Who, what, how, and why: Scottish education practitioners and online professional learning.

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01. Overview

This research, as a part of a wider project, aims to develop an updated narrative around online Professional Learning (PL) experiences of educational practitioners beyond the Covid-19 pandemic. It focuses specifically on how Scotland's educationalists find out about online learning opportunities, what modes of delivery and pedagogical approaches they have experienced online, and what role they see for online learning in the future. Conducted as a survey shared through existing Open University in Scotland (OUiS) networks and via social media, the findings highlight a series of emerging stories around PL, including:

- Ambiguities about 'what counts' as professional learning and definitions of terminology around approaches
- Use of social media and emerging technologies to connect, share, discuss, and find new ideas and thinking
- Challenges of creating agency for practitioners to plan, source and engage in professional learning that is driven by self-need, interest, or aspiration
- Expectations and experiences of the different spaces for professional learning and how these impact on what is provided, what tools are used, and how practitioners perceive what they are signing up for
- The role of professional learning (online or face to face) as a relational space for practitioner connectedness and wellbeing, as well as professional networking.

While primarily aimed at Scottish educationalists, the research also holds relevance for individuals or organisations producing and delivering online PL experiences including Higher Education Institutions (HEI), Local Authorities (LA), and private and third-sector organisations, some of whom are likely to have expanded their online PL offer considerably, and quickly over the last two years in response to the COVID-19 pandemic.

02. Background

Drivers of professional learning

Since the turn of the millennium, there has been a series of policy drivers within Scottish education that has seen career-long professional learning shift from desirable to essential in the minds of educational practitioners. This shift started with 'The McCrone Agreement: A Teaching Profession for the 21st Century' (Scottish Parliament, 2001) which created an initial professional framework requiring teachers to engage in ongoing learning to support the delivery of high-quality teaching and learning experiences to the children and young people of Scotland. The 2010 Donaldson review of teacher education in Scotland built on this agreement emphasising the importance of teacher PL, with a key recommendation being PL should be of a level that would result in a Master's educated profession (Donaldson, 2010). In 2011 the Public Services Reform Order (Legislation, 2011) required all teachers to be re-accredited on a five-yearly basis leading to the introduction of the Professional Update scheme by the General Teaching Council Scotland (GTCS) in 2014 (GTCS a). Central to the scheme was the obligation of teachers in Scotland to engage in ongoing learning not only to demonstrate their professionalism but also to maintain their registration to teach. The impact of these changes over the last two decades has been that, while for some professional update can be viewed as bureaucratic, many educationalists across Scotland are now routinely engaging in a variety of personally motivated PL activities (Adams and Mann, 2021). Similarly, Holme (2021)

argues that, in pushback against directive and bureaucratic accountability, teachers are turning to "grassroots" activities, often peer-led and in open access spaces such as Twitter, in a drive to reclaim the personal in PL. Furthermore, in 2018 all lecturers in the Colleges sector were required to register with the GTCS as part of their national terms and conditions of employment (GTCS b).

However, the change of lecturers' status within the college sector, while welcomed, has created tensions. The Colleges Development Network's (2022) study into PL across the FE sector in Scotland identified that while lecturers were motivated to engage in PL activities that were specific to both their subject and role within their organisation, confusion regarding what constituted PL was prevalent. The report identified barriers to PL as including the cost and time of events so while staff indicated they preferred face-to-face learning, these more pragmatic considerations acted as a driver for staff to engage in online PL. Collectively the experiences of both teachers and college lecturers suggest there is a strong appetite to engage in PL albeit recognising barriers and difficulties exist.

Professional learning online

Running parallel to these evolving notions of the importance of PL in the teaching profession has been the development of online learning as a mode of delivery for both learners and teachers. In 2004, Glow, the Scottish arm of the National Grid for Learning (NGfLS), was created to connect each of Scotland's 32 local authorities, schools, teachers, and pupils, as well as key stakeholders through a secure intranet. Glow initially received a mixed reception amongst the teaching profession with variable levels of engagement (Lyon, 2014). However, despite initial difficulties, it has continued to be used as a tool for online learning across Scotland.

Before the COVID-19 pandemic, Philipsen *et al.* (2019) argued to capitalise on the increasing push towards online and blended learning[1] (OBL), teachers required skills and knowledge in how to engage in this emerging arena. Their key findings to facilitate this transition can be split across supporting the professional development of teachers in the use of OBL and creating an environment for this change to occur. Similarly, Lay *et al.* (2020) literature review argues there is an increasing body of knowledge to facilitate the design, implementation, and evaluation of quality online PL opportunities for teachers.

This growing trend towards online learning received a catalytic boost in 2020 in response to the COVID-19 pandemic and the subsequent nationwide lockdown and school closures (Hartshorne *et al.* 2020). And yet for educationalists to fully capitalise on technological advancements and deliver high-quality online learning during lockdowns, it required not only PL regarding how to use technology (Ferdig et al. 2020) but also a paradigm shift in how teachers taught and learned themselves in this new medium (Jen *et al.* 2022).

Evidence of the increasing popularity of OBL can be seen in the increasing number of online PL opportunities provided by HEIs, LAs, and national bodies such as Education Scotland (Education Scotland, n.d). This increasing online PL offer, as a necessary response to the pandemic, has nonetheless changed education practitioners' access to and perceptions of what PL can be. Furthermore, the increasing quantity of opportunities does not necessarily equate to increased quality.

Kennedy (2022) suggests the changes to teacher professional development because of the pandemic had created both advantages and disadvantages that with further research could enhance

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[1] Online learning is learning that occurs fully within the online environment; in comparison blended learning has elements of online and face to face teaching and learning.

opportunities for teacher PL. A (2021) response to Philipsen *et al.* agreed with the need to deliver PL opportunities that support teachers to engage in PL for OBL but suggests further work is needed to more fully understand the professional development needs of teachers and how these could be met. The recent CDN (2022) report indicates the role of college staff directly influences their professional development priorities, showing further parallels for education practitioners across sectors.

Collectively this literature review indicates research is required to articulate changing narratives around online PL for education practitioners. This will help understand what educationalists require, how online PL can support those requirements, and consider the pedagogical approaches used to support such learning.

03. Research Objectives

The overarching research comprised two primary objectives. The first was to build on prior research in the field of online PL during and post COVID (Kennedy 2022) and emerging definitional work around informal grassroots PL (Holmes 2021), to begin to explore the post-COVID experiences of Scottish educationalists.

The second objective and longer-term expectation of this research is to articulate narratives around the type of PL practitioners require, how online learning could support these requirements, and what online pedagogical approaches can support practitioner learning.

This report presents the Phase 1 findings from an online survey designed to canvass the views of Scottish educational practitioners about their experiences of online PL. This led to the formulation of the following five aims which were designed to help us understand

➢ *Who* amongst Scottish educational practitioners (Early Learning and Childcare to Colleges sector) is engaging with online professional learning.
➢ *What types* of online professional learning Scottish educational practitioners are engaging with.
➢ Education practitioners' *experiences and perceptions* of their online professional learning including access, constraints, and pedagogical approaches.
➢ Ways in which online professional learning has *met or not the personal professional learning goals* of education practitioners.
➢ *Future developments* in online professional development for education practitioners.

04. How the research was undertaken

Educationalists were asked to complete an online survey that was predominantly quantitative, with qualitative answers providing clarification and depth to quantitative responses. The survey was open to educationalists across Scotland from all sectors: Early Learning and Childcare, Primary, Secondary, and the Colleges sector. Respondents were contacted through social media platforms and existing contacts and networks of The Open University in Scotland Schools Engagement

Group[2]. A snowballing approach was adopted to identify participants for the survey (Cohen *et al*. 2018) where the survey acted as a recruiting tool as respondents were encouraged to share with colleagues. The reach of the survey through these formal and informal practitioner networks will likely have had a significant impact on the sample group represented by the respondents.

A three-step methodology was adopted to analyse the survey data,

1. Descriptive analysis.
2. Confirmatory factor analysis (CFA).
3. Thematic analysis of free text responses.

Descriptive analysis

Descriptive analysis was undertaken to identify key information about who our respondents to the survey were and the frequency with which respondents engaged with the different online PL activities presented in the survey.

Confirmatory factor analysis (CFA)

Survey responses were analysed using Confirmatory Factor Analysis (CFA), preceded by an exploratory search using Principal Components Analysis (Field, 2009) to identify collections of observed survey statements that could be confirmed with CFA. This is an approach which reduces many observed survey responses to the consideration of fewer inferred latent factors. This is because of the underlying principle of CFA, namely multiple observed responses from the survey statements have similar response patterns because they correlate with a latent factor that, while it cannot be directly measured, can be inferred from what people say.

For example, Q17 asks "How advantageous do you feel the following aspects of online PL are?". The responses of "connect with colleagues within Scotland", "connect with colleagues beyond Scotland" etc. can be correlated with the latent factor "interpersonal". Therefore, CFA allowed us to:

➢ *summarize* the data obtained regarding the experiences of online professional learning.
➢ use the latent factors to *re-produce the essential elements* of the responses to all statements.
➢ *explain as much variation* as possible in responses to the statements

CFA can be presented in a graphical model (Figure 1) that shows the nature and strength of the relationship between the indirectly measured latent factors and the directly measured survey statements. In this case, the model shows responses to question 17.

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[2] Distribution included through Young Applicants in Schools Scheme, Teachers Learning to Teach Languages scheme, via Scotland based Associate Lecturers and Staff Tutors who were asked to pass on information about the survey to their contacts. The survey was also sent to OU partner contacts in the Unions, Further and Higher Education Colleges, and to Local Authority Directors. Social media posts were shared on Facebook and Twitter.

The Open University
Scotland

Figure 2. Factor analysis graphical model explanation
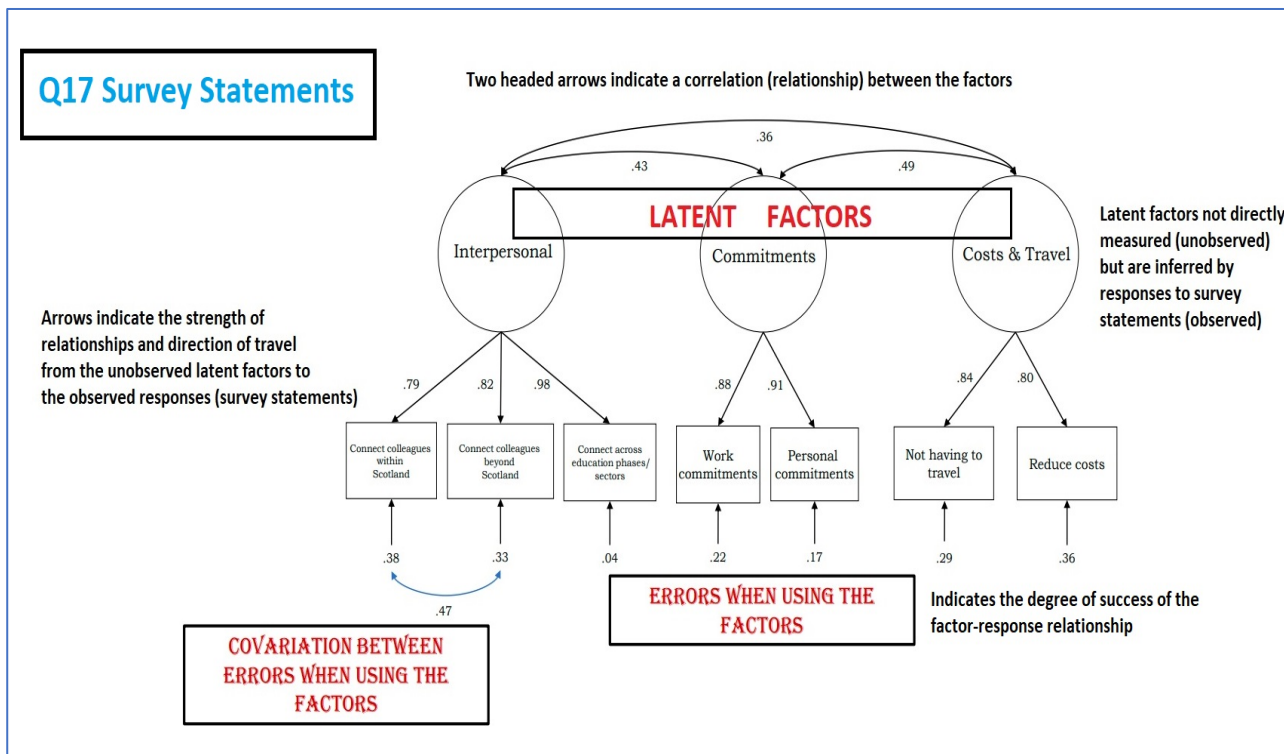
Observed responses (participants responses) are presented in square boxes. Above these observed responses are the latent factors that have emerged from CFA analysis, drawn in round bubbles. Importantly not every observed response is connected to every latent factor. The weight of the single-headed arrows drawn from a latent factor to an observed response indicate the strength of the impact of a latent factor on an observed response (see appendix A).

