

Influence of COVID-19 on Schools as Learning Organisations

Investigating the Influence of the COVID-19 Pandemic on the Professional Learning Needs of School Teachers in Wales, as part of the Schools as Learning Organisations Framework

Research

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Audience	This report is aimed at school leaders and teachers, school improvement services in Wales, Estyn, teacher educators and academics based in HEIs, professional advisors and policy makers at Welsh Government involved in developing schools as learning organisations.
Overview	This document reports on how the COVID-19 pandemic has influenced the development of Welsh schools as learning organisations, their professional learning provision and how being a school as a learning organisation assisted schools in being able to respond to the challenges faced. The document concludes by sharing lessons learnt by schools during the COVID-19 pandemic in developing as learning organisations. It supports professional learning and helps identify the schools' future needs.
Action required	Use blended learning approaches for professional learning. Further use of technology to facilitate schools' development as learning organisations. Develop powerful networks within and between tiers in future system-wide development. Further support is required for schools to develop as thriving learning organisations for it to be an integral part of their organisational culture and day-to-day practice.
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Mae'r ddogfen yma hefyd ar gael yn Gymraeg.
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LIST OF ABBREVIATIONS

ALN	Additional Learning Needs
CEN	Collaborative Evidence Network
DLOQ	Dimensions of Learning Organisation Questionnaire
eFSM	Eligible for Free School Meals
HEI	Higher Education Institution
INSET	In-service Education and Training
LEA	Local Education Authority
NAPL	National Approach to Professional Learning
NPEP	National Professional Enquiry Project
NSERE	National Strategy for Educational Research and Enquiry
OECD	Organisation for Economic Cooperation and Development
SEN	Special Educational Needs
SLO	Schools as Learning Organisations

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1 Executive summary

- The purpose of the research was to understand how the COVID-19 pandemic has influenced the development of schools as learning organisations (SLO) and the professional learning of teachers in schools. The research also explored what schools did to mitigate the pandemic-related challenges, what was effective, lessons learned from this period and the future needs of schools in their development as learning organisations and in providing teachers' professional learning.
- The study made use of an online survey which was conducted with school staff members responsible for developing their school as a learning organisation and/or professional learning.
- The results indicated that schools that have engagement with the SLO model are resilient, flexible, effective at solving problems and better equipped to face challenges and develop cohesive links across all aspects of the school community.
- Schools established professional learning cluster before pre-COVID-19 pandemic, which continued to thrive and support continuous school development effectively.
- Schools reported that all seven dimensions of the SLO model positively influenced their ability to develop as learning organisations during the pandemic.
- All four transversal themes (Trust, Time, Thinking Together and Technology) were reported to contribute to the development of SLO. The transversal theme 'Technology' was most frequently cited as contributing positively, followed by 'Trust'.
- Factors that facilitated the development of schools as learning organisations were identified by schools as technology and professional learning networks.
- Factors that inhibited the development of schools as learning organisations were identified by schools as lack of face-to-face interaction, time, and staff absence.
- Many schools stated that COVID-19 negatively influenced their development as a learning organisation and viewed it as something additional to their daily practice rather than a way of working.
- Schools stated that they themselves and not others i.e. regional consortia or Local Education Authority (LEA) organised most of their professional learning during the pandemic.
- In-service Education and Training (INSET) days and blended learning were reported to be the most effective professional learning approaches during the pandemic.
- Most schools reported that the pandemic did not negatively or positively affect their professional learning culture.
- Most positive developments in school professional learning culture are linked to technology. However, schools indicated that for the next 18 months, they need additionally dedicated (funded) *time* and resources for professional learning, further development of *technology*, investment in powerful lateral networks (*thinking together*) and a reset of the SLO initiative for all Welsh schools.

1.1 Recommendations

1.1.1 Policy implications

- Further support is required for schools to develop as thriving learning organisations to generate momentum and a greater focus on this aspect of school's continuous development and improvement
- The development of powerful learning networks and collaborations within and between the three tiers of the Welsh education system to achieve curriculum reforms and initiatives.
- Further exploration of the role of the regions, external experts, specialists, and schools in facilitating cluster working and professional learning.
- Further investigation into which professional learning approaches are effective.

1.1.2 Implications for practice

- Schools should consider offering as many in-person activities as possible to help build confidence and trust within and between schools to facilitate professional learning and establish professional learning networks.
- Schools should consider increasing collaboration with e.g., other schools, LEAs, Higher education institutions (HEIs), School Improvement Services through utilising technology, as this can lead to innovations and new possibilities for working partnerships (nationally and internationally).
- Schools should consider increasing the range of professional learning approaches being utilised.
- It is suggested that schools utilise blended learning approaches in their professional learning provision.
- Guidance for schools to select suitable professional learning resources to meet their needs.

2. Introduction

2.1 Introduction and Background

This study was led by Rhys Coetmor Jones from Bangor University and supported by Dr Matt Hutt (University of South Wales), Kelly Smith (Wrexham University) and Jeremy Griffiths (Bangor University). The team contributed to the data collection and analysis of the study. Professor Louise Stoll (University College London) and Marco Kools (OECD) also supported the study as expert advisors.

Education is a public priority in Wales, and the Welsh Government is committed to providing high-quality and inclusive education for all its citizens (Welsh Government, 2017). Wales has started a large-scale school improvement reform that has become increasingly comprehensive, focusing on continuing development and implementing a new curriculum for Wales 2022 (OECD, 2018). The Welsh Government considers the development of schools as learning organisations (SLO) vital for realising this objective.

There are various definitions of learning organisation which vary but do contain some commonalities. 'A learning organisation has the capacity to promote learning at the individual, team, and whole organisation levels. The organisation can continuously transform to meet its challenges (Senge, 1990). The Welsh education system, in collaboration with the Organisation for Economic Cooperation and Development (OECD), have constructed a 'Schools as learning organisations' (SLO) framework and measurement tool specifically for school in Wales to implement various reforms within the sector (Welsh Government, 2017). An SLO 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 (Kools and Stoll, 2017). A collective effort is required to acquire and develop new knowledge and enhance existing knowledge and skills, involving teachers, school leaders and many others to achieve this objective (Donaldson, 2015). For the purpose of this study, we define a LO as an organisation that prioritises learning at all levels to facilitate and implement change in response to changing environments and needs of their pupils whilst evolving and improving.

Two studies have been produced on how schools develop as learning organisations in Wales (OECD, 2017; 2018) and a diagnostic study on Wales' system for teachers' continuous professional learning (Roy et al., 2021). This project reports on the extent to which primary, secondary and middle schools (middle schools have pupils aged 3 – 16) across Wales have developed as learning organisations. It also reports on the perceived factors that inhibit and enable schools' development as learning organisations, how the SLO model has influenced the way schools have approached challenges faced due to COVID-19, and how these challenges have further influenced schools' continual development as learning organisations. It additionally reports on the range of professional learning activities conducted since the beginning of the pandemic, how the pandemic has influenced this range, and how it has influenced the professional learning culture of schools (OECD, 2018). Finally, the report will share the perceived future needs of schools in their continual development as learning organisations and their professional learning provision and culture.

COVID-19 had a significant effect on Wales between March 2020 and December 2021. At different times during this period, various national and local lockdown measures were in place resulting in many adults working from home or not working. During this period there were many school closures and not all Local Authorities provided learning for pupils using technology, particularly during the first lockdown period. Children and young people had access to technology-based learning only at certain times, where school

leaders and teachers worked remotely from home. There were a range of factors which effected access to technology based learning e.g. location (rural compared to urban and access to network), some families did not have access to appropriate equipment, parental/family support, knowledge and readiness of teachers to use technology appropriately to provide learning for their pupils. This led to a negative impact on children, young people and adults' mental health and wellbeing in Wales (NSERE, 2021).

The rationale for this report is that there is no existing national study of how teachers' professional learning and schools' development as learning organisations has been influenced by the pandemic or exploration of what teachers and schools are doing to mitigate its impact. In addition, there is no documented overview of what has been successful for schools and what they found to be more challenging in terms of implementation during the pandemic.

Sharing evidence on the impact of the pandemic and suggestions for alleviating or recovering from its effects addresses the priority of educational reform in the Programme for Government, as well as the aspirations stated in the [Renew and Reform Plan](#) (Welsh Government, 2021a). This research additionally provides a timely overview of how schools are implementing the SLO framework across Wales and the professional learning needs of teachers as schools move from developing to delivering their curricula.

2.2 Research questions

RQ1. How has the pandemic affected the development of schools as learning organisations?

RQ2. How have schools' previous development as a learning organisation influenced their approach to the pandemic and professional learning?

RQ3. Schools perceptions on how they mitigated the challenges they faced as a result of the pandemic?

RQ4. What do school perceive to be their needs to continue to develop as learning organisations?

RQ5. What approaches are adopted by schools to facilitate professional learning?

2.3 Literature review

There has been a change in thinking and approach by educators, leaders, policy makers and researchers to what could be done to support schools to develop their capacity to initiate and sustain continuous change and innovation. There is a move for schools to conceptualise themselves as learning organisations (Kools and Stoll, 2016), a concept which is suggested to be successful in business and industry. Schools as learning organisations (SLO) respond effectively to external variation and pressures, initiating and sustaining change and innovation and ultimately improving learner outcomes (OECD, 2018). The SLO concept appears to be widely accepted as an effective and valid concept for schools to embrace, supported generally by leaders, policy makers and researchers over the last 25 years. However, Kools and Stoll (2016) claim that there is little empirical evidence to guide schools as they develop in this direction, and limited progress is evident in developing SLO as a concept within research and in practice.

It appears that there is a lack of clarity on the SLO concept. Even though some scholars provide evidence, clarity on the concept and key characteristics (e.g processes to facilitate learning, react effectively to external environmental changes) of a SLO is still limited (Bowen, Roderick and Ware 2006; Silins, Mulford and Zarins, 2002). Schechster (2008) states that there is no evidence which strongly links SLO to enhanced outcomes for their learners or staff, despite competing claims of positive relationships

(Erdem, İlğan and Uçar, 2014; Razali, Amira and Shobri, 2013). Schechter (2008) suggests that further work is needed here to conduct theoretical and empirical research. Others have noted that transforming schools into learning organisations is still not clearly understood (Harris and Jones, 2018; Kools and Stoll, 2016), which has hindered the advancement of the SLO in research and practice.

