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Researching Professional Development Leaders

Investigating support for 'remote' professional development leaders



The authors of this report are Emily Perry, Joelle Halliday, Josephine Booth, Mark Boylan and Claire Wolstenholme, of Sheffield Institute of Education, Sheffield Hallam University.

Sheffield Institute of Education is one of the UK's largest providers of initial teacher education. We aim to improve outcomes for children, young people and enhance the experience of educational professionals, with a substantial portfolio of research and development centred on evaluating, understanding and delivering practitioner professional learning.

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Foreword

Our networks of professional development leaders are critical to the success of our organisations in supporting schools and teachers. They work outside the confines of direct employment but are important ambassadors for our work, reputation and values. They are representatives of our organisation and help deliver the core of our missions.

We want to ensure they are supported, motivated and encouraged to best use their skills to help us deliver our aims and objectives, whilst feeling valued and appreciated for the contributions they make and the skills they bring.

Therefore, both our organisations have invested in the support and oversight of these roles and we have been reviewing and refining our processes for recruiting, evaluating and supporting our professional development leaders. We have been working to develop frameworks and templates for professional conversations so we can better support our regional reps (Ogden Trust) and hub leaders (PSQM) who are our main interface with schools.

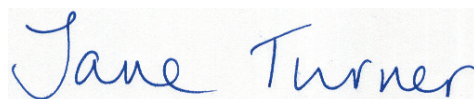
We wanted to build a collective understanding of good practice in supporting practitioners operating in the role of professional development leaders and this report is the culmination of the work we have been doing to better understand our 'remote' professional development leaders and what motivates them in their work.

The report was commissioned by The Ogden Trust to gain a broader, impartial view of our professional development leaders; it helps to formalise our thoughts, findings and conversations, and makes recommendations that can be shared more widely with the sector.

We hope this study makes a useful contribution to the approach other organisations take in their support of 'remote' professional development leaders.



Clare Harvey
Chief Executive
The Ogden Trust



Jane Turner
Director
Primary Science Quality Mark

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1. Introduction

Professional development leaders are those who design, deliver and coordinate professional development for teachers. In comparison to processes of teacher professional learning and the content and delivery of professional development, professional development leaders are under-researched (van Driel et al. 2012, Kennedy 2016, Perry & Boylan 2018). Therefore, we lack understanding of how they can be effectively supported in their roles and their professional learning needs, and their skills and expertise are often under-valued (Perry & Bevins 2019, Perry 2020).

Numerous organisations in England engage professional development leaders to support the delivery of teacher professional development programmes. These professional development leaders often operate remotely, both in relation to their geographic locations and their terms of employment with their 'host' organisation, and, in some ways, in their levels of autonomy and independence. Professional development leaders often lack formalised opportunities for support and development (Perry 2020), and this may be particularly acute for those operating in these remote roles.

The Ogden Trust (Ogden Trust 2021) and the Primary Science Quality Mark (University of Hertfordshire 2021) both engage 'remote' professional development leaders to coordinate, support and, in some cases, facilitate, professional development for teachers and schools. In 2021, Sheffield Hallam University was commissioned by the Ogden Trust to carry out a small-scale study into the professional development leaders who work with and for the two organisations. The aim of the study is to better understand the ways in which these professional development leaders, and others who operate in similar roles for other organisations, can be supported, thereby contributing to our collective understanding of effective practice in supporting practitioners operating in the role of professional development leaders, such as how they learn and develop their roles.

In this report, we describe the approach taken to the study. We explain our findings, including consideration of how professional development leaders are recruited, their professional learning needs and the support offered by the organisations they work for. We found that professional development leaders feel that their professional learning needs are largely met, through a combination of support offered by their 'host' organisations and activity within their wider professional networks and identify three groupings of professional learning outcomes: operational knowledge, knowledge of science education and contribution to a shared community enterprise. We end by offering some recommendations for the organisations involved, for other organisations who use 'remote' professional development leaders and for further research.

These include:

- analysis of the diversity of professional development leaders across the system and consideration of how this might be increased through more open recruitment processes;
- sharing practice across the sector in relation to induction, ongoing support and quality assurance of professional development leaders, including the use of frameworks of expertise and regular review meetings;
- maintenance and further development, across the sector, of models to identify and meet professional development leaders' learning needs, which take into consideration their varying backgrounds, other professional roles and the relative impact of different activities and delivery models (such as online or face-to-face);
- analysis of how professional development leaders' subject knowledge is developed, including identification of opportunities for collaboration between organisations;
- further research into professional development leaders' perceptions of contributing to a shared community enterprise, such as through analysis of professional networks, informal learning and comparison with other subject areas and phases;
- consideration of how to raise the profile of and celebrate professional development leaders' expertise and contributions to the system.