Doubled-headed arrows between latent factors indicate how pairs of factors correlate, with different correlation values (from high correlation to negligible) indicated (see appendix B).

Thematic analysis of qualitative responses

A reflexive thematic analysis (Braun and Clarke 2019) of free-text responses was also undertaken for questions 18, 20 and 21. This approach reflects the researcher's interpretive analysis of the data, where the data itself intersects with the researcher's active role in knowledge production (Braun and Clarke 2019). This is important given the background of the researchers in Scottish education, PL, and some particular pedagogical foci (arts / language learning / sustainability). It is therefore not intended to be a process which is exactly replicable, but instead through the reflexivity of the process, it offers the opportunity to engage with pattern making, and therefore story telling about what the data set is saying with the researchers own understandings and beliefs about the context.

05. Online survey respondents

There were 183 individual respondents to the survey[3]. The largest group of respondents identified themselves as working within secondary schools (34.7%), followed by those working in primary schools (27.6%) then early learning and childcare (14.1%), higher education (10.6%), further education (5.5%)[4], prison or hospital education and informal or community education (1.5%). 6% of applicants said they worked in another setting which included additional support needs, language, local authority leadership and professional association settings. 92% of respondents said they worked within 1 setting, 7% in 2 and 1% working in more than 2.

Figure 2: Respondents by sector
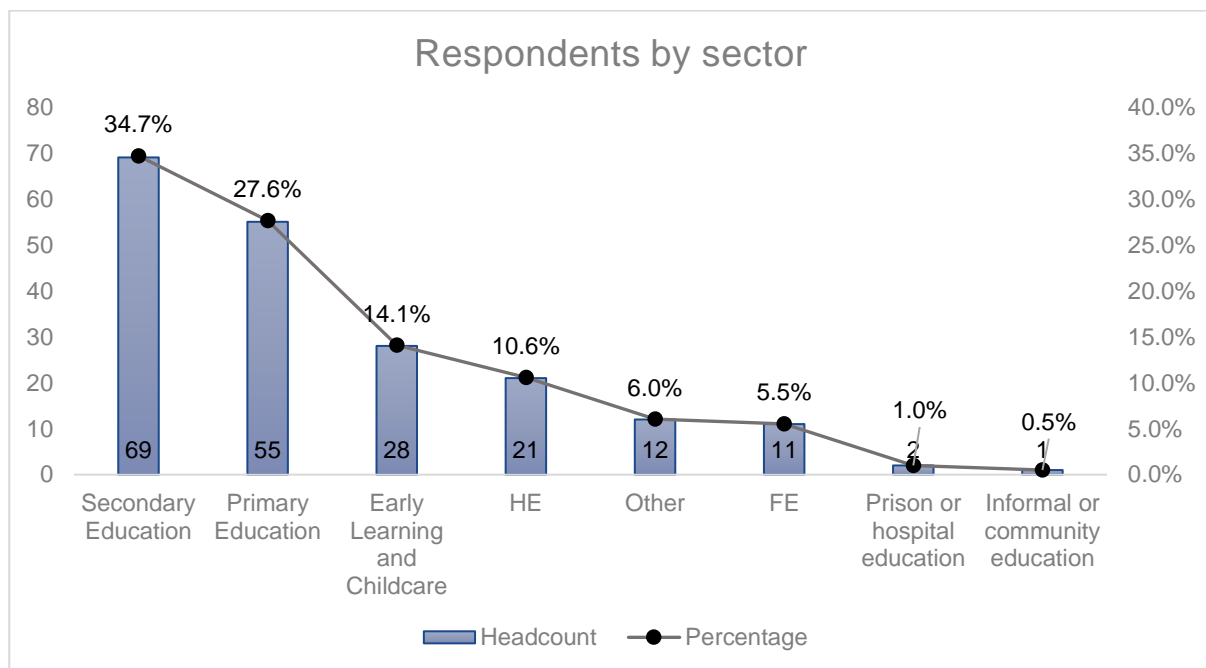
There was a particular bias towards respondents in the Northeast (45%), likely related to how the survey was promoted in that area. The west and east central regions were represented by 21% and 17% respectively showing how large the Northeast bias appeared.

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[3] Some questions offered the option of selecting or offering more than one response, so in some cases the responses to a question might be higher than the 183 respondents

[4] Lecturers who work in colleges of further and higher education are likely to account for FE and HE responses, where they work across these qualification levels.

Figure 3: Respondents by region
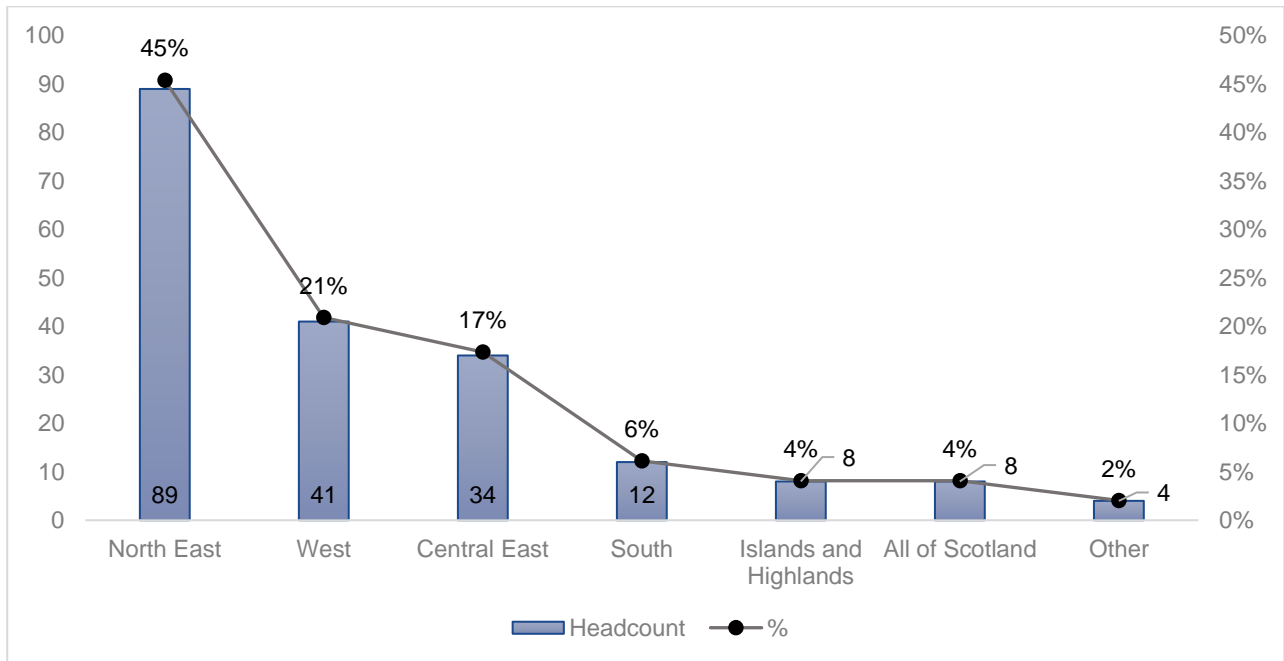
80% of respondents work full time and around 45% of respondents had worked in education for over 21 years. The number of respondents diminished by length of service in the education sector, with only 8 respondents having worked in the sector for 2 years or less. Length of service was represented in the age of respondents also, with 53% of respondents aged 50 or over, where the average age of teachers in Scotland is 40 years old[5].

Figure 4: Respondents by length of service

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[5] https://www.gov.scot/publications/summary-statistics-schools-scotland/pages/4/
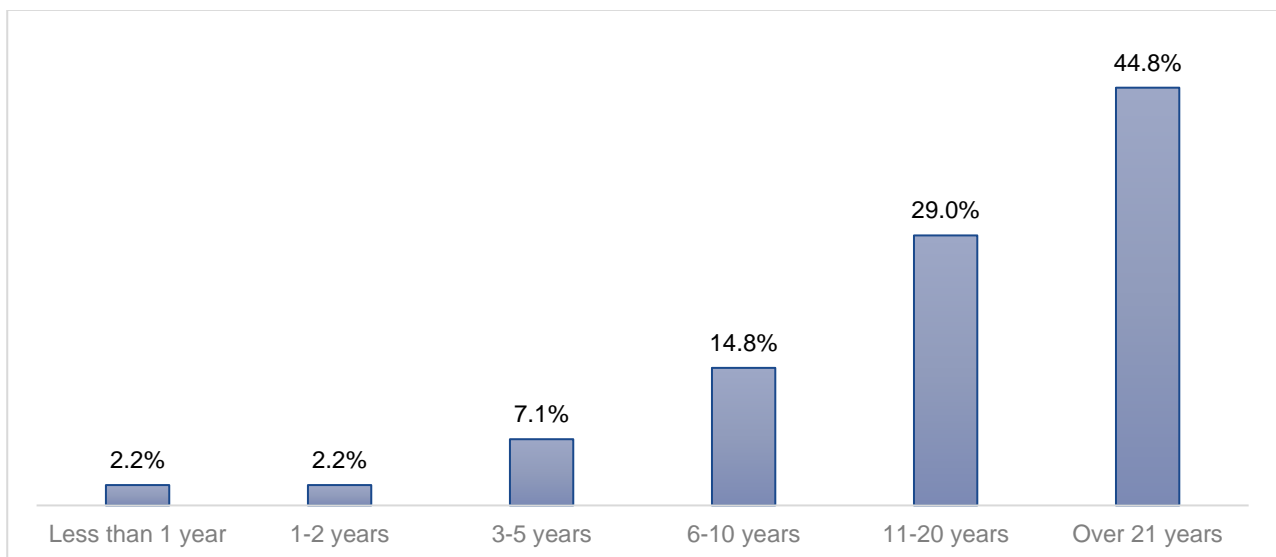
06. Summary of key findings

Nature of professional learning undertaken by this group

- **Who:** 76% of respondents indicated they had undertaken unaccredited online PL courses or workshops, and 63% had engaged in online conferences or seminars in the last 12 months. These findings indicate the ongoing presence and importance of online PL opportunities.
- **What:** Educationalists were most likely to engage in non-credit bearing / unaccredited PL facilitated by Local Authorities or National Education Bodies. Respondents were most likely to have engaged with PL related specifically to pedagogic approaches or learning topics linked with their role (e.g., phase, discipline).
- **PL drivers:** The primary driver for PL was an intrinsic motivation to learn more about their current practice(s), closely followed by a focus on future practice(s). An interesting 3rd factor was the role of required PL (i.e., required by an institution, LA, or others).
- **Funding:** 77% relied on one or two sources of funding, with free opportunities the primary source (66%).
- **Facilitators:** 46% of respondents accessed two or fewer facilitators of PL, with National Education bodies and Local Authorities being the most reported.
- **Synchronous - Asynchronous:** Respondents reported experiencing combinations of formal asynchronous, informal asynchronous, synchronous, or own-paced learning in the last 12 months, with the most experienced being synchronous online PL (75%). 31.1% of responses referred to informal asynchronous learning, which we had defined as peer-led forums, discussion boards, email groups or social media.
- **Synchronous professional learning platforms:** Teams (87%) and Zoom (63%) were the most popular platforms. Approximately one in nine (10.9%) indicated they had no experience with synchronous platforms.
- **Asynchronous professional learning platforms:** Roughly 60% of respondents used more informal social media platforms such as Facebook or Twitter. However, 24% of the respondents did not use any asynchronous platforms.