The overarching purpose of this research is to further the understanding of the SLO concept and contribute to the research and practice within this field. It is envisaged that this will have a positive and necessary impact on the work of schools and support those interested in conceptualising schools as learning organisations.

Originally, key authors such as Argyris and Schon (1978) and Senge (1990a) introduced the learning organisation concept and model for business organisations, and this was then applied to the education sector and schools through the work of Senge's 'learning school' (2000). Kools and Stoll (2016) state that there is no clearly articulated definition of a SLO, although Watkins and Marsick (1998) have used their integrated model and dimension to explain how a school can become a learning organisation. However, Kools and Stoll (2016) and others (Harris et al., 2022) argue that there are no clear guidelines in the literature explaining how to operationalise these dimensions and, or strategies that schools, leaders and teachers can follow to transform their school into a learning organisation.

Yang et al. (2004) and Kools and Stoll (2016) identify four different 'perspectives' ranging from organisational learning, strategic, systems and integrative. It is possible to link some of the SLO literature to these categories.

Schechter's (2008) position on a SLO can be linked to the organisational learning perspective'. He states that a SLO is one that:

"Develops processes, strategies, and structures that would enable them to learn and react effectively in uncertain and dynamic environments. These schools institutionalise learning mechanisms to revise their existing knowledge. Without such mechanisms, a learning organisation is unlikely to emerge" (p. 155-156).

Kools and Stoll (2016) state that there are commonalities within the SLO literature. One such is that becoming a learning organisation is necessary for schools to respond to changes within the external environment and that every school can develop to become a learning organisation. They highlight the importance of individual, team and organisational learning and how personal beliefs and values influence this. The leaders of organisations need to provide the structure, conditions, and opportunities to facilitate the learning.

2.4 Welsh context

Wales has undertaken large-scale educational reforms, including creating and implementing a new curriculum, and has endorsed the SLO model (Welsh Government, 2018) for the system to implement to realise these changes. Sinnema and Stoll (2020) discuss four challenges a system faces in realising the aspirations of a new curriculum and how the seven dimensions and four transversal themes of the SLO model could support schools in this aim.

The OECD have produced two studies, [*'Developing Schools as Learning Organisations in Wales'*](#) (2018) and [*'Developing Schools as Learning Organisations in Wales Highlights'*](#)

(2019)¹. Their studies report the co-construction of a SLO framework and assessment survey based upon Yang, Watkins and Marsick (1998) '*Dimensions of Learning Organisation Questionnaire*' (DLOQ) and an assessment of how schools in Wales have developed as learning organisations. They suggest a positive and significant relationship between SLO and whole staff job satisfaction and schools' responsiveness to staff needs.

The OECD report '[What makes a school a Learning Organisation?](#)' (2016) was the precursor to their work in Wales in developing the Wales SLO model as part of the policy driver to implement this model across all schools. Here seven action-orientated dimensions (see below) were identified, and four transversal themes (trust, time, technology and thinking time) for schools to consider when re-conceptualising themselves as a learning organisation (OECD, 2018). Further detail of the Wales SLO model is provided in [Schools in Wales as learning organisations](#) (Welsh Government, 2018)

Seven 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

An instrument based on these dimensions and elements has been used to assess the development of a school as a learning organisation (OECD, 2018). This development has led to the creation of the [SLO survey](#) used in Wales. This survey can be accessed by schools by logging on to the [Hwb website](#) (Hwb.GOV.WALES, 2023b). [The](#) report proposes conditions needed for a school to thrive as a learning organisation which range from, engaging in networked learning and collaborations with other schools, to, the amount of time and money invested in developing as a learning organisation. It has been noted that currently, there is little understanding of what is required from policy, governance, and support structures at a system level, locally, regionally, and nationally, to facilitate schools' development as thriving learning organisations (OECD, 2019).

In their 2019 [Highlights report](#), Stoll and Kools analyse and describe the key characteristics that already exist in schools in Wales. Then, they provide recommendations on how to improve upon these characteristics and how these improvements could be implemented.

The report based its findings on multiple sources, including survey data and interviews with school leaders. Below is a diagram of the average scores of the SLO survey for each dimension by school type (primary and secondary). Primary schools reported, on average, that they have embedded the various dimensions more deeply compared to secondary schools. However, on average, survey respondents reported that they have not developed to the extent that policymakers might have envisaged or anticipated. The data from each dimension is analysed and scored on a scale of 1 to 5 (with 5 being the highest score) which indicates the extent in which the dimension is embedded. A school is considered to have put into practice a dimension if the average score is above the threshold score of 4. A school is a thriving learning organisation when all dimensions are scored as 4 or above. Please see figure 1 below.

¹ To avoid confusion, we will call this the “2019 Highlights” report

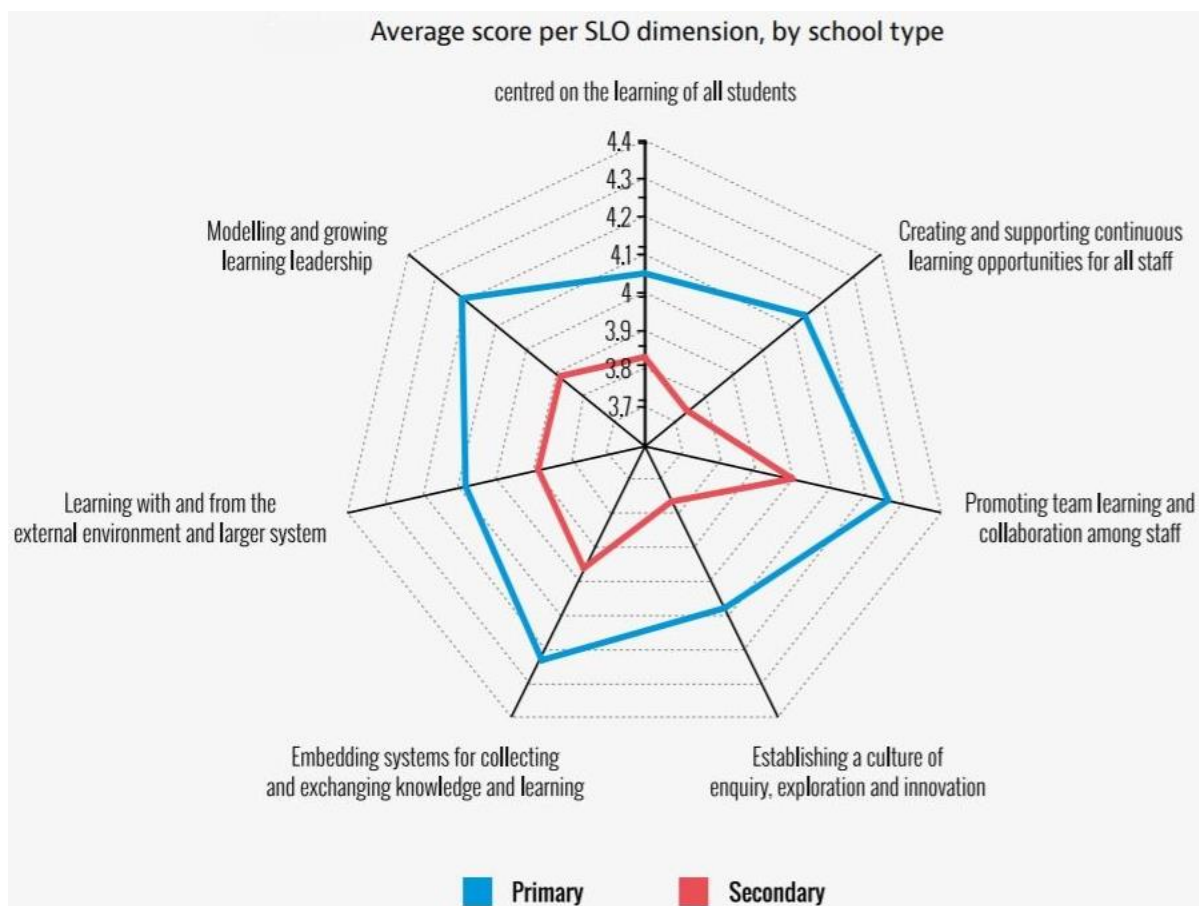


Figure 1 – Spider graph of Welsh average scores for each SLO dimension

Source: OECD (2017)

The 2019 Highlights report's main findings were:

- Most schools in Wales appear to be developing as learning organisations
- A considerable proportion of schools are still far removed from realising this objective
- Schools are engaging unequally with the seven dimensions that make up Wales' SLO model
- Secondary schools are finding it more challenging to develop as learning organisations
- More critical reflections are needed for deep learning and sustained progress to take place (OECD, 2018)

As this Highlights report was published in 2019, and the subsequent pandemic dramatically affected schools' working conditions, it is interesting to consider whether the landscape may have changed. However, this report does not attempt to repeat the study published in 2019. Our findings, bring to light how the COVID-19 pandemic has influenced schools' development as learning organisations. Currently, schools are invited to complete the original 2018 Wales SLO survey again which is co-ordinated by Welsh Government, and the findings will be essential to offer a current assessment of how schools perceive themselves as learning organisations today. Therefore, this Wales SLO survey data and the survey data from this project will aim to provide an accurate, current picture of how deeply SLO is embedded in schools.

The 2019 Highlights report focuses on each dimension and its elements identifying areas to improve. For example, the first dimension, 'Developing and sharing a vision that is centred on the learning of all students, needs further work to include all stakeholders (staff, parents, and external partners) to form and realise a vision for improvement, more so in secondary schools.

For the second dimension, 'Creating and supporting continuous learning opportunities for all staff', the 2019 Highlights report states that induction, mentoring and coaching provision needs improvement and needs to be strengthened across many schools in Wales. Also, despite over half of schools beginning to develop a culture of creating learning opportunities for the staff, there are significant differences between primary and secondary schools (64% of primary schools report that they have embedded this dimension successfully in comparison to 26% of secondary schools).

For the third dimension, 'Promoting team learning and collaboration among all staff', the report states that more needs to be done to promote team learning and peer review, and again there is a significant difference between primary and secondary schools (75% of primary schools suggest that they have successfully embedded, compared to 48% of secondary schools).

The fourth dimension, 'Establishing a culture of enquiry, innovation and exploration', is considered underdeveloped in many schools, particularly in secondary schools (26% of secondary schools report to have embedded the dimension successfully, compared to 63% of primary schools). However, just under half of the schools have not established such a culture, and it is suggested that this development could be limited by prevailing accountability and performance measures, particularly for secondary schools.