2. Methodology

2.1 Approach

Using a small-scale qualitative research study, we aimed to gain understanding of the ways in which 'remote' professional development leaders are and can be supported in their roles. The study focussed on two groups of professional development leaders:

- Regional Reps, engaged by the Ogden Trust;
- Hub Leaders and Senior Regional Hub Leaders, engaged by Primary Science Quality Mark.

Ogden Trust currently has 19 Regional Reps, while there are around 90 Primary Science Quality Mark Hub Leaders and eight Senior Regional Hub Leaders. While the details of the roles of the professional development leaders, and the support provided to them, have features in common as well as some differences (see below), their overall aims are similar: to support the teaching of science in primary, and, in some cases, secondary, schools in England.

Details of the projects used to achieve these aims can be found at the websites of the two organisations¹.

Later, we will provide some further details of the roles of the two groups of professional development leaders. Given the commonalities in the aims of their roles (and indeed some professional development leaders are active in both organisations), the research questions underpinning this study are the same for the two groups of professional development leaders:

- What works well in recruiting and managing 'remote' professional development leaders?
- What are 'remote' professional development leaders' professional learning needs?
- How can these needs be effectively supported?

Ogden Trust and Primary Science Quality Mark collate and use information about the professional development leaders' roles, backgrounds and effectiveness, from professional support activities, performance monitoring, formal and informal appraisal processes (see below). These processes have been 'tightened up' by both organisations in recent years to ensure greater consistency in approaches across professional development leaders. We did not attempt to evaluate or measure the effectiveness of how the professional development leaders carry out their roles, either individually or as a group. Instead, we focussed on the professional learning needs of the professional development leaders as they relate to the support provided to them by the two organisations, its intended outcomes, and its effectiveness.

2.2 Data collection and analysis

Data was collected through the following methods:

- paired or individual interviews with lead staff from the two organisations;
- interviews with individual professional development leaders from the two organisations;
- focus groups with small groups of professional development leaders from the two organisations.

Participants for interviews and focus groups were recruited through an email invitation to all professional development leaders from both organisations. In total, 21 professional development leaders took part in interviews or focus groups (Table 1), with representation from those operating in all regions of England and with a range of years of experience (from 1-10 years, with an average of around four years) in their roles. Professional development leaders volunteered to take part in data collection, and we used opportunistic sampling to interview a sample of volunteers. Therefore, these participants may not represent the full range of experience or perceptions of their roles and support, and those with more negative views may have chosen to not volunteer.

¹<https://www.ogdentrust.com>; <http://www.psqm.org.uk>.

Data	Total participants	Participants from each organisation	
		Ogden Trust	Primary Science Quality Mark
Interviews with lead staff	3	1	2
Interviews with professional development leaders	17	9	8
Focus groups ²	4	2	4
Totals	24	12	14

Table 1. Data collection participants

To help generate understanding of and exemplify the ways in which the two organisations support their professional development leaders, we developed logic models for each organisation, drawing on information provided about the intentions and processes for their work with professional development leaders. We used these as a basis for interviews with the lead staff from Ogden Trust and Primary Science Quality Mark, collaboratively developing final versions (Appendix 1) from these and other interviews.

Interviews with professional development leaders focussed on their roles, professional learning and their perceptions of the support provided to them. Focus groups were carried out with two Senior Regional Hub leaders for Primary Science Quality Mark and with two professional development leaders who operated in roles for both organisations. The focus groups investigated emerging findings from interviews in more depth, in particular, exploring the importance of networks of relationships (see below).

All data was collected through telephone calls or online meetings. Interviews and focus groups were recorded and transcribed. Data was analysed thematically, using the research questions above as a framework for analysis. In line with ethical and consent procedures, data has been anonymised for reporting.

2.3 Ethics and data protection

The study followed Sheffield Hallam University’s ethical research³ and data protection protocols⁴, ensuring data was handled securely and sensitively with appropriate consent procedures, including anonymity in reporting. A project-specific participant information sheet and privacy notice⁵ and online consent forms were used for all data collection.

²Note that one focus group involved two participants operating in roles for both organisations. These are counted in both the Ogden Trust and Primary Science Quality Mark columns.

³Sheffield Hallam University Ethics and integrity

⁴Sheffield Hallam University Privacy Notice for Research Participants

⁵Project privacy notice and participant information sheet

3. Professional development leaders' roles, recruitment and support: organisational perspectives

In this section we give an overview of the professional development leaders' roles for the two organisations and the support offered to them, drawing on information provided by staff from Ogden Trust and Primary Science Quality Mark.