Experiences and perceptions of online professional learning

- **Advantages of online PL:** Key advantages to engaging in online PL were identified as: interpersonal (the opportunity to connect with others), balancing commitments (personal and work), and reduced cost and travel. Across the survey questions, there was a tension between the pragmatics of online PL and a feeling that online PL might create a disadvantage in connecting with colleagues.
- **Challenges:** Educationalists identified two main challenges when engaging in synchronous PL namely skills, their ability to access and engage with online learning, and equipment, including internet access and computer resources. Responses suggested a need for further work around digital learning pedagogies and skills to support facilitators and teachers make the most of online PL.
- **Synchronous PL approaches:** Useful synchronous approaches included, listening to experienced practitioners, sharing resources, engaging in social interactions, and finally, keeping up to date with current issues.
- **Asynchronous PL approaches:** Making contacts to share ideas and resources was identified as useful within asynchronous PL. Sharing learner resources seemed more important in asynchronous compared with synchronous platforms.

Meeting needs

➢ **Professional development needs:** 75.4% of respondents indicated their professional development needs had been met by the online PL opportunities made available. The two most frequently cited reasons why online PL did not meet professional development needs related to the relevance of topics and the timing of the event.

➢ **Recent and future professional learning foci:** Role and stage of career influenced choices and plans for PL. Despite a return to face-to-face practices in most contexts, there was still a notable interest in blended / online pedagogies, while there was accompanying evidence of digital upskilling taking place. Notable by its lower profile in the responses was the role of practitioner enquiry, raising questions about the support for this as embedded ongoing PL.

➢ **Future developments in professional learning:** Access to PL, via suitable equipment, at an accessible time was most important to respondents. Responses to questions about future online PL created mixed responses, where stage of career and sector differences were evident.

07. Detailed analysis of key findings

A. Nature of professional learning undertaken by this group

Within this area, respondents were asked to reflect on the nature of their PL in the last 12 months.

Types of professional learning (Q16)

Respondents were asked if they had undertaken PL in the last 12 months. 91.3% stated they had engaged in one or more types of PL in the last 12 months with only 16 respondents stating they had not. However, later questions suggest these 16 had engaged in some activities, perhaps showing some ambiguity over 'what counts' as PL. Over 70% of respondents had engaged in 5 or more types of PL activity, showing the breadth of learning modes individuals are drawing on. The incidence of PL by type can be seen below (Figure 5). The numbers of each type of PL are given by the bars and the percentage by the line.

Figure 5: Types of professional learning undertaken in the last 12 months
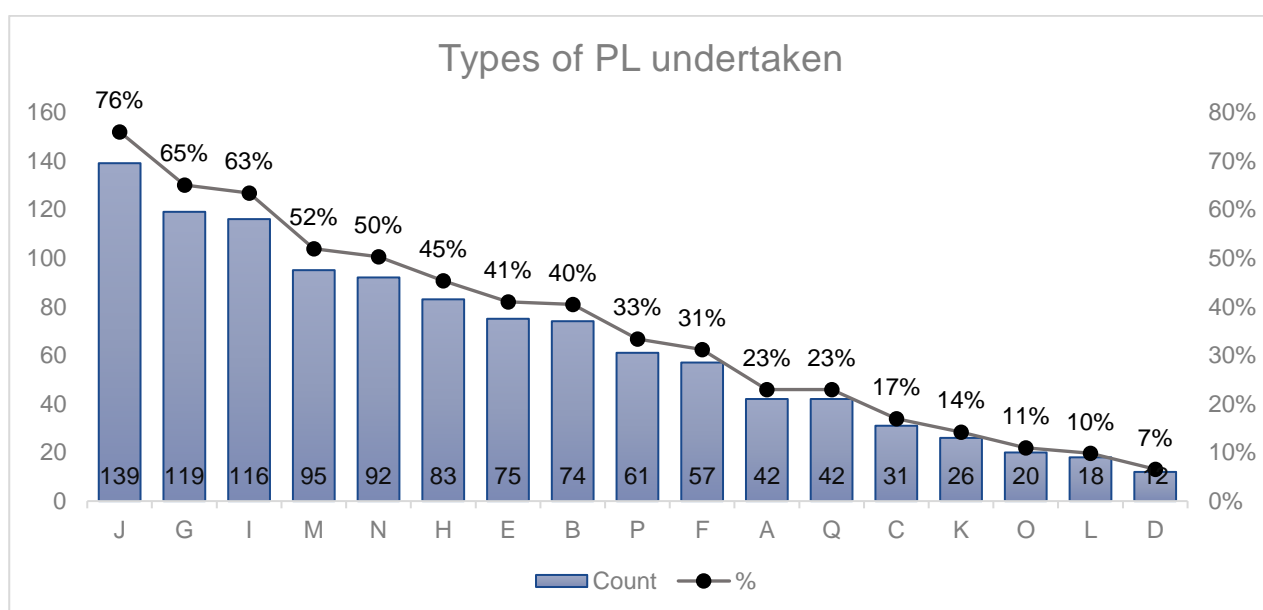
|	
A	Face-to-face conferences or seminars
B	Face-to-face courses/workshops that don't lead to a qualification or credit
C	Formal postgraduate education-related qualification
D	Formal undergraduate education-related qualification
E	Formally organised network of practitioners (e.g.by an organisation)
F	Individual or collaborative practitioner inquiry
G	Informal face-to-face dialogue with colleagues / peers / others about your practices
H	Mentoring and/or peer observation and/or coaching
I	Online conferences or seminars
J	Online courses/workshops that don't lead to a qualification or credit
K	Online observation of real-life practices (e.g., pre-recorded video or remote)
L	Other
M	Reading non peer-reviewed literature (e.g., blog posts, social media threads)
N	Reading peer-reviewed literature (e.g., journals, evidence-based papers, thesis papers)
O	Required course for re/accreditation or additional accreditation
P	Social media communities focused on practices and issues
Q	Visits to other education settings (e.g., for observation purposes, joint planning)

Significantly 76% of respondents to this question indicated they had engaged with online classes/workshops that were neither credit-bearing nor led to accreditation in the last 12 months. The second highest response, informal dialogue about practices (65%), and the third highest, online conferences and seminars (63%), all suggest the pragmatics of immediacy, accessibility and suitability all contribute to decision making about what PL to engage with. This is further supported by responses to Q18 which indicated the two most popular online PL facilitators were Local Authorities and National Education Bodies (e.g., Education Scotland), further supporting the role of pragmatism. The importance of reading (peer reviewed and non-peer reviewed literature) is also prominent in our findings. Future research could explore where literature was sourced from and how the practitioners perceived the impact of their readings. In contrast, formal activities or those requiring time out of settings, such as (re)accreditation, undergraduate or postgraduate study, face-to-face conferences and seminars, visits to other settings, and individual or collaborative enquiry, each attracted less than a quarter of respondents or none.

Reasons for undertaking Professional Learning (Q16b)

86.2% of respondents indicated their main driver for undertaking PL was learning more about their current practice (Figure 6). The second most popular reason was a self-driven interest in future practice (50.9%) again suggesting a strong intrinsic motivator. This might partially explain the greater attachments to the types of PL selected in the previous question. A noticeable finding in this question was the prominence of PL being undertaken because it was required of them (49.7%). This raises

questions not only about the decision-making processes of settings or local authorities as to what is required, but also about the agency of practitioners to plan their own PL pathways when required courses, events or programmes may impact on their time for personal PL. This was reflected in a comment by one participant who stated that they had *"only done pointless, online rubbish insisted upon by my employer… [which weren't] in the least bit impactful"* (Q18c response). While this is only one comment in a small-scale survey, this emerging story does hint at tensions around the story of 'who's Professional Learning is it?'.

Figure 6: Q16b Reasons for undertaking professional learning in the last 12 months
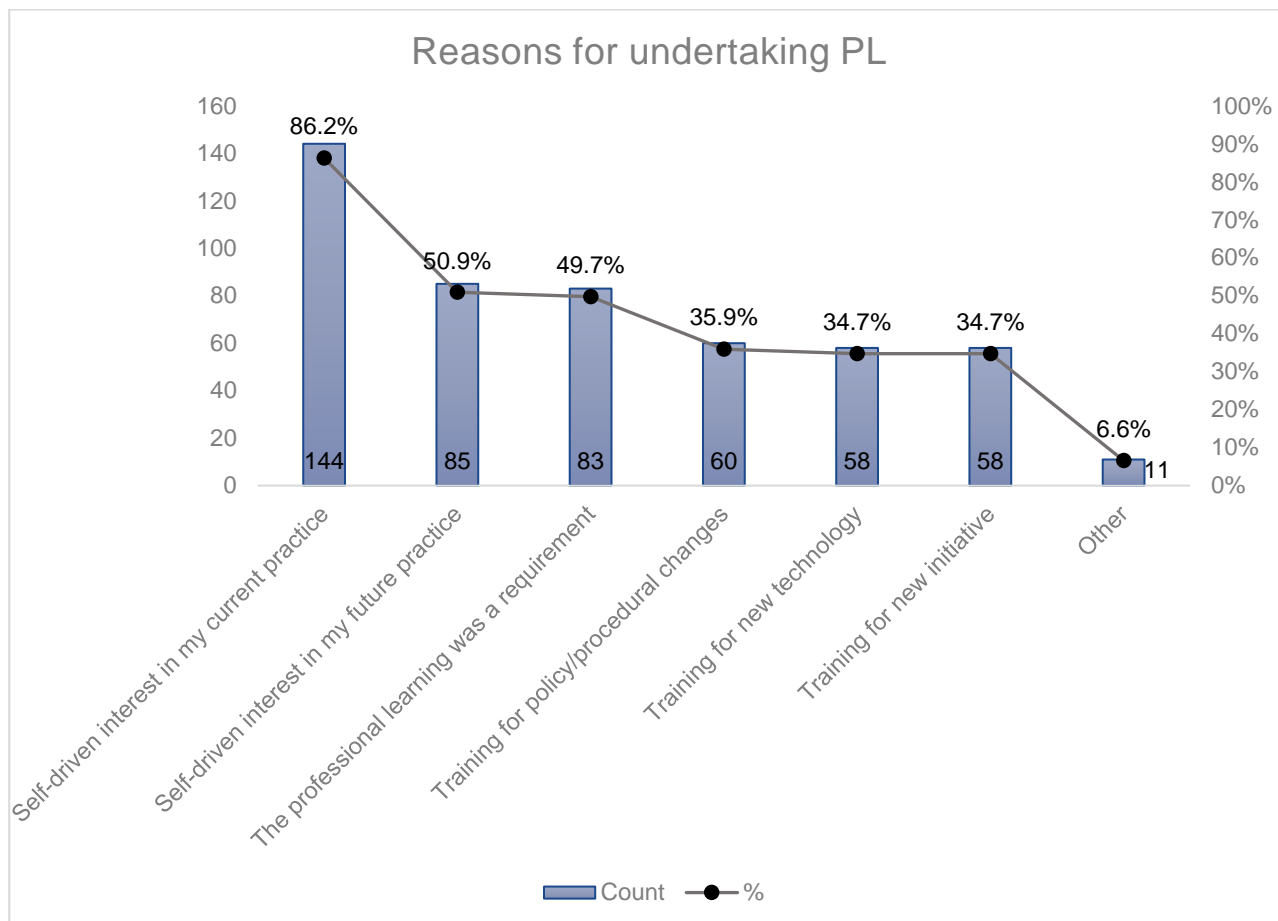
Funding for professional learning opportunities (Q16c)

When asked how they funded PL activities, three-quarters of respondents indicated they relied on either one (35%) or two (42%) funding sources (Appendix F). A relatively small number of respondents had accessed a broader variety of funding sources (3-5). When funding types are considered, 66% chose PL that was free (Figure 7). This may underpin the engagement in less formal, unaccredited types of PL in Q16a. Self-funding (20%) and combinations of funding sources (24%, which includes self-funding components) were reported by 44% of respondents. This suggests educationalists may adopt a pragmatic approach to what they can afford and not necessarily what they would like or want. It also speaks to the complexities of educationalists trying to fund PL from a variety of sources.