The 2019 Highlights report also suggests that the next dimension, 'Embedding systems for collecting and exchanging knowledge and learning', is well embedded (70% of schools within the sample), but again a significant difference between primary (70% well embedded) and secondary schools (30% well embedded). However, many schools are not effectively using research evidence to inform their practice. The Highlights report notes that self-evaluation and improvement planning needs also require development as there is an over-reliance on quantitative data and less use of purposeful qualitative data such as classroom observations or peer review for learning.

Regarding the dimension focused on 'Learning with and from the external environment and larger system', 57% of primary and 39% of secondary schools reported successfully implementing this aspect. Collaborations with external partners and HEIs were noted as areas for improvement and the engagement of parents/guardians.

For the final dimension, 'Modelling and growing learning leadership', the survey data suggests that 67% of leaders in the sample are successfully modelling and growing learning leadership. However, the report again notes a significant difference between primary and secondary schools (70% of primary school leaders compared with 39% of secondary school leaders). It is suggested in the report that Secondary schools are finding it more challenging to develop as Learning Organisations due to the various subject departments that exist, the leadership practices and the tendency for subject specialist to collaborate within their subject teams.

The 2019 Highlights report stresses that the dimensions that are the least developed and need improving upon are "developing a shared vision centred on the learning of all students" and "establishing a culture of enquiry, innovation and exploration". It also states that schools need to develop further the dimension of "learn with and from the external environment and larger system" and that schools and leaders can take the necessary actions to do this and must ensure that time and resources are provided for collaborative working and learning. It is recommended that school staff be more critically reflective to learn and progress and that leaders provide the conditions to facilitate these reflective spaces and opportunities. It is also noted that secondary schools face more challenges in developing as learning organisations which could be as a result of their organisational structures.

Professional learning in schools is one core element of the reforms in the Welsh education system initiated by Welsh Government. These are the new [Curriculum for Wales](#), the

[‘Schools as learning Organisation’](#) (SLO) model (Australian Council for Educational Research, 2016; Welsh Government, 2018; HWB.GOV.WALES, 2023a), the [National Approach to Professional Learning \(NAPL\)](#) and the [National Strategy for Educational Research and Enquiry \(NSERE\)](#) (HWB.GOV.WALES, 2022; Welsh Government, 2021b). In 2022 Welsh Government launched the National Professional Learning Entitlement which builds upon certain elements of the NAPL and is the next stage of the professional learning provision for teachers in Wales (HWB.GOV.WALES, 2023c).

Prior to the launch of NAPL, Welsh Government’s professional learning model as noted in their ‘New Deal for the Education Workforce’ document (2015) focused upon different aspects ranging from ‘Coaching and Mentoring; ‘Reflective Practice’; ‘Effective use of Data and Research Evidence’, ‘Effective Collaboration’ and ‘Leadership’. NAPL articulates how Welsh teachers Professional Learning will be supported to meet Welsh Government’s key objective to realise the new curriculum. Pupil Learning is at the heart of the national approach with school leaders and teachers professional learning vital to pupils’ development and outcomes as set out in the new Curriculum for Wales. The school context provides the focus for teachers and leaders professional learning supported by Regional Consortia and LEAs. The intention is for individual teachers and leaders to create an ‘individual professional learning journey’ map supported by the ‘Schools as Learning Organisations’ model and range of professional learning approaches applied within their schools. Schools are supported regionally mainly by the regional consortia and nationally through a range of networks between schools, Universities and regional consortia (NAPL, 2018).

Professional enquiry amongst leaders and teachers is strongly promoted as a strategy for professional learning by Welsh Government. To support this, in 2018 the National Professional Enquiry Project (NPEP), which is a partnership between regional consortia, clusters of schools and universities. The NPEP (2018), a collaboration between regional consortia, schools and universities was introduced to facilitate this and it aims is to explore and develop practice specifically to implement and realise the curriculum for Wales. More recently (2020), Welsh Government published a National Strategy for Educational Research and Enquiry (NSERE) which focuses upon three key objectives. These are to develop an infrastructure and support for research and enquiry in Wales, develop teachers in Wales to be ‘research literate’ and to support enquiry in Higher Education (Roy et al., 2021).

There is a further component to the new National Approach to Professional Learning which will strengthen the current information and practices and make a strong connection towards the reinforcement of Professional Standards for Teaching and Leadership. These new standards are expected to facilitate teachers to demonstrate the skills that the New Deal components aim to develop and nurture (Thomas, 2018).

Based on the educational changes arising in Wales, Professional learning must be understood and formulated in a different way. It must be adaptable to cater the needs of all pupils and teachers in Wales. It must be directed to lay down the information and demonstration of good practice through the proper utilisation of INSET days and online and blended training sessions (Roy et al., 2021).

3 Methods

3.1 Research design

In this study we used a cross sectional survey to answer the research questions. This study was conducted as part of other Bangor University led Collaborative Evidence Network (CEN) school research projects where schools in Wales were sampled and invited to participate. The study population for the current study was the member of school staff with relevant leadership responsibility. In the other Bangor University collaborative projects there was no interest in the member of staff with leadership responsibility, therefore the member of staff did not receive multiple survey questionnaire invites from different projects. The school invitation letters and reminders were therefore undertaken as part of other Bangor University CEN school projects, within which headteachers of the selected schools were invited to participate in other CEN projects.

3.2 Sample description

A systematic sample design with implicit stratification was used for selecting mainstream primary, middle and secondary schools out of 1424 schools in Wales. Schools were selected from a list ordered by the local authority (Blaenau Gwent, Bridgend, Caerphilly, Cardiff, Carmarthenshire, Ceredigion, Conwy, Denbighshire, Flintshire, Gwynedd, Isle of Anglesey, Merthyr Tydfil, Monmouthshire, Neath Port Talbot, Newport, Pembrokeshire, Powys, Rhonda Cynnon Taf, Swansea, Vale of Glamorgan, Torfaen and Wrexham), and within the local authority, by language medium (Dual stream, English medium, English with significant Welsh, Transitional and Welsh medium) and the percentage of learners in schools eligible for free school meals (eFSM) (mean percentage scores) for 2019/21. Within each school, only one person with relevant leadership responsibility was selected and invited to complete the SLO survey.

This study also surveyed special schools (ALN). A systematic sample design was used for selecting twenty-three ALN schools out of forty ALN schools in Wales. Within each ALN school, only one person with relevant leadership responsibility was selected and invited to complete the SLO survey.

3.3 Survey procedure

Ethical approval for this study was obtained from the School of Educational Sciences Research Ethics Committee of Bangor University (ethical approval number: 17022022-1628). The questionnaires were conducted online with an e-mail invitation letter sent to the school headteacher in March 2022 by the regional consortia and partnerships in Wales (GwE, EAS, Mid Wales Partnership, CSC, Neath Port Talbot, Partneriaeth) and three follow-up reminders in the form of a Zoom meeting, e-mail, and phone call. Between March 2022 and April 2022, schools were invited to an online Zoom session to encourage schools to engage with the CEN surveys. A follow-up reminder e-mail was sent to the schools in May 2022. This was sent to the school via the school improvement consortia and emphasised that the CEN research officers would be contacting schools with a courtesy follow-up reminder call. Between May 2022 and June 2022, the final follow-up reminder phone calls were made to encourage schools to engage with the CEN surveys.

Once a school accepted the CEN project invite, the survey link for the questionnaire was sent to the school headteacher/nominee to forward to the staff member responsible for SLO and/or professional learning. The survey could be completed in English or Welsh. In total, we obtained responses from 61 members of staff responsible for the development of SLO and/or professional learning in schools. This represents a response rate of 4.3%.

One ALN school submitted a response from the staff member responsible for developing SLO and/or professional learning in the school. The ALN school invitation letters and reminders were undertaken as part of the mainstream school invitations. As such, the survey procedure was the same for contacting SEN schools.

3.4 Survey measure development

The survey questionnaire was developed through an iterative process conducted by colleagues from three Welsh HEIs (Bangor University, Wrexham Glyndwr University, and the University of South Wales). The survey is available to view in the appendices. The survey questionnaire consisted of both open-ended and closed-ended questions. An initial version of the survey was sent for review to Professor Louise Stoll from University College London and Marco Kools from OECD, experts within the field of schools as learning organisations who were key to the development of Wales SLO model. The feedback was used to improve the survey further. The final version of the survey was then piloted by a small sample of Welsh and English medium primary and secondary school teachers in Wales.

The first section of the survey questionnaire asked about the influence of the pandemic on the development of schools as learning organisations. The second section of the survey questionnaire focused on professional learning during the pandemic.

Participants were initially asked to rate on a Likert scale from strong negative to strong positive the pandemic's influence on their school's development as learning organisations. The following two open-ended questions asked the participants to note factors that inhibited and facilitated their school's development as a learning organisation. The next question asked participants to rate using a Likert scale the extent to which their school engaged with the SLO model, and then using an open-ended question, asked participants how helpful the level of engagement with the model was in dealing with challenges faced during the pandemic. The next survey question asked participants to rate how useful the seven dimensions of the SLO model were during two key time periods on a Likert scale, from not at all useful to extremely useful (March 2020 to July 2020 and September 2021 to January 2022). Using the same question style, participants were asked to rate how useful the four transversal themes were during the two key time periods (March 2020 to July 2020 and September 2021 to January 2022).

The next section of the survey focused on the influence of the pandemic on professional learning within schools.

Participants were asked to rate on a Likert scale from strong negative to strong positive the influence the pandemic had on the range of professional learning approaches used. The question allowed participants to elaborate on their initial responses. The survey then asked participants to indicate from a predefined list of professional learning providers the details of who provided professional learning to their school. They could also mention any additional providers not listed.

The next survey question asked participants to indicate from a predefined list of professional learning approaches which approach(es) had been effective for their school during the pandemic. They were also given the opportunity to mention any different approach(es) not listed.

Participants were then asked if their school had trialled using different professional learning approaches. If participants selected 'yes', the next question asked them to detail these and to rate on a Likert scale from very unlikely to very likely the likelihood of their school continuing with the approach(es) identified.

The next survey questions asked participants to rate on a Likert scale ranging from strong negative influence to strong positive influence how the pandemic has influenced the professional learning culture of the school and staff engagement with professional learning. It progressed to ask if staff are more proactive in seeking professional learning and if schools experienced any challenges in providing professional learning during the pandemic. Participants were provided with the opportunity to elaborate on their answers to these questions.

