name “deelname aan beroepsmatig leren” en “gedistribueerd leiderschap” van cruciaal belang zijn voor de tevredenheid van leraren met hun werkomgeving. De analyse toonde ook een positieve relatie tussen alle vier factoren en de zelfdoeltreffendheid van leraren, hoewel hier de β 's vrij klein waren. De factor “ingebede systemen” bleek het meest invloedrijk op de zelfdoeltreffendheid van leraren.

Hoofdstuk 8 ging verder met het onderzoek naar de school als lerende organisatie en haar relatie met enkele HR-uitkomsten, maar deze keer in slechts één land, Wales, en met behulp van de school als lerende organisatie enquête (*SLO survey*). In overeenstemming met de bestaande literatuur, toonde de analyse van de meervoudige regressieanalyse een significante en positieve relatie tussen de school als lerende organisatie en de twee variabelen voor de werktevredenheid van onderwijspersoneel aan. Tevens toonde de analyse een significante en positieve relatie aan tussen de school als lerende organisatie en het responsiviteit van de school aan de behoeften van het

personeel (*school's responsiveness to staff needs*). Terugkomend op de resultaten van Hoofdstuk 4, het feit dat deze relaties in overeenstemming zijn met de literatuur levert verder bewijs voor de (voorspellende) validiteit van de school als lerende organisatie schaal.

Verdere regressieanalyse met behulp van de zeven school als lerende organisatie dimensies als onafhankelijke variabelen suggereerde dat “het bevorderen van teamleren en samenwerking tussen de medewerkers”, “het vestigen van een cultuur gericht op onderzoek, innovatie en exploratie”, en “modellering en groeien van leiderschap voor leren” belangrijk zijn voor het verbeteren van de werktevredenheid van het personeel. Dit lijkt met name relevant voor leraren die gemiddeld aanzienlijk minder positief zijn over hun werktevredenheid dan hun collega's in leidinggevende functies. Daarnaast toonde de regressieanalyse aan dat “het ontwikkelen en delen van een visie die gericht is op het leren van alle studenten”, “zorgen voor permanente leermogelijkheden”, “teamleren en samenwerking tussen alle medewerkers”, en de andere aspecten van “leiderschap voor leren” een positieve invloed hebben op de responsiviteit van scholen op de leer- en andere behoeften van hun personeel.