Figure 7: Q16c Funding for professional learning in the last 12 months
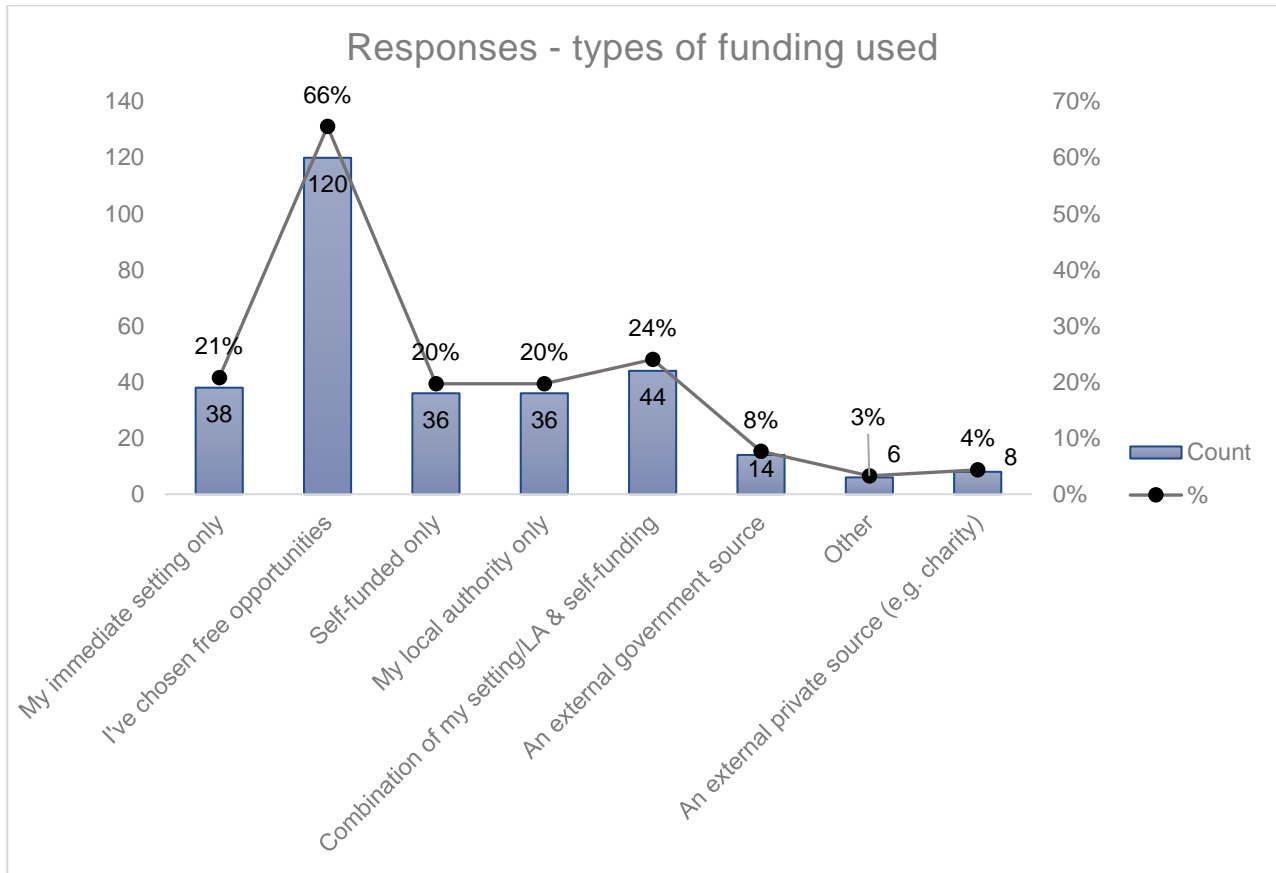
Facilitators of online professional learning (Q18a)

When asked who facilitated their online PL 46% of respondents had accessed two or fewer facilitators of PL (Appendix G). Looking in detail at the nature of the facilitators we can see the most-frequently reported facilitators of professional online learning were National Education Bodies (41%) and Local Authorities (44%) (Figure 8). This may link to the earlier finding that the most frequent funding source for online PL was freely available activities, and that required PL featured as a reason for engaging. The prevalence of Higher Education institutions (HEI) and subject-specific organisations in our findings, may reflect the reach of the survey through OU projects and partnerships which include subject associations. The role of HEIs is interesting in their dual role of facilitating accredited, paid for PL but also their external engagement role in providing accessible, often free opportunities to the sector. The survey didn't differentiate these two roles and therefore is an area for future exploration.

Figure 8: Q18a Facilitators of online professional learning
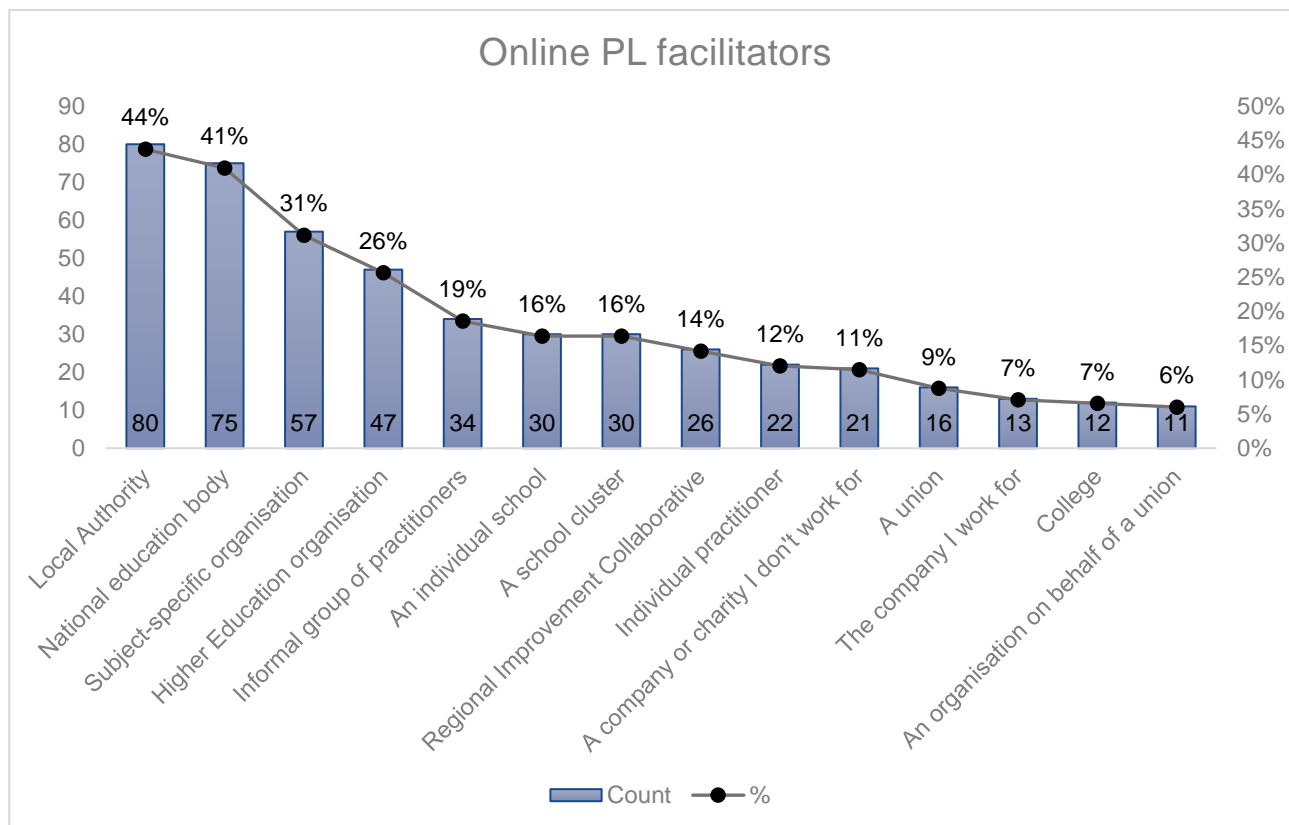
Synchronous v asynchronous (Q18b)

Respondents were asked to report the frequency with which they engaged in synchronous[6], own-pace online learning[7], formal asynchronous[8], and informal asynchronous[9] PL experiences. Respondents most frequently reported they experienced two of the four types of PL they were asked about (Appendix H); synchronous events and own-pace learning (figure 9). Nearly a third of respondents had three or four experiences, possibly indicating blended approaches of PL, where courses or events may be combined with forums, own-pace study materials or other forms of collaboration. Asynchronous types of PL, which we split between formal and informal, had a lower individual response than synchronous or own-pace. However, when combining both types of asynchronous PL they equate to 65%, showing the important presence of this type of opportunity across the education sector.

[6] Meeting with others online at the same time, in a shared online space
[7] Accessing online materials at own pace, working through them to complete a course
[8] Online forums, discussion boards or email networks established by a lead organisation which could be engaged with at own pace
[9] Online forums, discussion boards, email networks or social media communities emerge informally among peers

Figure 9: Q18b Types of online professional learning

Types of online PL undertaken
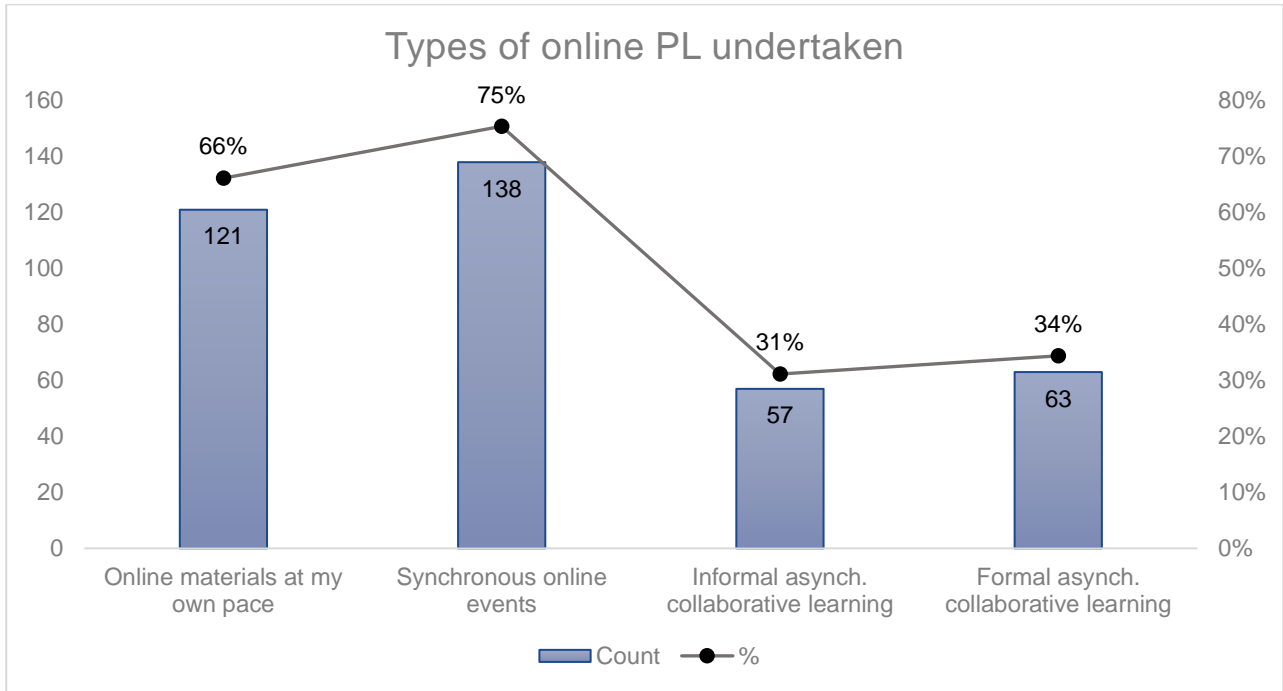
Synchronous learning platforms (Q18e)

Respondents most frequently reported using two platforms (38%) for undertaking PL (Appendix I). 11% indicated they had no experience with synchronous platforms. The most frequently used platform was Teams (87%), followed by Zoom (63%). No other platform was cited by more than 50% of respondents. The next most cited was "Conference", by about one in five respondents (20%) (Figure 10). However, additional comments in "other" suggested Google Meets was a popular option and one that should have been included in the survey, especially given its high usage in delivering learning to children and young people during the pandemic.