Finally, participants were asked to rate on a Likert scale from strongly disagree to strongly agree whether professional learning approaches were evaluated in their school. These questions were open-ended and asked participants how schools can be supported in the next 18 months in their school's development as learning organisations and which organisation is best positioned to provide this support. A catch-all question at the end allowed participants to mention anything additional in their school's development as a learning organisation and in providing professional learning. (See Appendix A)

3.5 Statistical analysis

For the current CEN project, we reached the minimum number of mainstream schools to contact (i.e., primary, middle and secondary). Therefore, we contacted more primary, middle and secondary schools (i.e., we used the practical selection of schools for the current CEN survey). We used post-stratification techniques to correct for the unequal selection probabilities and survey non-response matching the responding dataset to the population dataset on school sector (i.e., primary, middle, secondary) and school location (region 1 [Ceredigion, Conwy, Denbighshire, Flintshire, Gwynedd, Isle of Anglesey, Powys and Wrexham], and region 2 [Blaenau Gwent, Bridgend, Caerphilly, Cardiff, Carmarthenshire, Merthyr Tydfil, Monmouthshire, Neath Port Talbot, Newport, Pembrokeshire, Powys, Rhonda Cynon Taf, Swansea, Vale of Glamorgan and Torfaen]). The population data on the school sector and location were obtained from the sample frame. In addition, we obtained contextual school data for 2021/22 from Welsh Government Statistics for Wales.

3.6 Analysis of open-ended question

The qualitative data collected from the open-ended questions were analysed through thematic analysis. Responses were initially coded, and themes were then identified. This was completed by three of the researchers independently in the first instance. They then shared their analyses before the final codes and themes were agreed upon. This process ensured rigorous analysis of the qualitative findings.

4 Results

The characteristics of the participating schools are presented in Table 1.

Table 1 shows which local education authority respondents are located in and whether the school is bilingual, Welsh medium, English medium or dual language stream. It also indicates if the school is in the Primary, Secondary or SEN sector and school size based on the number of pupils

Table 1 reveals the characteristics of the participating schools. The sample contains $n=61$ schools, nearly half them being located in Powys ($n=7$), Rhondda Cynon Taf ($n=7$), Newport ($n=6$) and Flintshire ($n=6$). The language category for many schools in the sample is English medium ($n=49$). Many schools pertain to the primary school sector ($n=46$) and they teach between 101 and 303 learners ($n=28$).

Table 1. *Characteristics of the participating schools*

	Participating schools
Location (i.e., local authority)	<i>n</i>
Isle of Anglesey	2
Gwynedd	1
Conwy	3
Denbighshire	1
Flintshire	6
Wrexham	1
Powys	7
Pembrokeshire	1
Carmarthenshire	4
Swansea	4
Bridgend	1
The Vale of Glamorgan	1
Rhondda Cynon Taf	7
Merthyr Tydfil	1
Caerphilly	4
Blaenau Gwent	3
Monmouthshire	4
Newport	6
Cardiff	4

Total	61
Language category of school	<i>n</i>
Bilingual (Type A)	4
Dual stream	1
English medium	49
Welsh medium	5
School sector	<i>n</i>
Primary	46
Secondary	14
Special Educational Needs	1
School size	<i>n</i>
100 learners or fewer	8
Between 101 and 303 learners	28
More than 300 learners	9
Between 601 and 1,100 learners	6
1,101 or more learners	10

Note: There was no obligation for participating staff members to answer the survey questions they did not want to.

4.1 Mainstream schools

4.1.1 Influence of the COVID-19 pandemic on the adoption of the 'Schools as Learning Organisation' model

The primary aim of this survey was to evaluate the influence of the COVID-19 pandemic on the development of schools in Wales as learning organisations. Accordingly, we asked staff members responsible for developing SLOs and/or professional learning in schools to indicate the extent to which their school engaged with the SLO model. Table 2 shows the weighted percentages of staff members reporting on their school engagement level with the SLO model. Just over half of participants reported that they had reasonable engagement with the SLO model and just under a quarter of participants reported they had extensive engagement with the SLO model. Just under a quarter of participants noted that they had limited or no engagement with the SLO model.

Table 2. *Weighted percentage scores for members of staff responses to the survey question, "To what extent had your school engaged with the 'Schools as a Learning Organisation' Model before March 2020?"*

	No or limited engagement	Reasonable engagement	Extensive engagement
Weighted Percentage	% (SE)	% (SE)	% (SE)
Schools' engagement with the 'Schools as a Learning Organisation' Model	23 (5)	54 (6)	23 (5)

Note: SE is the abbreviation of Standard Error of the mean. SE is a term used to describe the variability across multiple samples of a population.

In addition, we evaluated the influence of the COVID-19 pandemic on schools' development as learning organisations. Table 3 shows the weighted percentage of staff members reporting on the type and extent of influence of the COVID-19 pandemic on schools as learning organisations. Just over 60% of participants stated that the pandemic had either a minor or strong negative influence on their development as a learning organisation with only 27% of participants stating that the pandemic had either a minor or strong positive influence on their development as a learning organisation.

Table 3. *Weighted percentage scores for members of staff responses to the survey question, "What influence is the COVID-19 pandemic having on your schools' development as a learning organisation?"*

Answer options	Strong positive influence	Minor positive influence	No influence	Minor negative influence	Strong negative influence
Percentage	% (SE)	% (SE)	% (SE)	% (SE)	% (SE)
Influence of the COVID-19 pandemic on school's development as a learning organisation	10 (7)	18 (5)	10 (4)	44 (7)	18 (5)

We also aimed to evaluate how useful the seven dimensions of the SLO model were during and after the COVID-19 pandemic. To measure how useful the seven dimensions of the schools as learning organisation model was for schools, we asked members of staff to rate how useful they were the seven dimensions were during key periods of the pandemic. Table 4 shows the weighted percentages of members of staff's ratings of the usefulness of the seven dimensions between March 2020 and July 2020 and September 2021 and January 2022. This is based on participants recollection rather than their responses to two different surveys being administered at these two different times. The number of participants who reported that each dimension was either very useful or extremely useful increased when comparing responses from the first period (March 2020 to July 2020) to the second period (September 2021 to January 2022). There was no significant difference between participants responses that

dimensions was moderately useful between the first and second period. The number of participants who reported that the seven dimensions were either not at all useful or slightly useful decreased for each dimension in the second period (September 2020 to January 2022) when comparing this to the first period (March 2020 to July 2020).

The third dimension 'Promoting team learning and collaboration among all staff' had the highest number of responses stating that this dimension was either very useful or extremely useful, whereas the sixth dimension 'Learning with and from the external environment and wider learning system' received the lowest number of responses stating it was either very useful or extremely useful during both periods.

Table 4. *Weighted percentage scores for school staff responses to the survey questions, "How useful were the seven dimensions of the Schools as Learning Organisation model between March 2020 and July 2020?" and "How useful were the seven dimensions of the Schools as Learning Organisation model between September 2021 and January 2022?"*

	The 7 Dimensions	Not at all useful % (SE)	Slightly useful % (SE)	Moderately useful % (SE)	Very useful % (SE)	Extremely useful % (SE)
March 2020 and July 2020	1. Developing a shared vision centred on the learning of all learners	14 (4)	17 (5)	32 (6)	23 (6)	15 (4)
September 2021 and January 2022	1. Developing a shared vision centred on the learning of all learners	2 (2)	7 (3)	27 (6)	41 (6)	24 (6)
March 2020 and July 2020	2. Creating and supporting continuous learning opportunities for all staff	11.7 (4)	22 (6)	30 (6)	24 (6)	13 (4)
September 2021 and January 2022	2. Creating and supporting continuous learning opportunities for all staff	2 (2)	12 (4)	28 (6)	35 (6)	24 (6)
March 2020 and July 2020	3. Promoting team learning and collaboration among all staff	8 (4)	17 (5)	26 (6)	34 (6)	15 (5)

	The 7 Dimensions	Not at all useful % (SE)	Slightly useful % (SE)	Moderately useful % (SE)	Very useful % (SE)	Extremely useful % (SE)
September 2021 and January 2022	3. Promoting team learning and collaboration among all staff	2 (2)	7 (3)	28 (6)	43 (7)	21 (5)
March 2020 and July 2020	4. Establishing a culture of inquiry, innovation and exploration	15 (5)	20 (5)	28 (6)	27 (6)	10 (4)
September 2021 and January 2022	4. Establishing a culture of inquiry, innovation and exploration	5 (3)	7 (3)	24 (6)	43 (7)	21 (5)
March 2020 and July 2020	5. Embedding systems for collecting and exchanging knowledge for learning	17 (5)	20 (5)	23 (6)	32 (6)	8 (4)
September 2021 and January 2022	5. Embedding systems for collecting and exchanging knowledge for learning	7 (3)	4 (3)	35 (6)	38 (6)	17 (5)
March 2020 and July 2020	6. Learning with and from the external environment and wider learning system	15 (5)	17 (5)	39 (6)	21 (5)	8 (4)
September 2021 and January 2022	6. Learning with and from the external environment and wider learning system	7 (4)	7 (4)	34 (6)	35 (6)	18 (5)

	The 7 Dimensions	Not at all useful % (SE)	Slightly useful % (SE)	Moderately useful % (SE)	Very useful % (SE)	Extremely useful % (SE)
March 2020 and July 2020	7. Modelling and growing learning leadership	17 (5)	19 (5)	31 (6)	27 (6)	7 (3)
September 2021 and January 2022		4 (3)	5 (3)	34 (7)	37 (6)	21 (6)

In this survey, we also aimed to evaluate how useful the four transversal themes of the learning organisation model were for schools during key periods of the COVID-19 pandemic. Table 5 shows the weighted percentages of members of staff's ratings of the usefulness of the four transversal themes between March 2020 and July 2020 and September 2021 and January 2022. The number of participants who reported that each transversal theme was either very useful or extremely useful increased when comparing responses from the first period (March 2020 to July 2020) to the second period (September 2021 to January 2022). There was no significant difference between participants responses that all every transversal themes were moderately useful between the first and second period. The number of participants who reported that the four transversal themes were either not at all useful or slightly useful decreased for each dimension in the second period (September 2020 to January 2022) when comparing this to the first period (March 2020 to July 2020).

The transversal theme 'Technology' had the highest number of responses agreeing that this theme was either very useful or extremely useful, whereas the transversal theme 'Time' received the lowest number of responses stating it was either very useful or extremely useful during both periods.