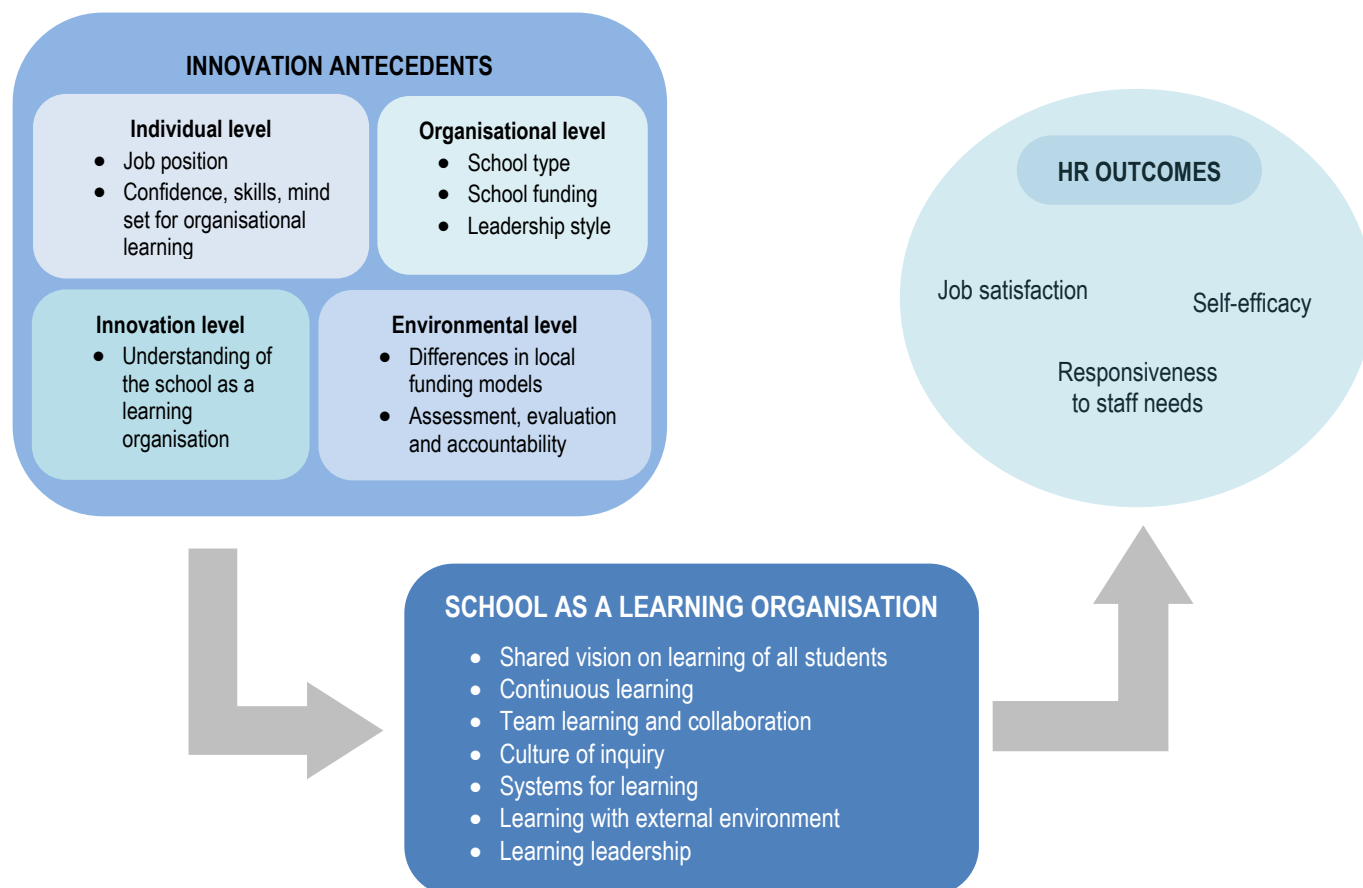
Kortom, hoewel minder in verband met de responsiviteit van de school op de personeelsbehoeften, is de bewijsvoering van een positieve relatie tussen de lerende organisatie en de werktevredenheid van het personeel in publieke en particuliere organisaties goed ontwikkeld. De meeste onderzoeksresultaten van deze dissertatie zijn daarom waarschijnlijk ook relevant voor andere publieke organisaties in Wales en internationaal.

Conclusies en discussie

Op basis van een diepgaand literatuuronderzoek definieerden we een school als lerende organisatie als “een school die het vermogen heeft zich routinematig te veranderen en zich aan te passen aan nieuwe omgevingen en omstandigheden, doordat haar leden, individueel en samen, leren om hun visie te realiseren”. We theoriseerden dat in zo'n school het collectieve streven is gericht op het realiseren van zeven actiegerichte dimensies (zie Figuur 9.2).

Testen van het school als lerende organisatie model toonde echter een schaal bestaande uit 65 items over acht dimensies, in plaats van de getheoriseerde zeven dimensies. Verder onderzoek, zowel theoretisch als toegepast, is nodig om de school als lerende organisatie school te verkennen.

Figuur 9.2 Opsomming van de belangrijkste relaties



Verder toont Figuur 9.2 de acht geïdentificeerde innovatie antecedenten die de ontwikkelen kan scholen als lerende organisaties beïnvloeden. Schoolleiders, beleidsmakers en andere betrokken partijen moeten deze factoren in acht nemen in het plannen en uitvoeren van activiteiten die erop bedoeld zijn hun scholen te ontwikkelen als lerende organisaties.