Figure 10: Q18e Types of synchronous platforms used.
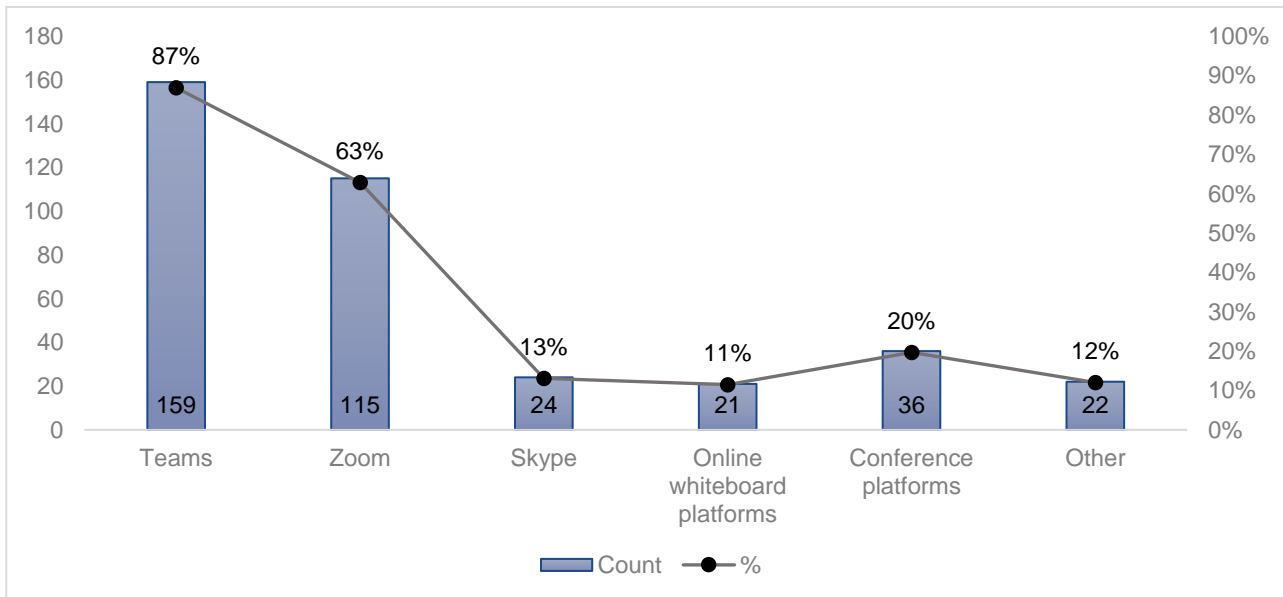
Asynchronous Learning Platforms (Q18h)

Engagement in forums or discussion boards hosted by educational organisations (45%) were the most popular asynchronous platforms (Figure 11). Similarly, 30% reported using forums or discussion boards embedded within a course as in degree study or PL. It is worth noting the important role of social media platforms (Facebook, Twitter) which combined was selected by nearly 60% of respondents. This could be linked to the high level of informal discussion with peers about practices reported in Q16a and 18b, and to the asynchronous types of PL being engaged with (Q18b). One missing element, which was noted by a few participants in response to question 20, was the role of educational podcasts. It is also worth noting that 24% of the respondents reported not using any asynchronous platforms, which is significant for providers using such platforms as a way of reaching practitioners.

Figure 11: Q18h Type of asynchronous platforms used.
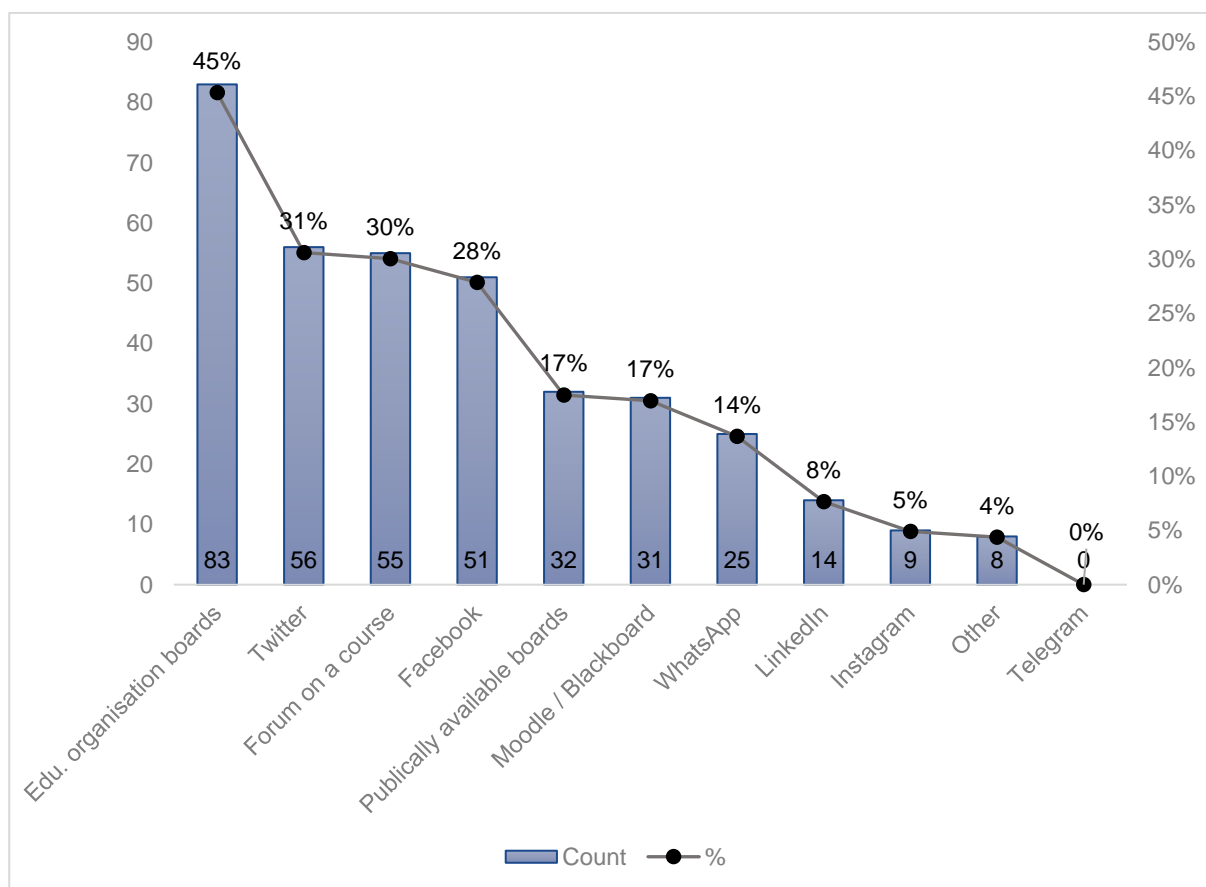
B. Experiences and perceptions of online professional learning

Within this area, respondents were asked to reflect on their experiences and perceptions of online learning.

Where educationalists find out about professional learning opportunities (Q15)

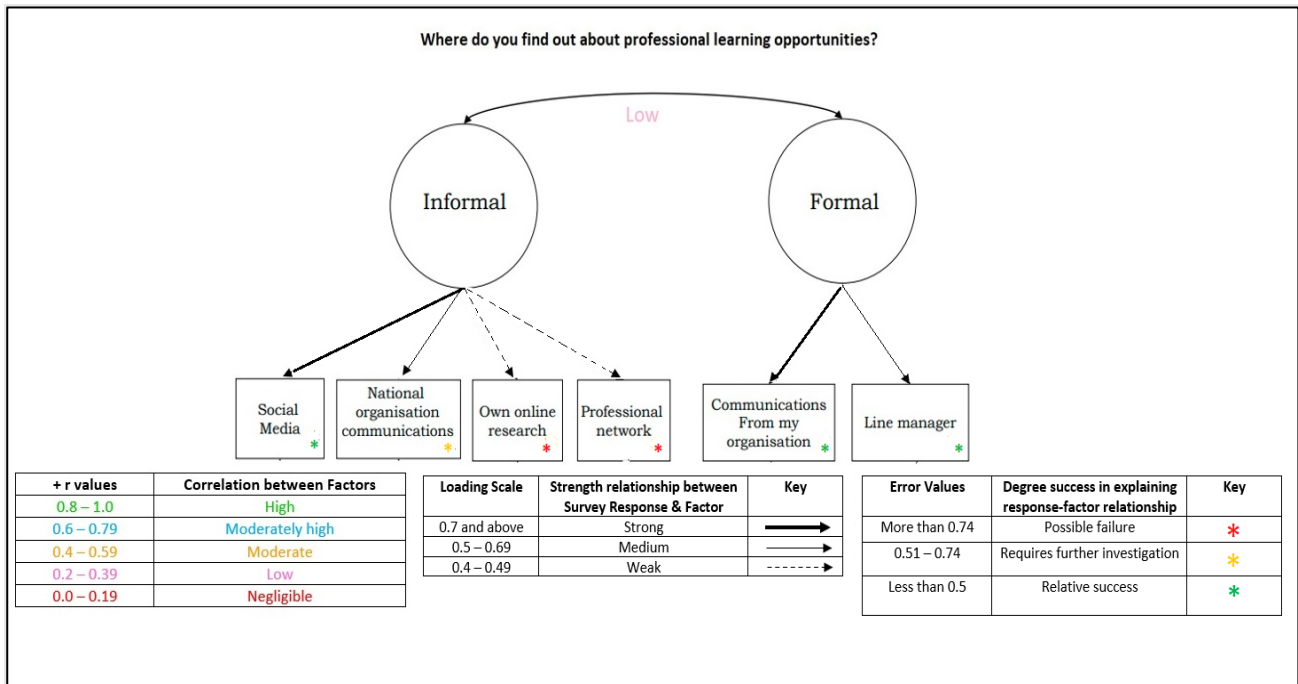Respondents were asked to report how frequently they utilised different sources to find out about PL (see square boxes in figure 12) using a 5-point Likert Scale from Never to Always.

Figure 12: Finding out about professional learning opportunities

Analysis of Q15 indicated educationalists identified PL opportunities from both informal and formal sources[10]. The degree of correlation between these two factors was low, possibly meaning that educationalists may make more use of one factor than the other (for example informal over formal).

Breaking down informal sources of information regarding online PL, there was a moderately high correlation between social media and national organisation communications, meaning these were likely to be used or perceived in conjunction with each other which may reflect the ways in which national organisations are reaching practitioners. Undertaking online research into opportunities or engaging with a professional network had a moderate correlation meaning these sources were less likely to be used. However, the error rate for own online research into opportunities and engaging with a professional network is high indicating there could be some ambiguity around this finding. This could be because educationalists are not using personal online research and networks as much as

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[10] The formal latent factor relates to direct communications, targeted specifically to the person while informal relates to searching, coming across or untargeted communications.

social media and national communications. Or they are using them but not consciously equating them as a tool for PL.

The advantageous aspects of online professional learning (Q17)

Respondents were asked to report how advantageous they found aspects of online PL (see square boxes in Figure 13), using a 5-point Likert Scale from Not at all to Extremely.

Figure 13: Advantages of online professional learning
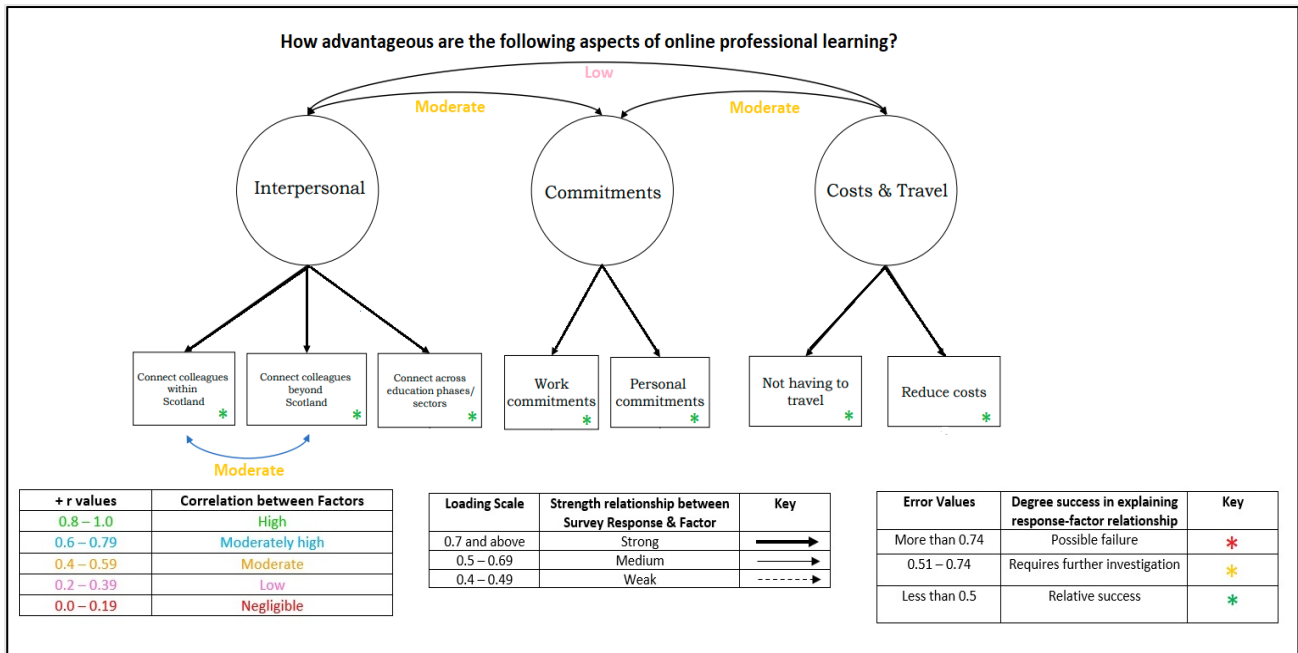
Our analysis identified three key advantages of online PL: interpersonal[11], managing personal and work commitments, and costs and travel factors. There was a moderate correlation between the interpersonal and commitments factors, suggesting that online PL gave them a means to connect within the balance of their other commitments. This is supported by responses to Q20 and 21 (exploring future plans and developments of online PL) which indicated an ongoing role for online PL in providing accessible ways to engage, learn and connect. However, the correlation between interpersonal and costs and travel factors was low, possibly indicating that while respondents are aware of the time and cost savings of online learning, they may also feel a disadvantage in online PL in that it can limit opportunities to connect with colleagues. This tension was reflected in a number of comments in questions 20 and 21 (see box 1).