Table 5. *Weighted percentage scores for a member of staff responses to the survey questions, "How useful were the four transversal themes in your school's development as a learning organisation between March 2020 and July 2020?" and "How useful were the four transversal themes in your school's development as a learning organisation, between September 2021 and January 2022?"*

	Transversal theme	Not at all useful % (SE)	Slightly useful % (SE)	Moderately useful % (SE)	Very useful % (SE)	Extremely useful % (SE)
March 2020 and July 2020	Technology	8 (3)	9 (4)	15 (5)	22 (5)	46 (6)
September 2021 and January 2022		5 (3)	4 (3)	17 (5)	36 (6)	38 (7)
March 2020 and July 2020	Time	17 (5)	12 (4)	29 (6)	28 (6)	15 (5)
September 2021 and January 2022		5 (3)	12 (4)	33 (6)	33 (6)	17 (5)
March 2020 and July 2020	Trust	12 (4)	5 (3)	29 (6)	30 (6)	25 (6)

	Transversal theme	Not at all useful % (SE)	Slightly useful % (SE)	Moderately useful % (SE)	Very useful % (SE)	Extremely useful % (SE)
September 2021 and January 2022		7 (3)	4 (3)	26 (6)	33 (7)	31 (6)
March 2020 and July 2020	Thinking together	10 (4)	12 (4)	22 (5)	35 (6)	22 (5)
September 2021 and January 2022		7 (3)	4 (3)	21 (5)	40 (7)	29 (6)

4.1.2 Influence of the COVID-19 pandemic on professional learning in schools

The secondary aim of this survey was to evaluate the influence of the COVID-19 pandemic on professional learning in schools (i.e., on the range of professional learning approaches used in schools, schools' professional learning culture and staff engagement with professional learning). Table 6 shows the weighted percentages of members of staff participants' ratings of the influence of the COVID-19 pandemic on professional learning engagement in schools.

A higher number of participants (48%) reported that the pandemic had either a minor or strong negative influence on the range of professional learning approaches used in their school in comparison to the pandemic having a minor or strong positive influence (33.3%). It is important to note here that these responses are highly subjective and differ amongst setting, with only one response from each setting collected. There was little difference between the type of influence (positive or negative) the pandemic had on the schools as learning organisations professional learning culture. Fifty-two per cent of participants reported that the pandemic had either a minor or strong positive influence on staff's level of engagement with professional learning in their school, which suggests staff have considered further the potential need benefit of professional learning. Thirty-three per cent of participants stated that the pandemic had a minor or strong negative influence.

Table 6. *Weighted percentage scores for the influence of the COVID-19 pandemic on the professional learning approaches, schools as learning organisation's professional learning culture, and staff engagement with professional learning in school (next page).*

Survey item	Strong positive influence % (SE)	Minor positive influence % (SE)	No influence % (SE)	Minor negative influence % (SE)	Strong negative influence % (SE)
What influence has the COVID-19 pandemic had on the range of professional learning approaches used in your school during the pandemic?	13 (4)	30 (6)	8 (4)	27 (6)	21 (5)
What influence has the pandemic had on the school's as learning organisations professional learning culture of your school?	8 (4)	31 (6)	24 (6)	29 (6)	8 (4)
Overall, what influence has the pandemic has on the level of staff engagement with professional learning in your school?	13 (4)	39 (6)	15 (5)	27 (6)	7 (3)

We also aimed to determine whether staff members were more active in seeking professional learning opportunities, and we wanted to identify the challenges experienced in providing professional learning in schools during the COVID-19 pandemic. Table 7 shows the weighted percentage of participants reporting whether staff members in their school were more active in seeking professional learning opportunities and if there were challenges experienced in providing professional learning in schools. Fifty-nine per cent of participants reported that staff had become more proactive since the start of the pandemic to the present day in seeking professional learning with 41% of participants stating that staff had not become more proactive in seeking professional learning. This is consistent with over half of respondents noting that the pandemic had a positive effect on staff levels of engagement with professional learning. It would be interesting to explore further why this is, as it difficult to confidently state that this is a direct result of the pandemic.

Table 7. *Weighted percentage scores for responses to the survey questions on attitudes and challenges of professional learning in schools*

Survey item	Response option	%	SE
Have staff in your school become more proactive since the start of the COVID-19 pandemic until the present day, in seeking professional learning?	Yes	59	6
	No	41	6
Did your school experience any challenges facilitating professional learning since the start of the COVID-19 pandemic until the present day?	Yes	85	5
	No	16	5

In this survey, we also aimed to determine whether schools evaluate their provision of professional learning. Table 8 shows the weighted percentage of members of staffs' reporting on the evaluation of professional learning in their schools. Eighty per cent of participants agreed or strongly agreed that professional learning approaches are evaluated in their school. Further investigation would be needed to determine the effectiveness of these professional learning approaches and, or whether changes are implemented because of these approaches.

Table 8. *Weighted percentage scores for a member of staff responses to the survey question, "Professional learning approaches in our school are evaluated (i.e., the school collects and uses evidence in terms of pupil learning outcomes, teacher and pupil feedback, to decide how to improve future practice, evaluate its impact and to inform planning for future professional learning)?"*

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
	% (SE)	% (SE)	% (SE)	% (SE)	% (SE)
Professional learning approaches are evaluated in school	31 (6)	49 (7)	13 (5)	5 (3)	2 (2)

We also aimed to identify providers of professional learning strategies and the learning approaches that have been effective for schools during the COVID-19 pandemic. Table 9 shows the number of staff (in percentages) reporting on which providers provided continuous professional learning, and Table 10 shows the percentage scores of staffs' reporting which learning approaches were effective for their school during the COVID-19 pandemic. A majority of participants (85%) reported that their own school provided their continuous professional learning during the COVID-19 pandemic and 'accredited learning' (38%) and school to school' (39%) were the lowest types of continuous professional learning during this time. Sixty per cent of participants reported that their region (consortia led) provided continuous professional learning and their Local Authority (48%). Fifty per cent of participants reported that continuous professional learning was provided through 'cluster learning, where several schools work together to learn with and from each other.

Table 9. *Percentage scores for a member of staff responses to the survey question, "Who has provided your school with continuous professional learning during the COVID-19 pandemic?"*

Provider	%	n
Accredited learning	38	23
School-to-school learning	39	24
Cluster learning	50	30
Consortia led	60	36
Local authority led	48	29
Our school	85	51

The results in Table 10 suggest that 'Blended learning' (86%) and 'Whole school INSET day(s)' (83%) were reported by participants as being the most effective forms of professional learning for their school during the pandemic. The least effective form of professional learning was 'Lesson study' (3%) and 'Study groups' (3%).

Table 10. *Percentage scores for a member of staff responses to the survey question, "Which of the following learning approaches have been effective for your school during the COVID-19 pandemic?"*

Learning approach	%	<i>n</i>
Blended learning	86	51
Whole school INSET day(s)	83	49
Departmental / phased professional learning	58	34
Teacher enquiry	58	34
Team planning	58	34
Scrutiny of learners' work	51	30
Reading	49	29
Coaching and mentoring	46	27
Peer observation and feedback	34	20
Team teaching	14	8
Study groups	3	2
Lesson study	3	2

In addition, we also aimed to find out whether schools used different professional learning approach(es) during the COVID-19 pandemic. Table 11 shows the weighted percentage of members of staff reporting whether their school trialled different approach(es). Sixty four per cent of participants stated that they had trialled different professional learning approaches and 36% reported that they did not.

Table 11. *Weighted percentage scores for a member of staff responses to the survey question, "As part of your school's strategy as a learning organisation, has the school trialled a different approach(es) to professional learning since the start of the COVID-19 pandemic until the present day?"*

Response option	%	SE
Yes	64	7
No	36	7

Furthermore, participants were given the opportunity to report on any learning approach(es) that their school used for the first time during the COVID-19 pandemic and to indicate how likely their school was to continue with the learning approach(es) they had reported.

The qualitative data from the free response question about the learning approach(es) staff members reported that their school trialled during the pandemic was classified into four categories. These categories were: (1) enquiry-based learning, (2) digital training, (3) face-to-face professional learning, and (4) blended learning. The percentage of staff members with a response in each category was computed. The four categories (as well as examples from each category), alongside members of staff participants' ratings of how likely their school was to continue with the learning approaches, are presented in Table 12. 'Online professional learning' (84%) was reported by participants most highly as the learning approach trialled and most likely to be continued with by their school (4). Participants stated that 'Enquiry based learning' was the least trialled approach (28) and least likely to be continued with (0.1) (see Table 12.).

Table 12. *Presents the percentage scores for members of staff responses to the categories of learning approaches trialled by their school and the mean scores for members of staff ratings of how likely their school was to continue with the learning approaches.*

Learning approach category	Examples	% (n)	M
Online professional learning	Cluster online training, Teams meetings and workshops, asynchronous learning, Live webinars, virtual CPD training	84 (27)	4
Face-to-face professional learning	Sharing of professional learning by staff in open forums (e.g., staff meetings), peer observation, mentoring leaders, outside providers, use of Walkthroughs	41 (13)	4
Blended learning	Google form, school consultation, watching a webinar and then coming together to discuss the pedagogy of remote learning live and recorded.	38 (12)	4
Enquiry based learning	Teacher enquiry, research and development groups, pupil enquiry circle, collaborative enquiries, research and development groups.	28 (9)	0.1

Note. Members of staff ratings of how likely their school was to continue using the learning approach categories were made on a 5-point scale, from very unlikely (1) to very likely (5). Higher ratings indicate that the staff members *rated* their school more likely to continue using the approach.

In the final survey question, we asked staff members to indicate which provision/roles they are responsible for in their school. Table 13 shows the different provisions/roles and the weighted percentage of members of staff reporting on the provision/role they are responsible for in their school. Seventy seven per cent of participants are responsible for Professional Learning and Schools as Learning Organisations in their schools with 18% responsible for Professional Learning and 5% responsible for Schools as Learning Organisations in their schools.

Table 13. *Characteristics of the participating members of staff respondents*

Provision/role	%	[CI]
Professional learning	18	[10, 30]
Schools as Learning Organisations	5	[2, 15]
Professional learning and Schools as Learning Organisations	77	[64, 86]

4.1.3 Open-ended responses on the influence of the COVID-19 pandemic on the development of schools as a learning organisation and professional learning

The qualitative data from the survey were drawn from nine open-ended responses in which participants were asked to reflect upon the following:

- How their school's engagement with the SLO model, as formulated by Welsh Government, had helped the organisation meet the challenges of working within the pandemic.
- How the pandemic had influenced or modified the culture of, attitudes to, or processes associated with, professional learning within their school.
- The facilitators and inhibitors in terms of their school's development as a learning organisation in the current academic year.
- How their school should be supported over the next 18 months in terms of professional learning and its development as a learning organisation.