Op basis van dit onderzoek kan tevens worden geconcludeerd dat, in overeenkomst met de bestaande literatuur, de school als lerende organisatie een positieve invloed heeft op HR-uitkomsten. Figuur 9.2 toont de belangrijkste relaties die in dit proefschrift zijn ontdekt. De bevindingen van deze studie zijn belangrijk zoals gezegd omdat positieve HR-uitkomsten op hun beurt de prestaties van de organisatie positief beïnvloeden, of te wel betere leerresultaten in een schoolcontext. Deze studie heeft ook inzicht gegeven in de strategieën en processen die een school aan lerende organisatie maken en de HR-uitkomsten positief beïnvloeden.

Beleidsmakers, leiders, academici en anderen die werkzaam zijn in het onderwijs en andere publieke sectoren, kunnen de bevindingen en inzichten van dit onderzoek gebruiken als ondersteunend bewijs om mensen te overtuigen hun organisaties te ontwikkelen als lerende organisaties – hen advies te geven over hoe dit te doen, vanwege de voordelen die dit kan hebben voor hen, de organisatie en de prestaties van de organisatie; in een onderwijs context gaat het hier om het uiteindelijke doel de leerresultaten van alle studenten te verbeteren.

Methodologische reflectie

Een sterk punt van de onderzoeksopzet is de toegepaste trechterbenadering in het eerste deel van de studie. Hier wordt een onduidelijk concept, de school als lerende organisatie, getheoretiseerd in een geïntegreerd model door middel van een diepgaand literatuuronderzoek naar de (school als) lerende organisatie en verwante concepten en literaturen. Een klein netwerk van internationale experts heeft hieraan bijgedragen en daardoor een extra laag aan het proces toegevoegd.

Het model werd vervolgens getest op constructvaliditeit en toegepast in de volgende empirische hoofdstukken, gebruikmakend van verschillende datasets en methodologieën. Een aantal vaak genoemde bezwaren is in dit proefschrift aangepakt door het gebruik van meerdere actoren (respondenten uit verschillende subpopulaties) en meerdere bronnen (een combinatie van datasets en aanvullend verzamelde gegevens). Om de veronderstelde relaties te onderzoeken, is daarom in dit proefschrift onder meer gebruik gemaakt van analysetechnieken die ons in staat stellen om de directe en indirecte relaties tussen onafhankelijke en afhankelijke variabelen gelijktijdig te onderzoeken (regressie analysis) en om variabelen op verschillende analyseniveaus te onderzoeken (HLM).

Dit onderzoek kent echter ook een aantal beperkingen, die van belang zijn bij het interpreteren van de onderzoeksuitkomsten. Allereerst is de cross-sectionele onderzoeksopzet, wat het kunnen maken van causale claims beperkt. Verder kon slechts een beperkte aantal antecedenten via de HLM worden onderzocht (in Hoofdstuk 5). Toekomstig onderzoek dat gebruik maakt van de school als lerende organisatie enquête (*SLO survey*) moet aldus overwegen een aanvullende schoolachtergrond vragenlijst te gebruiken (die door de schooldirecteur wordt ingevuld), zodat hierdoor een breder scala van antecedenten kan worden onderzocht. Bovendien moet toekomstig onderzoek ook, zoals we hebben gedaan (in Hoofdstuk 6), overwegen een vergelijkende casestudie-

analyse toe te voegen aan het onderzoek gezien dit tot verbreiding en verdieping van de analyse kan bijdragen. De sequentiële verklarende onderzoeksopzet voor de identificatie van scholen is zeer nuttig gebleken en is aldus ook iets om te overwegen voor toekomstig onderzoek.

Een ander probleem waarmee deze studie te maken had was dat de school als lerende organisatie een concept is op organisatieniveau, terwijl de onderzochte HR-uitkomsten variabelen waren op individueel niveau. We hebben op deze uitdaging gereageerd door gebruik te maken van de percepties van onderwijspersoneel in de mate dat zij hun school als lerende organisatie zagen functioneren. Hierdoor werden alle variabelen op het hetzelfde niveau geanalyseerd; individueel niveau. Deze keuze was geïnformeerd door de organisatie klimaat literatuur die in veel gevallen een vergelijkbare aanpak hanteert.