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[11] In the interpersonal factor a moderate error exists between connecting with colleagues *within* Scotland and connecting with colleagues *beyond* Scotland.

"To be honest, after 2 and half years of online teaching, I am looking forward to in persona staff development events"

"Ideally, I would like there to remain a backhand between the necessity for online learning and the opportunity for face-to-face interactions with colleagues"

"[I'd like} ongoing small groups where you get to know the people"

"I enjoy the online aspects and feel that people are more inclined to speak up in the chat bar rather than in person or on the video"

"[I'd prefer a] return to mixed F2F / online hybrid"

"Continuation of online learning opportunities rather than an automatic move back to in person to reduce travel and make them more time efficient"

"[I'd like] hybrid opportunities to join either in person or online"

Important criteria when choosing online professional learning opportunities (Q18d)

Respondents were asked to report what they found important when choosing online PL (see square boxes in Figure 14) using a 5-point Likert Scale from Not at all to Extremely.

Figure 14: Criteria for choosing online professional learning opportunities
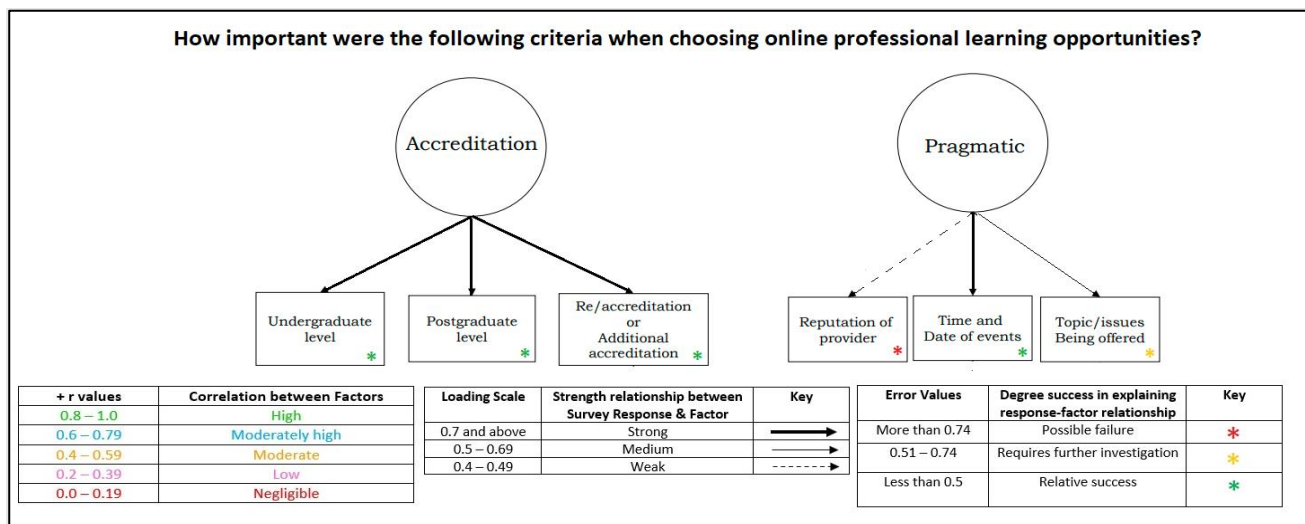
Analysis of Q18d indicated two key criteria when choosing online PL opportunities: Accreditation and pragmatism. However, unlike with previous questions these latent factors did not correlate with each other. One possible interpretation is that the outcomes of engaging in an online PL activity (such as accreditation) and the act of doing the learning are distinct considerations in the minds of practitioners. While accreditation was identified as a latent factor, there was conflicting evidence about its importance and role. Q16a showed 17% of respondents had engaged in postgraduate accredited courses in the last 12 months, with a further 7% with undergraduate courses. However,

when participants were asked about its importance explicitly, roughly 40% reported it was important. This could suggest that while accreditation may be important in the minds of participants, the pragmatic realities of undertaking PL within their working lives is more complex, whereby if accredited, funded, timely PL was available it would be taken, but where in reality this is less of an option (see Q16c). An alternative explanation may be that practitioners equate accreditation with initial qualifications to enter the education profession and therefore report them as important, where in ongoing PL there is more ambiguity about their role.

When drilling down into the pragmatic latent factor we can see that the correlation between the reputation of the provider and the topics offered has a moderate correlation indicating it is indistinct from the time and date of events. However, the high error rate could indicate that educationalists may consider the reputation of the provider, or the choice of topics being offered but at a subconscious level. This interpretation is supported by responses to Q17 which also identified time and cost as an advantage of engaging in online PL, corroborating the idea that pragmatic reasons influence decisions taken by educationalists.

Challenging aspects of participating in synchronous online platforms (Q18f)

Respondents were asked to report challenges faced in using online synchronous platforms (see square boxes in figure 15), using a 5-point Likert Scale from Not at all to Extremely.

Figure 15: Challenges when participating through synchronous platforms
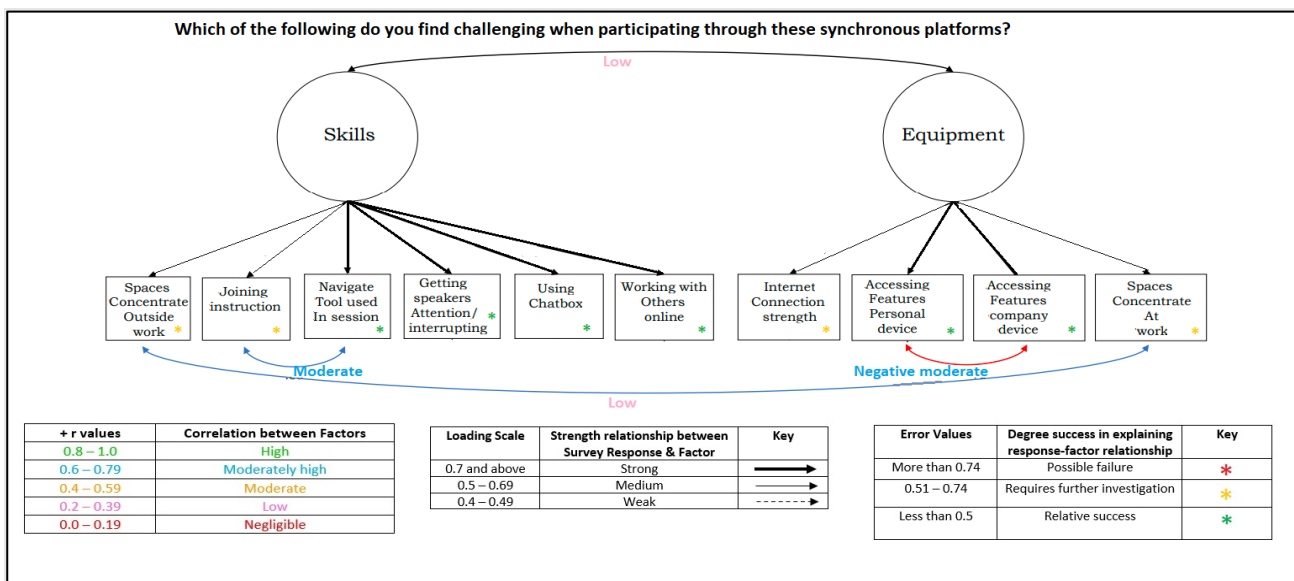
Our analysis indicated two key challenges that educationalists experienced when participating in synchronous platforms, namely skills and equipment. The degree of correlation between these two factors was low, possibly indicating divergence amongst the respondents with some having the skills but not the equipment and others having the equipment but not the skills. Another interpretation could be that skills and equipment are distinct considerations for respondents.

Drilling down into the analysis of the observed responses within the equipment factor, accessing features on both personal and company devices had a high correlation suggesting hardware was an issue. There is a moderate negative error covariation within the equipment factor suggesting respondents can access features on their personal devices but not company devices or vice versa. This finding aligns with our own experiences of facilitating online PL where access to platforms, and certain features of platforms are limited depending on the equipment and firewalls in place (which may be reflected in responses around internet connection strength). This may also link with concerns

around finding the time and space to engage in online PL in the workplace. These aspects of access to equipment and timing of PL were also often mentioned in Q21 when asked about the future of online PL (box 2).

Box 2: Experiences of equipment and timings of professional learning

> *"I would like online professional learning to be flexible for practitioners to access. There is constant change when working in a school and therefore it can be difficult to commit to set hours of CPD. I always appreciate sessions being recorded"*
>
> *"[There needs to be] Consistency of platforms accessible to all - for efficient use and to avoid inaccessibility due to restrictions on work devices"*
>
> *"[We need] Stable learning platforms"*
>
> *"More availability at times outwith work. Better access and more publicity advertising"*

Accessing spaces to concentrate at work and outside of work had a moderate correlation across their respective latent factors (skills and equipment) in addition to high errors, suggesting that there are challenges for practitioners when engaging with synchronous platforms both inside and outside of work.

Synchronous approaches (Q18g)

Respondents were asked what approaches to synchronous PL they found useful (see square boxes in Figure 16), using a 5-point Likert Scale from Not at all to Extremely.

Figure 16: Synchronous approaches you find useful
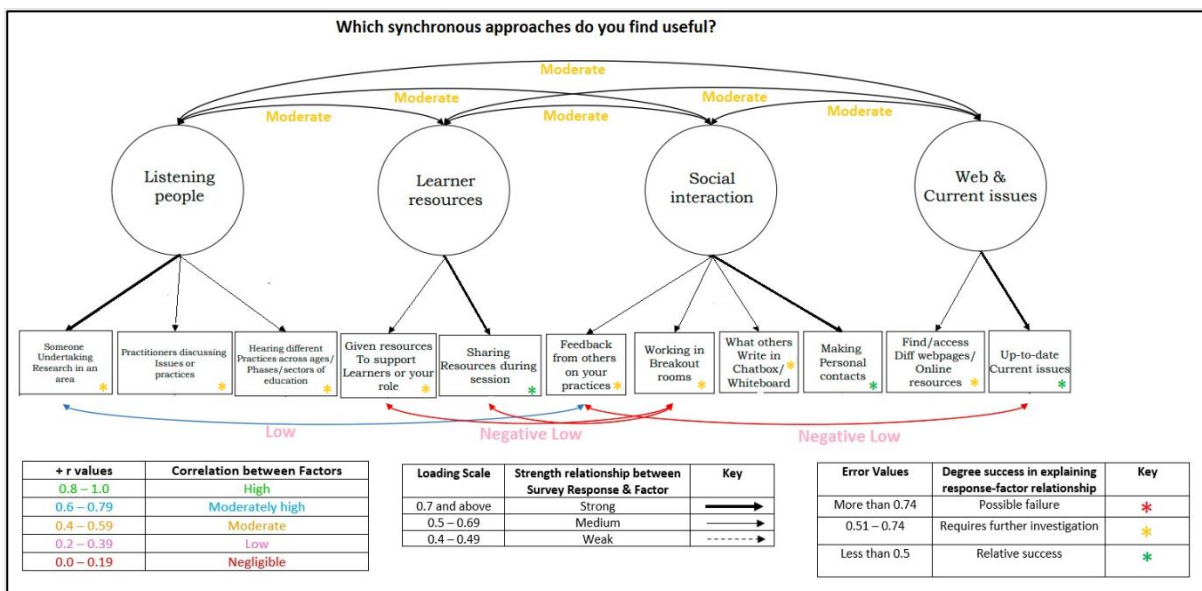
Our analysis indicates four key approaches to PL that educationalists found useful when engaging in synchronous platforms: listening to people (including experts and other practitioners), learner resources (including resources for learners and sharing resources with peers), social interaction (including getting feedback and reactions from others, networking and working in breakout rooms)

and engaging with the web and current issues. The degree of correlation between these four factors was moderate indicating they may all carry equal weight in terms of overall usefulness, which is interesting when considering the pedagogical approaches employed for PL[12].