The findings from the qualitative responses add detail to the quantitative results in the previous section and are presented below and grouped into these themed areas. Participants' responses within each themed area can also be linked to the four transversal themes that run across the seven dimensions of the SLO model (OECD, 2016): technology, time, trust and thinking together. These potential links are also indicated.

a) In terms of school engagement with the SLO model, the following findings from the qualitative data are notable and are linked to the transversal theme *thinking together*:

Some participants indicated that they felt that strong cluster links and cluster working practices had allowed them to learn with and from their external environment. In addition, cluster links established before the pandemic were able to thrive during the pandemic and provide a much-needed platform for school development. For example, developing the Curriculum for Wales, even in challenging circumstances, with one participant highlighting that:

"Now that face-to-face meetings have resumed, I believe the SLO model and PL of schools will develop massively through cluster meetings, school-to-school working, and sharing more widely. It has been noticeable how open, honest and effectively cluster schools have worked together and have not needed Consortia presence".

It was suggested that powerful lateral networks of this type are emphasised in future system-wide development.

Many participants commented that previous deep and proactive engagement with the SLO model left them in a particularly strong position with the onset of the pandemic, with one participant noting that:

"Staff were already aware of the need to be flexible and to face any challenges as a team - practice already illustrated a strong shared vision, a culture of enquiry, the identity as a team, strong PL practice enabling staff to respond effectively and very positively".

A shared vision and shared commitment to professional learning (PL) established before the pandemic made the delivery of PL during the pandemic much more successful. With participants noting:

"Our collective commitment to, and shared vision of, professional learning aided the transition to online learning".

"Established culture and ethos stood us in good stead, especially with regard to professional learning, blended learning and well-being initiatives for staff and pupils".

"Established practices for collaboration, especially within our cluster, allowed for the sharing of good practice during periods of home learning. As a school, we were clear about our 'shared vision' for how to deliver home learning to all pupils".

However, some participants noted that the arrival of the pandemic threw into relief the level of SLO engagement in the school:

"Having knowledge of the SLO model was useful for the SLT who were more aware of what we should be doing and putting practices into place but not so useful for some teachers and TAs who have had little exposure to it."

In effect, the pandemic demonstrated gaps in 'team learning'.

Remaining within the theme of engagement with the SLO, one participant made a significant point relating to the transversal theme of *trust*:

"I think having focused on the SLO model previous to the onset of the pandemic, we, as a staff were ready for the challenges associated with the switch to delivering quality home learning. We had trusting relationships with one another and with parents. We had worked with all stakeholders on our school vision and engaged in developing the 'promoting team learning and collaboration' dimension. This enabled us to work closely as a team, learning from and supporting one another with digital technologies and online platforms".

b) Many participants recognised positive developments when prompted to indicate how the pandemic had influenced or modified the culture, attitudes to, or processes associated with professional learning within their school. The majority of these relate to the transversal theme of technology.

Participants identified a positive impact on professional learning, stating that practitioners can access it any time at any place as there were no requirements to travel or leave school, with one participant suggesting the following multiple interlinked benefits:

"We'd like continued access for all - continued recording and online facilitating so that we can continue to ensure that as many people can access it as possible. Right now, if a meeting or PL is planned to last an

hour, we have to facilitate a staff member being out of class for an hour. If things return to staff having to leave the site constantly, that becomes us having to cover a class for half a day for a meeting/PL, which lasts an hour. We would also be reluctant to put any kind of pressure on them to attend after-school events off-site, which can drag on, be late to start (waiting for everyone to arrive) and results in them being home later. Our working hours away from home have been much improved since the remote approach started, and staff well-being has never been more important. In addition, people start charging when you actually turn up. There is NO WAY we could pay for 1/4 of the PL we have received in the last academic year if we had to pay for supply cover and course costs".

Respondents also identified that technology provided access to a broader range of materials. However, for some, the broad range of opportunities makes it difficult to prioritise and therefore suggested that in the future, there could be *'better assistance in determining the best fit of training'*.

Participants also noted that technology has empowered staff to take ownership of their PL and to proactively use varied PL modes by, for example, accessing podcasts or engaging with laterally organised teacher networks. For many, this is becoming an embedded part of organisational culture. In addition, some participants indicated that they felt that a greater proportion of staff is actively engaged now in PL through online means. Some participants perceived that there is simply more PL happening and that this has changed individuals' attitudes to online PL over the last couple of years. It may also have made it easier for staff to share suggested PL sources and opportunities.

However, there were some negative points again related to the transversal theme of technology raised by participants:

- Some participants suggested that the quality of online PL is perhaps more variable. For example, they perceived that the online mode could negatively impact quality, and some suggested that the ease with which PL experiences can be given a platform gives rise to a larger number of 'poor quality' resources.
- Some participants noted the perception that online PL has a limited impact on a minority of staff and suggested that online PL modes may be off-putting for colleagues.
- Some participants expressed anxiety that much online PL is focused on the level of the individual and that it is *'not as productive as being able to have staff working together in the same room'*.
- Some participants from rural schools noted the potential benefits of online PL but expressed frustration at a perceived poor technology infrastructure (e.g., broadband speed and capacity).

Respondents commented on their perception of facilitators and inhibitors regarding their school's development as a learning organisation in the current academic year.

Most of the facilitators are linked to the transversal theme of technology:

- Some noted the greater potential for collaboration with cluster colleagues and other stakeholders, for example, with parents through surveys, and identified that they could expand existing collaborative networks through online means, for example, enhancing their NPEP links.
- Some participants also noted that technology was now affording new collaboration possibilities with partners which would not have been feasible or even considered before, for example, collaborative

ventures with practitioners in Australia. Technology is now being normalised for some and is suggested as a future priority for the system.

However, specific inhibitors were also noted. Some were related to the transversal theme of *time*:

Participants noted an increase in staff absence over the last two years, which had a perceived impact on their ability to develop as a learning organisation.

- Participants also noted additional time-related restrictions, such as the need to work with restricted budgets (limiting staff buy-out), the need to focus on short-term operational issues, or the time pressure of juggling a range of pressing reforms such as Curriculum for Wales implementation.

Some inhibitors can be more generally linked to the transversal theme of *thinking together*:

- Some participants noted a lack of face-to-face opportunities within and between schools. These participants were likely to be more sceptical about the benefits of collaboration through technology. For example, some participants suggested that online breakout rooms/discussion groups are less effective in developing a learning organisation than traditional face-to-face modes.
- Many participants noted that the pandemic negatively impacted pre-pandemic collaborative work, which had focused on peer lesson observation or physically visiting other schools. For example, one participant noted that *"professional learning by sharing classroom practice became very challenging"*.

Another commented that,

"Leaning inquiry cycles [have been] hindered. Coaching teams stopped. Evaluation cycles focused away from longer-term pedagogy and curriculum improvements. Collaboration with others outside of school reduced".

- Some participants felt that a lack of face-to-face *thinking together* spaces or opportunities had an overall negative impact on well-being and morale, with one participant commenting that:

'We have a large staff. We couldn't get people in a room, and it had a detrimental impact on well-being and morale'. Future suggested change – 'more face-to-face courses available to allow for professional discussion and interactions'.

In summary, participants made some key suggestions about how their school should be supported over the next 18 months in terms of professional learning and development as a learning organisation. These are:

- Additional dedicated (funded) *time* allowance for PL to complement existing provision such as professional learning grants, INSET days, and resourcing of dedicated time of enquiry-based PL.
- Further development of *technology* for professional learning that provides greater breadth and depth of opportunity for practitioners.
- Future investment in powerful lateral networks (*thinking together*), alongside a suggested system-wide reset of and re-focus of the SLO model.

4.2 SEN school

4.2.1 Case study: Influence of the COVID-19 pandemic on the adoption of the 'Schools as Learning Organisation' model in one SEN school

In this study, we conducted a case study to investigate the influence of the COVID-19 pandemic on the development of one special school (ALN) in Wales as a learning organisation. This is not representative of the special schools (ALN) sector in Wales. This was conducted because of the low number of responses from schools in this sector for this study.

The respondent from the school reported that their school had 'reasonable engagement' with the SLO model prior to March 2020 and that the pandemic had a 'minor negative' influence on their school's development as a learning organisation. All dimensions of the SLO model and the four transversal themes were reported by the participant to be 'very useful', 'extremely useful' or 'moderately useful' during the periods of March 2020 to July 2020 and September 2021 and January 2022. The school stated the pandemic had a 'minor negative' influence on the range of professional learning approaches used by the school but had a 'strong positive' influence on their 'schools as learning organisations professional learning culture' and staff's level of engagement with professional learning.

The school stated that staff had been more proactive in seeking professional learning since the beginning of the pandemic to the present time, they did not experience any challenges in facilitating professional learning and did not trial different professional learning approaches the pandemic since the start of the pandemic. The school stated that they did evaluate the professional learning approaches used in their school.

The member of staff reported that there were three providers of continuous professional learning approaches. These were school-to-school learning, local authority led and the school. The effective learning strategies during the pandemic, as reported by the member of staff, were: whole school INSET days, departmental/phased professional learning, teacher enquiry, blended learning, peer observation and feedback, learning by reading, team planning and lesson study. The survey responses can be found in Appendix B.

5 Discussion

5.1 Aims of the study

Below are the aims of the report.

To provide an insight into how the pandemic has influenced schools' development as learning organisations and teachers' professional learning?

To discover which factors facilitated and/or inhibited the development of schools as learning organisations? To ascertain the future needs of schools in their continual development as learning organisations

- How did the pandemic influence the schools professional learning culture and processes?
- To identify and evaluate the Professional Learning approaches implemented by schools. What are teachers' future professional learning needs?

Despite the small sample of survey results, the data is approximately representative of the ratio of primary/secondary schools and SEN schools in Wales. The largest proportion of schools participating in the survey was primary, which may indicate a discrepancy in the level of engagement with the SLO model between primary and secondary schools overall in Wales. Further, primary schools may be improving their development as learning organisations compared to secondary schools, and this is an important area to consider in terms of future educational development (OECD, 2018).