Een voor de hand liggende beperking die voortvloeit uit het gebruik van een niet-doelgericht ontworpen enquête als TALIS is dat het de holistische meting van de school als lerende organisatie niet toestaat. TALIS kan echter wel worden gebruikt om enkele belangrijke kenmerken van de school als lerende organisatie en de relatie met HR-uitkomsten te onderzoeken. Met name het potentieel om onderzoek op zo een grote schaal en over zoveel landen uit te voeren biedt een belangrijke en onderbenutte mogelijkheid om zowel de theorie als de praktijk van de (school als) lerende organisatie te verrijken.

Een andere uitdaging ontstond rond het concept werktevredenheid. Ten eerste is er het verschil dat TALIS de tevredenheid met de werkomgeving alleen meet voor leraren en schoolleiders meet, terwijl de school als lerende organisatie enquête het concept ook voor andere schoolleiders (adjunct-hoofddocenten en assistent-hoofddocenten) en lesondersteunend personeel meet. Ten tweede meet TALIS de tevredenheid van de leerkracht met de werkomgeving door middel van vier onderzoek items die samen één factor vormen. De school als lerende organisatie enquête meet werktevredenheid met slechts twee variabelen. Verschillende studies hebben aangetoond dat de keuze voor een dergelijke benadering niet noodzakelijk minder effectief is. Echter, we erkennen dat de enquête kan worden verbeterd door extra items op te nemen voor het meten van werktevredenheid, de reactie van de school aan personeelsbehoeften en andere HR-uitkomsten, zoals bijvoorbeeld personeelswelzijn of de betrokkenheid van personeel bij de organisatie gezien hun relevantie voor beleid, de praktijk en onderzoek.

Aanbevelingen voor de praktijk

Deze studie heeft verschillende implicaties voor de praktijk. Ten eerste, is de praktische relevantie van het geïntegreerde school als lerende organisatie model en de bijbehorende schaal voor het ondersteunen van schoolverbeteringsprocessen. Het model en zijn zeven actiegerichte dimensies benadrukken wat een school beoogt na te streven, als wel de strategieën en processen die het doormaakt om zich te ontwikkelen als lerende organisatie. Het model en de geïdentificeerde schaal kunnen worden geïntegreerd in zelfevaluatie- en verbeteringsprocessen van scholen, zoals in Wales werd gedaan ten tijde van het finaliseren van dit proefschrift.

Ten tweede kan de school als lerende organisatie schaal door beleidsmakers worden gebruikt voor het op systeemniveau monitoren van de vooruitgang die scholen boeken in de ontwikkeling als lerende organisaties, voor het identificeren van sterkte- en verbeterpunten. Informatie over deze kwesties kan van groot belang zijn bij het formuleren van verbeteringsstrategieën. Hier is echter voorzichtigheid geboden. Het monitoren moet niet (voornamelijk) worden gezien in het kader van de publieke verantwoording omdat dit onbedoelde gevolgen kan hebben, zoals ‘*gaming*’ of ‘beschuldigen en beschamen’ (*naming and shaming*) van scholen; praktijken die regelmatig in verband zijn gebracht met het Nieuw Publiek Management.

Ten derde, ook gezien de uitgebreide literatuur van de lerende organisatie in andere publieke sectoren, zijn wij van mening dat het ontwikkelde school als lerende organisatie model en bijbehorende schaal met slechts kleine aanpassingen kunnen worden toegepast in andere publieke organisaties ter ondersteuning van hun verbeteringsprocessen.

Ten vierde, deze studie heeft acht innovatieantecedenten geïdentificeerd die invloed hebben op de ontwikkeling van scholen als lerende organisaties. Leaders, beleidsmakers en andere betrokken partijen moeten rekening houden met deze antecedenten in hun planning en uitvoering van activiteiten die erop gericht zijn hun organisaties als lerende organisaties te ontwikkelen.