Of particular note is the strength of relationship in response to listening to someone undertaking research in an area, suggesting hearing directly from those working with new ideas and concepts is of interest to practitioners, and may well relate to the prominence of responses around keeping up-to-date. It is interesting that practitioners have given more prominence to sharing resources during sessions. It is unclear what the specific pedagogical approach is here, whether it is around critiquing and discussing the pragmatics of resources provided by the facilitators or whether it is sharing resources they have used with others and hearing about resources being used by others. The making of personal contacts as a useful approach, reflects the emerging story about PL as a site for connectedness. Given the tensions expressed in Q17 around whether online can sustain this sort of relational space in the way that face-to-face can, this is an area for further investigation and consideration for PL facilitators.

Asynchronous approaches (Q19i)

Respondents were asked to report how useful they found the following criteria (detailed in the square boxes in Figure 17) when using online asynchronous platforms for PL opportunities, using a 5-point Likert Scale from Not at all to Extremely.

Figure 17: Asynchronous approaches you find useful

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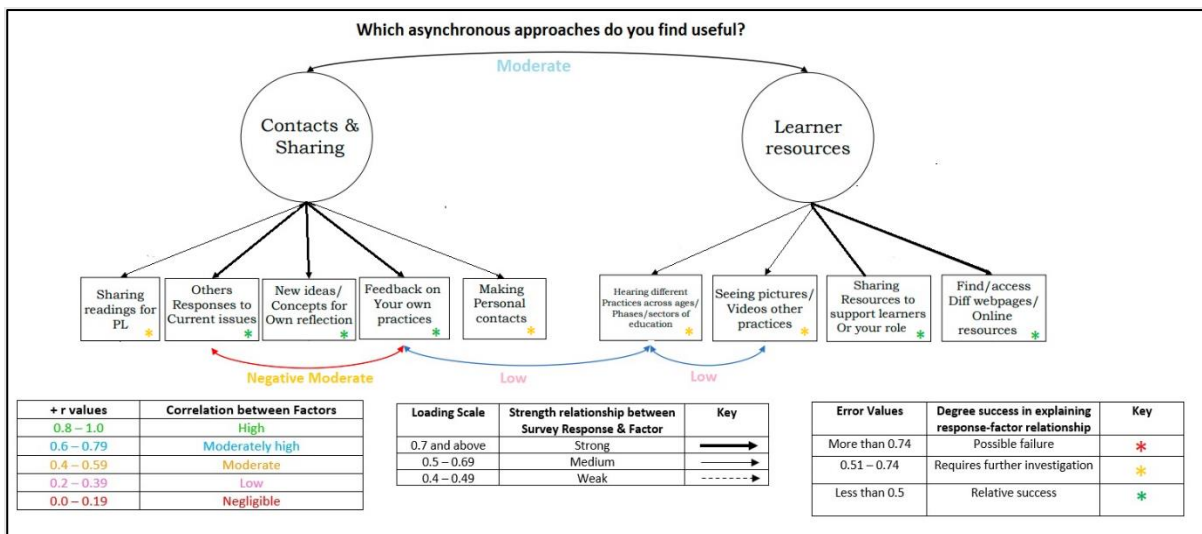
[12] Analysis suggests that there are several issues within Q18g that require further exploration. High levels of error can be seen, possibly suggesting other factors might be at play that were not identified within this survey.

Our analysis indicated two key approaches that practitioners found useful when engaging in asynchronous learning: contacts and sharing, and learner resources. The moderate degree of correlation suggests that respondents find comparable value in both these approaches. The opportunity to gain access to resources to support learning appears to be higher in asynchronous approaches as opposed to synchronous ones. This could be down to the technical aspects of how the resources are shared in the two platforms or reflect how educationalists have constructed identities and expected activities for each platform.

Drawing similarities to the question concerning useful synchronous approaches, high levels of respondent errors and some error correlations (including one negative) can be seen. There is a high correlation with the statement "others' responses to current issues", suggesting educationalists value the views of others concerning current debates. This was reflected in Q21 about future developments for online PL (box 3).

Box 3: Reflections on hearing different views on current issues

"[more] opportunities for collaboration/discussion/debate with other system leaders and the chance to engage with leading international research around the reform agenda"

"Some speakers from abroad - we could be given the times of the online course being delivered and could opt in to join in, even if it was before school!!"

"More contact with Universities from around the world"

However, there is a negative error correlation between "others' responses to current issues" and "feedback on your own practices" possibly suggesting that when responses move from the general to the specifics of what they as practitioners are personally doing this is seen as less useful. This could be indicative that practitioners find it difficult to receive feedback in a situation that by its asynchronous nature generally involves faceless written commentary without the softening interpersonal effects that as we saw in Q17 are seen as advantageous. Investigating this more fully, particularly with age demographics may be useful to identify changing expectations or preferences of the education workforce.

There was an error correlation between "feedback on your own practices" and "Hearing different practices across ages/ phases/sectors of education". This could suggest that the value attached to the feedback is dependent on to what extent the recipient feels that the giver is aware of their context and setting. This mirrors the error correlation seen between "Hearing different practices across ages/ phases/sectors of education" and "seeing videos of other practices". Exploring the value attributed to cross-sector sharing of practice and feedback would be an area for further study.

C. Meeting needs

Respondents were also asked to indicate if their online PL experiences had met their professional development needs. 75.4% indicated that their professional development needs had been met by the online PL opportunities made available. 24.6% stated their needs had not been met. Some respondents stated multiple reasons why their professional development needs were not met (Appendix K).

The two most frequently cited reasons, why online PL did not meet professional development needs, were "The topics/issues offered through online opportunities weren't relevant to aspects of my role which I need to develop" (that is "Online irrelevant") or "The times and days of events have prevented

me from attending" (that is, "Timing barriers") (Figure 18). Again, this indicates pragmatism as a driving influencing for engaging in online PL.

Figure 18: Q19a Reasons why online Professional Learning doesn't meet needs
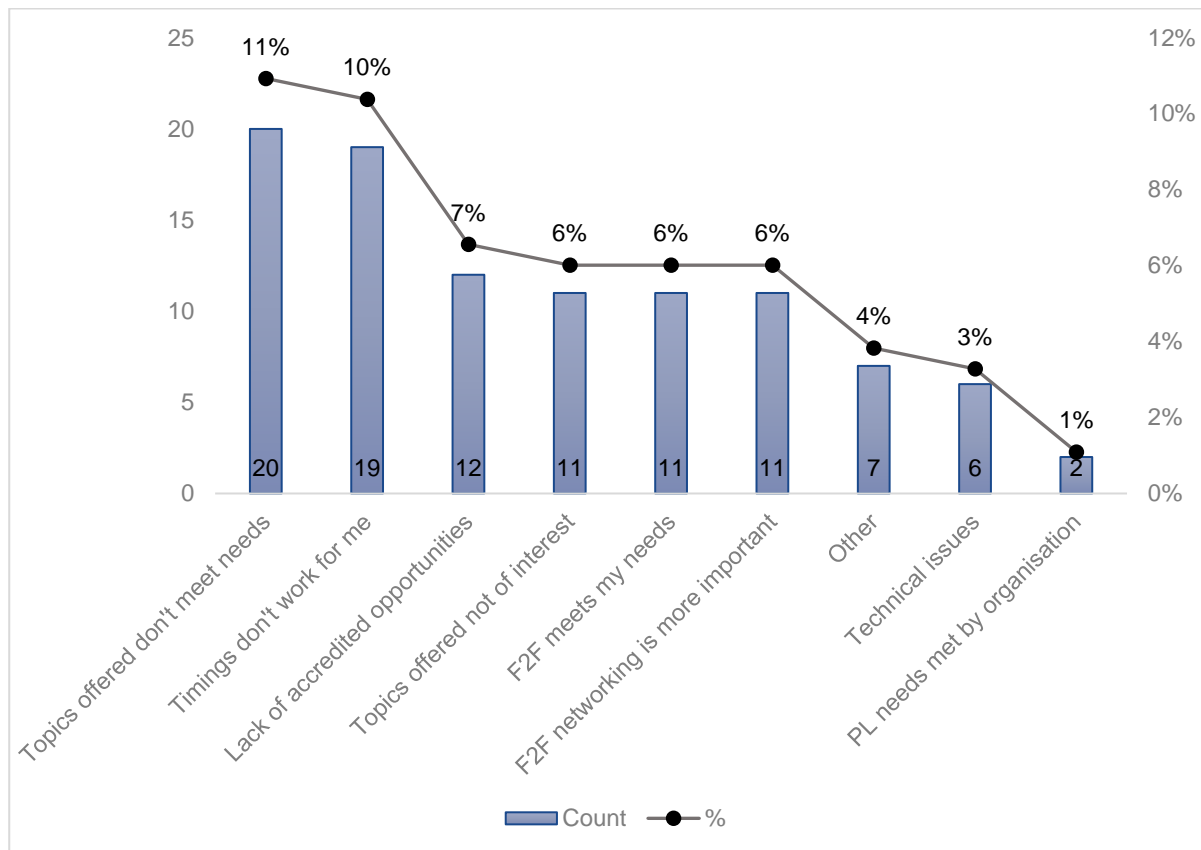
Foci of professional learning over the last 12 months (Q18c)[13]

Across all education sectors (ELC, Primary, Secondary, FE and Other), pedagogy[14] focused PL was most commonly reported (34.3%), with EDI[15] the second most reported category (21.3%). These two categories formed over 85% of reported PL among early career practitioners (0-5 years), while there was more variation in other age groups. Within these categories there were some interesting topics of note. As might be expected, the largest response within the pedagogy category, were opportunities linked directly with a topic or discipline (13.4%), with specific pedagogical approaches coming second (9.2%). Within pedagogical approaches there was a mixture of responses across sectors relating to mobile, hybrid, online, blended, and digital pedagogies. It is difficult to state without

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[13] Out of the 183 respondents to the survey, 26 respondents did not respond to this question. Among the other respondents, many mentioned more than three professional learning events or activities so the total responses were significantly higher than the number of respondents.

[14] Pedagogy included mentions of qualification or assessment specific learning, topic or discipline specific learning, specific pedagogical approaches, and curriculum developments

[15] EDI included mentions of specific groups needing support (e.g., autism), mental health and wellbeing, child support and nurture.

further investigation, but this suggests it would be worthwhile exploring the ongoing interest in the role these pedagogies can play beyond the pandemic. Alongside this was a number of mentions of practical, experiential, play and outdoor learning pedagogies which weren't limited to Early Learning and Childcare practitioners but were found up to Secondary level. Secondly, within EDI, intersections between EDI issues and subjects were common (e.g., Anxiety in Maths, Gender in Sciences). There was also evidence of engagement with PL around anti-racism, decolonisation and asylum and refugee education, all within EDI frames of reference.

There was evidence of the direct impact of some policy changes impacting on the nature of PL being undertaken. This was most evident in Early Learning and Childcare where 19.6% of our respondents had engaged in policy specific learning over the last 12 months. It was noticeable that PL around specific policies was heavily weighted to those with 11 years + experiences in the profession, where it is possible to suggest those in leadership positions are more likely to engage directly with details of policy on behalf of their institutions or settings. It was difficult to assess whether respondents reported 'Into Headship' as a formal qualification or reported it as leadership learning, which may have disguised some accredited learning in our results. As might be expected, leadership learning[16] was reported more often from year 6 of a career onwards, although this is again an area for further exploration given that there is an emphasis in the Scottish PL Framework (amongst others) around leading of own learning, and distributed leadership across all career phases.