Notably, most schools in the survey sample had an engagement with or are currently engaged in the SLO model. However, many schools also stated that COVID-19 had harmed the continued development of their school as a learning organisation. It is important to discuss why COVID-19 has negatively impacted school development. Perhaps the main reason for this impact was because of the unprecedented nature of the pandemic; schools in Wales had never encountered anything like the pandemic before, and the sudden transition to remote learning meant that the initial focus during the first lockdown period (March-June 2020) was purely on coping and surviving during these months. Teachers likely prioritised health and well-being during this time, especially if assessments were cancelled or postponed (Hulme et al., 2021).

Equally, some educators may perceive SLO as something additional to their daily practice rather than it being an integrated part of their activities which enables continual reflection, adaptation, agility, and the ability to cope with change in a positive way to deliver effective provision. This was noted in the qualitative data collected, where some respondents noted that the pandemic provided 'welcomed relief' from engagement with the SLO model as not all staff were aware of the model which demonstrated 'gaps in team learning'. It is important to emphasise the positive aspect of the SLO model, particularly if educators are unaware of the positive changes that take place within their schools as a result of working as a learning organisation. On the other hand, some schools may perceive the SLO model positively as they realise that the strategy is helping them cope with the COVID-19 pandemic (OECD, 2018).

The SLO model can be interpreted negatively, however, as educators may see it as an external requirement rather than a continuously utilised model for organisational development and improvement. Some may see the SLO model as a tick-box exercise. Such perceptions may decrease the perceived value of the approach. It can be questioned whether these negative perceptions are because of pre-

existing beliefs, values, or assumptions about the implementation of the approach and policy of the SLO model.

The findings of this study suggest that the pandemic has had a broadly negative impact on the ability of schools to develop into SLOs over the last two years, although for a minority, the perception remains positive.

In terms of the more positive responses, the results from the qualitative data demonstrate that schools who perceived that they had a considerable engagement with the SLO model before COVID-19 also perceived that they were in a strong position to cope with the challenges of the pandemic effectively. Furthermore, findings suggested a strong engagement with the SLO model appeared where there was an established commitment to a shared vision (OECD, 2018). This shared vision allowed schools to continue with Professional Learning (PL) despite the obvious challenges that schools faced.

As noted in the qualitative findings, some respondents stated that professional learning clusters established before the pandemic were still able to thrive with a positive impact on school development, such as implementing the Curriculum for Wales (CfW). In some cases, respondents noted that these networks continued to flourish independently without overt support from middle-tier organisations. The below direct response as highlighted above reflects this:

"Now that face-to-face meetings have resumed, I believe the SLO model and PL of schools will develop massively through cluster meetings, school-to-school working, and sharing more widely. It has been noticeable how open, honest and effectively cluster schools have worked together and have not needed Consortia presence".

These responses highlight a culture of collaboration and enquiry where challenges are faced collectively.

However, some participants noted that the arrival of the pandemic revealed uneven engagement within schools with the SLO model and gaps in 'team learning'. This echoed in the above direct comment from one respondent. Potentially the pandemic has emphasised the need for the SLO model to be embraced by all staff members for the school to benefit.

In summary, the findings highlight the value of deep engagement with the SLO model in producing resilience, flexibility, and problem-solving in schools making them better equipped to face challenges. Furthermore, findings suggest the importance of developing cohesive links across all aspects of the school community. In addition, there was a generalised perception that all seven dimensions of the SLO model positively influenced schools' abilities to develop as learning organisations during the pandemic.

5.2.1 Which factors helped to develop schools as Learning Organisations during the pandemic

Respondents frequently cited technology as the transversal theme contributing to their development as a learning organisation. Some noted the greater potential for collaboration with cluster colleagues and other stakeholders and identified that they could expand existing collaborative networks through online means, e.g., enhancing their NPEP links. Some participants also noted that technology was now affording new collaboration possibilities with partners which would not have been considered before. For instance, some were considering potential collaboration with practitioners in Australia. This is now being normalised for some and is suggested as a future priority for the system (Kools and Stoll, 2016). Another

transversal theme, 'trust,' was briefly mentioned as a key aspect in the survey responses. The SLO model became easier to develop when a culture of high trust was already established in schools.

5.2.2 Factors that inhibit schools' development as learning organisations

While this report highlights the benefits of engagement with the SLO model before/during the pandemic, many inhibitors were noted. Some were related to the transversal theme of *time*. Participants explained that an increase in staff absence over the last two years had impacted their ability to develop as a learning organisation. Also mentioned were additional time-related constraints, such as the need to work with restricted budgets (limiting staff buy-out), time pressures associated with the need to focus on short-term operational issues as a result of the pandemic, or the time pressure of juggling a range of pressing reforms such as CfW. Many responses emphasised the perception that significant time is needed to develop a learning organisation and that this additional time was eroded throughout the pandemic. As noted above, the survey suggests that for many practitioners the SLO model is still perceived as something additional that teachers must engage with, rather than being a feature of a school's culture.

A lack of opportunity for face-to-face meetings and collaborations was also identified as an inhibitor. In this sense, the survey emphasises the importance of the transversal theme of '*thinking together*' as respondents noted the negative impact of being unable to meet physically during the pandemic.

These participants were likely to be more sceptical about the potential for collaboration through technology. For example, some suggested that online breakout rooms/discussion groups were not as effective when compared with traditional face-to-face modes.

Many participants noted that the pandemic negatively impacted pre-pandemic collaborative work that had focused on peer lesson observation or physically visiting other schools.

The survey respondents highlight the importance and value of face-to-face in-person collaboration, not least for the morale and well-being benefits it supports.

5.2.3 Influence of the pandemic on the School as Learning Organisations' professional learning culture and processes.

Schools that responded to the survey stated that they organised most of the professional learning during the pandemic rather than relying on outside providers. INSET days and blended learning were reported to be the most effective approaches.

Most respondents reported that the pandemic had neither significantly adverse nor positive effects on their professional learning culture at school.

When prompted to indicate how the pandemic had influenced or modified the culture of, attitudes to, or processes associated with professional learning within their school, many participants recognised some minor positive developments. The majority of these relate to the transversal theme of technology.

Participants identified a positive impact on professional learning, stating that practitioners can access technology at any time or place, and there were no requirements to travel or leave school. The use of technology, it was noted, can help reduce time and cost, which is advantageous for smaller schools in Wales facing staffing and financial issues. Potentially, this can be recorded as a "Covid keep" as schools

are eager to continue a blended approach to professional learning by ensuring events are accessible (i.e., online/recorded events) whilst also retaining opportunities to encounter people face-to-face.

Some respondents noted that technology provided access to a broader range of professional learning resources. However, this made it difficult to identify and prioritise appropriate resources for some.

Other participants also noted that technology has empowered staff to take ownership of their professional learning and to proactively use varied professional learning modes, e.g., accessing podcasts or engaging with laterally organised teacher networks. For many, this is becoming an embedded part of organisational culture.

5.2.4 Evaluation of the professional learning approaches in school.

In reference to the findings from the recent OECD report, [Teachers' Professional Learning Study: Diagnostic Report for Wales](#) (Roy et al., 2021), which report that schools in Wales tend not to evaluate the impact of their PL on teachers' practice and pupil outcomes, the respondents to this survey positively noted their schools' ability to evaluate the impact of professional learning during the pandemic. Most of the respondents (n=49) agreed and strongly agreed with the notion that the professional learning approaches in their school are evaluated (i.e., the school collects and uses evidence in terms of pupil learning outcomes, teacher and pupil feedback to decide how to improve future practice, evaluate its impact and to inform planning for future professional learning).

In summary, participants made several critical suggestions about how their school should be supported over the next 18 months regarding professional learning and its development as a learning organisation. These are:

- Additional dedicated (funded) *time* allowance for PL to complement existing provision such as professional learning grant, INSET days, and resourcing of dedicated time of enquiry-based PL.
- Further development of *technology* for professional learning that provides greater breadth and depth of opportunity for practitioners.
- Future investment in powerful lateral networks (*thinking together*), alongside a suggested system-wide reset of and re-focus of the SLO model.

6. Future research directions

A future line of enquiry would be to explore why practitioners may perceive the SLO model in negative ways.

It is worth investigating whether these perceptions and attitudes about the SLO model are on an individual or organisational (i.e., school) level and the influence of staff, educational systems and procedures, and the wider community on this model.

A further related area of potentially beneficial exploration could focus on the influence of the regions, LEAs or the Welsh Government and whether the different levels of networks (i.e., local/regional) and clusters impact the perception of the SLO model.

It would be pertinent to explore further into the conditions which have led to the responses gathered, the levels of engagement in the SLO model from schools, and investigate any other indicators of effectiveness. It is pertinent to consider key demographic data such as language category, location, size, sector, and socioeconomic factors with each school and how this influences the engagement and development of SLOs.

Further exploration into the use of technology to develop schools as thriving learning organisations is required.

Explore further leaders' perceptions of the purpose and usefulness of professional learning.

More research should be conducted to investigate how schools are evaluating the effect and influence of their professional learning provision.

7. Limitations

The representative sample size of the study is small, which is a limitation.

Due to the restricted timeframe of the study, further data collection methods such as interviews and focus groups were not adopted to collect further qualitative data which limited the scope of the study.

It is unclear why the survey response rate was lower in Welsh medium schools, and perhaps survey fatigue or the timing of the survey circulation impacted the response rates. Participants with a positive attitude to SLO may have been more likely to respond and this should be noted.

Other factors to consider which limit the findings of this study are:

- the subjective nature of the responses which are participants self reported recollections of their experiences during this time
- many participants stated that they were already engaged with the SLO model during this time which
- policy changes during this period which contributed to changes in how schools and teachers operated as well as the pandemic.

8. Recommendations

8.1 Implications for Policy

- Further support is required for schools to develop as thriving learning organisations
- Further development of powerful learning networks and collaborations within and between the three tiers of the Welsh education system to achieve curriculum reforms and initiatives.
- Further exploration of the role of the regions, external experts, specialists, and schools in facilitating cluster working and professional learning.
- Further investigation into which professional learning approaches are effective.

8.2 Implications for Practice

- Schools should consider offering as many in-person activities as possible to help build confidence and trust within and between schools to facilitate professional learning and establish professional learning networks.
- Schools should consider increasing collaboration through utilising technology, as this can lead to innovations and new possibilities for working partnerships (nationally and internationally).
- Schools should consider increasing the range of professional learning approaches being utilised.
- It is suggested that schools utilise blended learning approaches in their professional learning provision.
- Schools should seek guidance and advice/evidence when selecting professional learning resources to meet their needs.