Ten vijfde en laatste, in lijn met de bestaande literatuur, wijzen de bevindingen van dit proefschrift duidelijk naar de conclusie dat het ontwikkelen van een school als lerende organisatie een positieve invloed heeft op HR-uitkomsten, wat op zijn beurt weer een positieve invloed zal hebben student uitkomsten.

About the author

Marco Kools is an Education Analyst/Project Manager with the Organisation for Economic Cooperation and Development (OECD) Directorate for Education and Skills. He among others has led OECDs education policy implementation support projects on the development of schools as learning organisations. He previously led and/or contributed to education policy reviews on Latvia, the Netherlands, Sweden and Wales, worked on the *Innovative Learning Environments project* and led the development of the *Education Today 2013* publication.

Prior to joining the OECD in 2012, Marco worked with UNICEF in the Solomon Islands and Laos and at the UNICEF Innocenti Research Centre in Italy. Before that he for several years worked in the field of education in the Netherlands, where he in 1999 also started his career as a secondary teacher.

Marco holds several degrees including an MBA, MA in History and a B.Sc. in Educational Sciences.

During the period of PhD study, Marco presented his research at several national and international conferences and policy events in Wales, the Netherlands, Latvia and at OECD (France). In addition, he has published his work, some based on her PhD research, in academic and professional journals and has been a reviewer for a Public Management journal. Moreover, Marco has served as guest editor for a Special Issue with the European Journal of Education on the development of schools as learning organisations that was released in January 2020. Finally, in his capacity as an education analyst with OECD he has provided strategic and technical support on the development of schools as learning organisations to the governments of several countries, most notably Wales.

Towards the end of PhD study, Marco went on a two-year secondment with UNICEF in Lao PDR. After his secondment he is set to return to OECD to support policy makers, educators and scholars in the establishment of a thriving learning culture in their education systems.

Publications

- Kools, M. & George, B. (accepted for publishing in 2020). The learning organisation – a key aspect of strategic management in public organisations. *Public Money & Management*.
- Kools, M. et al. (2020). The school as a learning organisation: The concept and its measurement. *European Journal of Education*, Early View, DOI: 10.1111/ejed.12383.
- Kools, M. et al. (2019), The relationship between the school as a learning organisation and staff outcomes: A case study of Wales. *European Journal of Education*, 54(3), 426-442.
- OECD. (2018). *Developing Schools as Learning Organisations in Wales*. Paris: OECD Publishing.
- Yashiro, M. et al. (2017). Moving up the global value chain in Latvia, *OECD Economics Department Working Paper, 1438*. Paris: OECD Publishing.
- OECD. (2017). *OECD Skills Strategy Diagnostic Report: Netherlands*. Paris: OECD Publishing.
- Stoll, L. & Kools, M. (2017). The school as a learning organisation: a review revisiting and extending a timely concept. *Journal of Professional Capital and Community*, 2(1), 2-17.
- OECD. (2017). *The Welsh Reform Journey: A Rapid Policy Assessment*. Paris: OECD Publishing.
- OECD. (2016). *Netherlands 2016. Foundations for the Future*. Paris: OECD Publishing.
- Kools, M. & Stoll, L. (2016), What makes a school a learning organisation?, *OECD Education Working Paper, 137*. Paris: OECD Publishing.
- OECD. (2016). *Education in Latvia*, Reviews of National Policies for Education. Paris: OECD Publishing.

OECD. (2015). *Improving Schools in Sweden: An OECD Perspective*. Paris: OECD Publishing.

Istance, I. & Kools, M. (2013), Innovative Learning Environments and Rethinking the Role of Education, *European Journal of Education*, 48(1), 43-57.

Kools, M. & Vitello, V. (2010), Good Governance of Early Childhood Development Programmes in Developing Countries: The Need For Building a Comprehensive Monitoring System, *Innocenti Discussion Paper, 2010-2*. Florence: UNICEF Innocenti Research Centre.

Kools, M & Marnie, S. (2009). Promoting Early Childhood Development, in UNICEF (2009). In S. Marnie (Eds). *Innocenti Social Monitor 2009* (pp. 103-110). Florence: UNICEF Innocenti Research Centre.