The percentage of primary and secondary teachers reporting undertaking PL in relation to specific professional skills[17] was over 35% in each sector, with a noticeable trend towards digital upskilling both in using certain software or Apps, but also in producing digital assets for teaching (e.g., podcasting, YouTube videos).

There were a vast array of very specific theories or interventions which respondents had engaged with over the last 12 months. Of note was the appearance of cognitive theory, metacognition, cognitive load, growth mindset and retrieval practices.

It was somewhat surprising that more respondents didn't mention forms of participant-led PL[18], given the prominence of these modes of learning within the Scottish PL Framework and Professional standards. Where there were mentions, it was by participants who had more than 11 years' experience in the sector, although the numbers are very low and therefore it is difficult to generalise about this career phase relationship. There is more to explore here about the extent to which these modes of learning were part of other provision (e.g., a specific discipline pedagogy focused course that encouraged an enquiry model) and therefore whether practitioners reported these approaches explicitly or not. It is also worth considering the extent to which practitioners who aren't engaged in formal qualifications or nationally led programmes (such as those run by Education Scotland) have

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[16] Leadership included mentoring, coaching, managing groups, leading collaborating, and mentions of middle leadership programmes.

[17] Professional skills included mentions of legislation training including GDPR, grievance investigation, duty of candour (these made up 1/3rd of these responses) and then 2/3rd were mentions of specific digital skills (e.g., Seesaw, Teams, Videoing skills, Podcasting, Microsoft training). It was difficult to ascertain whether some of these learning opportunities were upskilling within a pedagogical context, and therefore there may be some cross-over with digital pedagogies but they were included in the skills category when they mentioned a specific platform, device, or piece of software without further contextualisation.

[18] Participant-led was defined as research, scholarship or enquiry into practices, issues, or themes, including reflective practices.

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the support to develop their own reflective practices, research and enquiries and explicitly recognise this as PL.

Future Professional Learning (Q20)[19]

When thinking about short term future needs or interests, the distribution of responses against the categories was very similar by sector and career phase to question 18c. Slightly more deviation was evident in a greater response rate to EDI PL across all sectors with the exception of FE. This could be due to the way student support is offered in FE colleges, as noted in the CDN report (2022). Within this category, child support and nurture were particularly strongly reported, with mentions of social skills, early interventions, behaviour support, trauma support and nurture all featuring more strongly that in Q18c.

There was also a slightly elevated response to the leadership category across all sectors. Professional skills were less likely to be reported (with the exception of FE), suggesting perhaps that this category captures learning that is more likely to be responsive and emergent to need / opportunity and therefore less easy to plan in advance.

As would be expected, there were a number of mentions of the planned changes in Scottish education and the arising need for PL to support changes to policy, practices, and qualifications, which may account for the slightly greater policy specific and pedagogy (assessments and qualifications) categories compared to question 18c.

Future developments in Online Professional Learning (Q21)[20]

When asked about developments education professionals would like to see (Q21) the highest percentage of responses was linked to aspects related to accessing PL (41.7%), followed by aspects related to teaching and learning (26.7%), opportunities for interaction or peer discussions (14.2%), and finally aspects related to cost or funding of PL (4.2%) or accreditation/recognition of PL (3.3%). Within access to PL, the responses were categorised in 3 areas: developments around access to IT software or equipment (15.8%), followed by access liked to the timing of PL opportunities (13.8%) and finally 12.1% of responses related to developments to facilitate a better awareness and choice of PL opportunities. Among responses related to teaching and learning in the developments they would like to see in relation to PL, 10% of responses were PL linked to practice, 6.7% to EDI, 5.4% to IT training to support teaching and 4.6% linked to specific subjects.

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[19] Out of the 183 respondents to the survey, 21 respondents (7.6%) did not respond to this question, either by leaving it blank or stating they didn't know. As with question 18c, many respondents mentioned more than one aspect of practice, so the total responses were higher than the number of respondents.

[20] Out of the 183 respondents to the survey, 24 respondents (13.1%) did not identify any developments they would like to see. Among the other respondents, many mentioned a number of developments so the total responses were higher than the number of respondents.

Figure 19: Future PL developments interest by sector (green = highest, peach = lowest)

Development category	ELC	Prim	Sec	FE	HE	Other
no answer	12.1%	10.7%	10.7%	23.1%	7.4%	0.0%
Access IT	18.2%	20.0%	17.9%	7.7%	25.9%	4.8%
Access Timing	6.1%	20.0%	14.3%	7.7%	18.5%	0.0%
Access Awareness/choice	18.2%	8.0%	13.1%	7.7%	7.4%	14.3%
T&L Linked to practice	15.2%	8.0%	10.7%	7.7%	3.7%	9.5%
T&L subject	6.1%	6.7%	2.4%	0.0%	0.0%	9.5%
T&L IT training	9.1%	1.3%	6.0%	15.4%	3.7%	4.8%
T&L EDI	0.0%	6.7%	4.8%	0.0%	3.7%	28.6%
Interaction/communication	9.1%	12.0%	11.9%	23.1%	22.2%	14.3%
Accreditation/recognition	0.0%	4.0%	3.6%	7.7%	3.7%	9.5%
Cost/Funding	6.1%	2.7%	4.8%	0.0%	3.7%	4.8%

When looking at the responses by sectors, better access to IT was the development most reported (highlighted in green) from all sectors except among FE practitioners who felt opportunities for interaction and communication with peers was the most important aspect. Aspects related to EDI were not high in the minds of respondents when thinking on future PL, however a higher percentage of those who identified themselves in the other category (28.6%) did identify this as an important development they would like to see. This could be because those in that category included staff in additional support roles, professional bodies, community, prison, or hospital education.

Figure 20: Future PL development interest by years of service (green = highest, peach = lowest)

Development category	< 1 year	1-2 years	3-5 years	6-10 years	11-20 years	over 21 years
no answer	0.0%	0.0%	0.0%	14.7%	11.9%	10.7%
Access IT	0.0%	0.0%	12.5%	11.8%	20.9%	16.5%
Access Timing	0.0%	20.0%	25.0%	17.6%	13.4%	9.7%
Access Awareness/choice	0.0%	40.0%	12.5%	8.8%	11.9%	13.6%
T&L Linked to practice	33.3%	0.0%	25.0%	8.8%	4.5%	10.7%
T&L subject	0.0%	0.0%	0.0%	2.9%	7.5%	3.9%
T&L IT training	0.0%	0.0%	12.5%	2.9%	7.5%	4.9%
T&L EDI	33.3%	20.0%	0.0%	2.9%	6.0%	8.7%
Interaction/communication	33.3%	0.0%	12.5%	17.6%	7.5%	14.6%
Accreditation/recognition	0.0%	20.0%	0.0%	0.0%	4.5%	3.9%
Cost/Funding	0.0%	0.0%	0.0%	11.8%	4.5%	2.9%

When looking at the developments respondents wanted to see based on their years of service in the education sector, it was interesting to see that responses from early career staff (0 to 5 years) included fewer categories of developments they would like to see than those with more years of service. At the same time all respondents with 0 to 5 years' service were able to identify developments they wanted to see (0% 'no answers'). As the green cells indicate, there was no consistency on the PL categories most selected by practitioners based on their years of service. It

is interesting to note that PL that provided opportunities for interaction or communication with peers was selected by most respondents among those in their first year and those with 6 to 10 years' service and those with over 21 years' service. However, for education staff with more than 11 years' service, suitable access to IT was the most important development they were looking for in future PL opportunities. Aspects related to cost or funding of PL opportunities were not identified as something practitioners across their career were looking for in future PL developments.

08. Summary of emerging stories

While the individual details of this report create an interesting account of online professional learning within the education sector in Scotland, there are some emerging stories from our findings which either build on previous research or begin to share a different narrative. The backdrop for all these stories is the continued presence and importance of online professional learning in Scottish education.

Use of social media and emerging technologies to connect, share, discuss, and find new ideas and thinking

The role of social media is evident as an important contribution to professional learning throughout our survey as
   ➢ A source of information about professional learning
   ➢ As professional learning in its own right (connecting, sharing, reading)

Other digital opportunities (e.g., podcasts) have begun to emerge through our findings but more exploration of these are needed.

However, there is a counter story about equity of access for those practitioners who may not engage with digital communities of practice, and where, despite the power of digital media to promote PL opportunities, the main sources of information about PL are still line managers and national organisations. In a sector where there is discussion about where external generative ideas are found in order to create challenge (OECD 2015), there is a question about the extent to which social media and other digital sources can be recognised and valued as part of this process.

Ambiguities about 'what counts' as professional learning and definitions of terminology around approaches / modes.

This survey suggests that Scottish educational practitioners are engaging with a complex mix of professional learning modes, including synchronous, asynchronous, informal, and formal. While this is evident throughout, there are places where there is ambiguity around 'what counts', where more informal, serendipitous, and practitioner-led learning may not be given the same value as formal, facilitated events. While there is potential in the increasingly digitally connected workforce, understanding how this connectivity can itself support a broader definition and range of PL activities (including personal research, digital dialogue with peers, sharing resources and reading), is under-researched.

Challenges of creating agency for practitioners to plan, source and undertake professional learning driven by self-need, interest, or aspiration

It was clear that pragmatic considerations (e.g., funding, timing, topic) had an influence on PL decision making, and sometimes pragmatics overruled other drivers (such as accreditation, reputation of provider or topic). Key drivers for undertaking PL were reported as being around personal interest either for current or future practice. However, we suggest that there are 'hidden' drivers underpinning these decisions

➢ the role of required PL by an institution or LA, and the pragmatic considerations of those funding PL in promoting specific modes / topics.
➢ the role of practitioners' professional identities (career stage / role / discipline) creating expectations or particular needs.

This raises the question as to how far practitioners can act with agency to plan, source, and undertake PL that can contribute to a varied and rich range of learning. There is an implied danger here that there are 'well-trodden' PL routes at different stages / roles. This can be an advantage in ensuring succession planning (e.g., for leadership) or ensuring practices are kept up-to-date (e.g., around discipline pedagogies, assessments, or policies). However, there is a danger that this recycles homogenous routes through a practitioner career, combining expected PL linked to career trajectories and roles, with some responsive PL to policies, approaches, new resources or technologies. How far practitioners have access, funding, and support to drive their own PL journeys requires further investigation.

Expectations and experiences of the different types of spaces for professional learning and how these impact on what is provided / what tools are used / how practitioners perceive what they are signing up for

Responses around the most useful approaches to synchronous and asynchronous online PL spaces, led to an interesting divergence, where respondents clearly assigned different spaces for different pedagogical purposes. The findings suggest that synchronous spaces were considered as a space for 'connecting with people and ideas' while asynchronous spaces are for 'finding and gathering'. This distinction is important for providers working with these spaces in terms of practitioner expectations and the facilitation of online PL experiences, but also in thinking about how blended online PL can be utilised to support the full range of these activities.

The role of professional learning (online or face to face) as a relational space for practitioner connectedness and wellbeing, as well as professional networking.

The personal connectivity (through feelings of belonging and community) of PL spaces was evident throughout our findings, creating an emerging story as to the role of PL spaces as an important part of practitioner wellbeing. This is an aspect to be explored further, particularly for those practitioners who by their geography or roles and context are more isolated from colleagues who can share in issues or ideas that are important to them. Some respondents felt strongly that online PL was a 'less good' option for building these relationships, with a narrative of the 'trade-offs' of convenience and pragmatic considerations over the quality of interactions.

09. Recommendations

➢ Consider the importance of line managers and national organisations in shaping what PL is engaged with. How do we ensure suggested or required PL contributes to a self-sustaining sector where new and generative ideas are engaged with?

➢ Recent calls for more clarity of PL pathways may be an expression of practitioners wanting to create agency to make personal PL decisions. However, our report also highlights a potential danger, of inadvertently promoting, valuing and potentially homogenising routes further.

➢ Explore the role / presence / support for practitioner enquiry, research, scholarship within Scottish Education, given its importance within the 2020 teacher standards.

➢ Continue to develop and extend sector definitions of professional learning, to give a clear steer of 'what counts', where informal, self-led, and serendipitous PL *may* have a greater impact than facilitated formal PL for some individuals.

➢ Explore further the pragmatic drivers and barriers to engaging in online PL, particularly around digital access, and digital upskilling of practitioners.

➢ Provide more of a focus on the relational aspects of online PL spaces. More work is needed to understand how this can be done, as for example our evidence suggests breakout rooms aren't necessarily useful.

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