8.3 Recommendations for Further Research

- In order to gain a deeper understanding of the quantitative data, the research team would wish to carry out interviews and focus group interviews with a selection of the respondents.

Appendix

A – Survey questionnaire

1. Please select the response option which best describes your answer to the statement below.

	Strong negative	Minor negative	No impact	Minor positive	Strong positive
What effect is the COVID-19 pandemic having on your school's implementation of the Schools as Learning Organisations model and professional learning?					

2. What factors are facilitating your school's development as a learning organisation during this period of pandemic recovery? Please write your answer in the space below.
3. What factors are hindering your school's development as a learning organisation during this period of pandemic recovery? Please write your answer in the space below.

4. The seven 'dimensions' of the Schools as Learning Organisations model are presented below. Please rank each 'dimension' from 1 (most focused) to 7 (least focused) to indicate which dimension your school focused on the most during the pandemic, in your school's development as a learning organisation

	Rank in order from 1 (most focused on) to least 7 (least focused on). Please write your answer in the space below.
Dimension 1: Developing a shared vision centred on the learning of all learners	
Dimension 2: Creating and supporting continuous learning opportunities for all staff	
Dimension 3: Promoting team learning and collaboration among all staff	
Dimension 4: Establishing a culture of enquiry, innovation and exploration	
Dimension 5: Embedding systems for collecting and exchanging knowledge for learning	
Dimension 6: Learning with and from the external environment and wider learning system	
Dimension 7: Modelling and growing learning leadership	

Please provide your school's rationale for focusing on the top three 'dimensions' that you have ranked above. Please write your answer in the space below.

5. Please select the response option which best describes your answer to the statement below.

	Strong negative impact	Minor negative impact	No impact	Minor positive impact	Strong positive impact
What effect has the COVID-19 pandemic had on the range of professional learning approaches used in your school during the pandemic?					

Could you please elaborate on your answer to the question above. Please write your answer in the space below.

6. Which of the following professional learning approaches have been effective for your school during the pandemic? Please select all answers that apply.

- Whole school INSET day(s)
- Departmental / Phased professional learning
- Teacher Enquiry
- Coaching and Mentoring
- Blended Learning
- Accredited Learning
- School to School Learning
- Cluster Learning
- Consortia led
- Local Authority led

If your school used a different effective professional learning approach(es) during the pandemic, that is not mentioned above, please write this approach(es) in the space below.

7. As part of your school's development as a Learning Organisation has your school trialled different approach(es) to professional learning over the last 18 months. Please tick the box.

- Yes
- No

7a) There are two parts to this question. For the first part, please write down below, the different professional learning approach(es) that your school trialled during the pandemic. For the second part, please tick the box(es) to show how likely is your school to continue with the different professional learning approach(es) that you have written down, in the future?

	Approach(es)	Very unlikely	Unlikely	Neither Likely Nor Unlikely	Likely	Very Likely
Please write the different learning approach in the box on the right						
Please write the different learning approach in the box on the right						
Please write the different learning approach in the box on the right						

Please elaborate on your answer to the question above (i.e., why). Please write your answer in the space below.

8. Please select the response option which best describes your answer to the statement below.

	Strong Negative	Minor Negative	No Impact	Minor Positive	Strong Positive
What effect has the pandemic had on the School's as Learning Organisations professional learning culture of your school?					

Please elaborate on your answer to the question above. Please write your answer in the space below.

9. Please select the response option which best describes your answer to the statement below.

	Strong Negative	Minor Negative	No Impact	Minor Positive	Strong Positive
Overall, what effect has the pandemic had on the level of staff engagement with professional learning in your school?					

10. Did your school experience any challenges when conducting professional learning during the pandemic?

- Yes
- No

Please elaborate on your answer to the question above. Please write your answer in the space below.

11.Please select the response option that best describes your answer to the statement below.

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Professional learning approaches in our school are evaluated (i.e., the school collects and uses evidence in terms of pupil learning outcomes, teacher and pupil feedback, to decide how to improve future practice, evaluate its impact and to inform planning for future professional learning professional).					

12.How can your school be supported over the next 18 months in terms of the school's development as a Learning Organisation and professional learning within the school, during this period of pandemic recovery? Please write your answer in the space below.

13.Who do you think is best to provide this support to schools in Wales? Please write your answer in the space below.

14.Is there anything else that you would like to mention for us to consider as part of the development of schools as Learning Organisations and professional learning in schools?

Background Information

15. Which of the following provisions/roles are you responsible for in your school?
Please tick the box.

- Professional learning
- Schools as Learning Organisations
- Both of the above (i.e., professional learning and School as Learning Organisations)

16. Which county in Wales is your school located in? Please select your answer.

- Isle of Anglesey
- Gwynedd
- Conwy
- Denbighshire
- Flintshire
- Wrexham
- Powys
- Ceredigion
- Pembrokeshire
- Carmarthenshire
- Swansea
- Neath Port Talbot
- Bridgend
- The Vale of Glamorgan
- Rhondda Cynon Taf
- Merthyr Tydfil
- Caerphilly
- Blaenau Gwent
- Torfaen
- Monmouthshire
- Newport
- Cardiff

17.What type of school are you a member of staff in? Please tick the box.

- Primary
- Middle
- Secondary
- Special Educational Needs (SEN)

B – SEN school

Table 14. Responses to the survey questions on the influence of the COVID-19 pandemic on the development of SEN schools in Wales as Learning Organisations.

Question	Response option	Response
To what extent had your school engaged with the 'Schools as a Learning Organisation' Model before March 2020?	No or limited engagement Reasonable engagement Extensive engagement	Reasonable engagement
What influence is the COVID-19 pandemic having on your school's development as a learning organisation?	Strong positive influence Minor positive influence No influence Minor negative influence Strong negative influence	Minor negative influence

Next, we explored how useful the seven dimensions of the Learning Organisation model were during and after the COVID-19 pandemic. To measure how useful the seven dimensions of the SLO model were for SEN schools, we asked members of staff to rate how useful the seven dimensions were during key periods of the pandemic. Table 15 shows the member of staff ratings of the usefulness of the seven dimensions between March 2020 and July 2020 and September 2021 and January 2022.

Table 15. Responses to the survey questions, "How useful were the seven dimensions of the Schools as Learning Organisation model between March 2020 and July 2020" and "How useful were the seven dimensions of the Schools as Learning Organisation model between September 2021 and January 2022?"

Dimension	Between March 2020 and July 2020	Between September 2021 and January 2022
Developing a shared vision centred on the learning of all learners	Very useful	Very useful
Creating and supporting continuous learning opportunities for all staff	Very useful	Very useful
Promoting team learning and collaboration among staff	Very useful	Very useful
Establishing a culture of inquiry, innovation and exploration	Moderately useful	Very useful
Embedding systems for collecting and exchanging knowledge for learning	Moderately useful	Very useful
Learning with and from the external environment and wider learning system	Moderately useful	Very useful
Modelling and growing leadership	Very useful	Very useful

Note. The usefulness of the seven dimensions was measured on a 5-point scale, from not at all useful (1) to extremely useful (5).

We also explored how useful the four transversal themes of the Learning Organisation model were for SEN schools during key periods of the COVID-19 pandemic. Table 16 shows the member of staff ratings of the usefulness of the four transversal themes between March 2020 and July 2020 and September 2021 and January 2022.

The secondary aim of this survey was to evaluate the influence of the COVID-19 pandemic on professional learning in schools. Table 17 shows the member of staff participant's ratings of the influence of the COVID-19 pandemic on professional learning in school (i.e., on the range of professional learning approaches used in schools, schools' professional learning culture and staff engagement with professional learning).

Table 16. Responses to the survey questions, "How useful were the four transversal themes in your school's development as a learning organisation between March 2020 and July 2020?" and "How useful were the four transversal themes in your school's development as a learning organisation, between September 2021 and January 2022?"

Theme	Between March 2020 and July 2020	Between September 2021 and January 2022
Technology	Very useful	Very useful
Time	Very useful	Extremely useful
Trust	Very useful	Very useful
Thinking together	Extremely useful	Extremely useful

Note. The usefulness of the four transversal themes was measured on a 5-point scale, from not at all useful (1) to extremely useful (5).

Table 17. Responses to the survey questions on the influence of the COVID-19 pandemic on professional learning in SEN schools

Survey item	Response option	Response
What influence has the COVID-19 pandemic had on the range of professional learning approaches used in your school during the pandemic?	Strong positive influence Minor positive influence No influence Minor negative influence Strong negative influence	Minor negative influence
What influence has the pandemic had on the school's as Learning Organisations professional learning culture of your school?	Strong positive influence Minor positive influence No influence Minor negative influence Strong negative influence	Strong positive influence
Overall, what influence has the pandemic has on the level of staff engagement with professional learning in your school?	Strong positive influence Minor positive influence No influence Minor negative influence Strong negative influence	Strong positive influence

We also aimed to find out whether staff members were more active in seeking professional learning opportunities, and we wanted to identify the challenges experienced in providing professional learning in SEN schools during the COVID-19 pandemic. Table 18 shows the

member of staff participants reporting whether their school staff members were more active in seeking professional learning opportunities, if there were challenges experienced in providing professional learning in the school and whether their school trialled different professional learning approaches.

Table 18. *Responses to the survey questions on attitudes and challenges of professional learning in SEN schools*

Survey item	Response option	Response
Have staff in your school become more proactive since the start of the COVID-19 pandemic until the present day, in seeking professional learning?	Yes No	Yes
Did your school experience any challenges facilitating professional learning since the start of the COVID-19 pandemic until the present day?	Yes No	No
As part of your school's strategy as a learning organisation, has the school trialled a different approach(es) to professional learning since the start of the COVID-19 pandemic until the present day	Yes No	No

In this survey, we also aimed to determine whether SEN schools evaluate their provision of professional learning. Table 19 shows the member of staff reporting on the evaluation of professional learning in their school.

Table 19. *Response to the survey question, "Professional learning approaches in our school are evaluated (i.e., the school collects and uses evidence in terms of pupil learning outcomes, teacher and pupil feedback, to decide how to improve future practice, evaluate its impact and to inform planning for future professional learning)?"*

Question	Response option	Response
Professional learning approaches in the school are evaluated	Strongly agree Agree Neutral Disagree Strongly disagree	Agree

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