3.1 Professional development leaders' roles

Many remote professional development leaders operate in multiple professional roles, combining roles for different organisations and including, for some, maintaining a classroom role (Perry & Boylan, 2018). In this study the professional development leaders carry out similar but different roles for the two organisations. Both involve working with teachers and schools to support the professional development of teachers of science. Briefly, Ogden's Regional Reps ensure that Ogden's school partnerships are fulfilling the requirements of their partnership. This includes working with the leads of the school partnerships to support participation in Ogden's offer to schools. Some also facilitate professional development activities for partnership schools. For PSQM Hub Leaders, the role focusses around supporting schools to successfully complete the Primary Science Quality Mark programme, enabling primary science subject leaders to identify areas of strength and development in their schools, implement actions and deepen reflective practice.

Further details of the organisations' work can be found at their respective websites.

3.2 Recruitment of professional development leaders

Both organisations use a variety of routes to recruit new professional development leaders. These often derive from existing networks of contacts, such as consultants or teachers who are recommended through organisational links or other work, and teachers whose schools have engaged with the organisation. The ad hoc nature of recruitment is, in part, a result of the flexible nature of the organisations' work, where demand for school support may vary from year to year depending on regional variations in school participation.

Both organisations are sometimes contacted directly by potential new professional development leaders, including teachers, independent consultants and others. Again, these people have often previously worked with or at least had contact with the organisations either through participation in their work or via other professional networks. More proactive, open recruitment approaches have not been a priority for either organisation. However, Primary Science Quality Mark is now considering ways of addressing potential 'cold spots' where more professional development leaders may be needed, through more active recruitment process.

Both organisations have light-touch selection processes, looking for evidence of particular skills and expertise in new professional development leaders, mapped against Frameworks of Expertise (see below). For example, professional development leaders working for Ogden need to demonstrate that they are good teachers, able to inspire other teachers, and have

⁶<https://www.ogdentrust.com>; <http://www.psqm.org.uk>

appropriate subject knowledge. For Ogden, an initial conversation leads to an agreement and allocation of work. For Primary Science Quality Mark, new professional development leaders are asked to complete a written application form demonstrating how they meet the expertise outlined in the framework, followed by an informal conversation with organisational leads.

3.3 Support for professional development leaders

In recent years, Ogden Trust and Primary Science Quality Mark have invested in developing their support for their remote professional development leaders, including collaborative work to share and refine support activities. Both organisations offer a range of support and learning opportunities to their professional development leaders, focussing on both operational aspects of the role and on broader issues around knowledge and understanding of science education (Table 2).

Ogden	Primary Science Quality Mark
<ul style="list-style-type: none"> • Induction programme: operational information and strategy, handbook containing operational information and policies • ‘Handover’ with experienced Regional Rep • Annual professional discussion with programme managers structured around Framework of Expertise • Mid-year informal catch up with programme managers • Termly Regional Reps meetings • Annual Regional Reps conference: two days • Workshops and opportunities for engagement in ‘working groups’ throughout the year (optional) 	<ul style="list-style-type: none"> • Induction programme: operational information, PSQM practice and core values, handbook containing practical guidance and operational information • Ongoing mentoring from Senior Regional Hub Leader, more intensive in the first year • Twice-yearly meetings with Senior Regional Hub Leader • Annual professional discussion with Senior Regional Hub Leader to reflect on the past year, structured around Framework of Expertise; identification of individual development needs • Annual Hub Leader conference: two days • Workshops throughout the year (optional)

Table 2. Support processes for professional development leaders

The aims and structures of the support provided by both organisations are broadly similar. Their aims include:

- building consistency between professional development leaders’ approaches to their work;
- gathering evidence of and monitoring effectiveness in the role;
- supporting development of expertise required by the role, such as the identification of teachers’ and schools’ strengths and development needs;
- sharing knowledge and understanding between professional development leaders;
- maintaining and extending knowledge of and expertise in science teaching.

These aims are classified in organisational logic models (Appendix 1) as short, medium and long-term outcomes and grouped into outcomes for professional development leaders, for the teachers and schools they work with and for the organisations themselves.

Some support activities are essential parts of the role, such as those which help professional development leaders to understand and reflect on the expectations of administrative or logistical aspects of their work. Other activities may be optional and/or driven by professional development leaders themselves to maintain or extend their expertise. Recently, both organisations have developed Frameworks of Expertise (Appendix 2) which identify knowledge, skills and behaviours required by professional development leaders and are used in recruitment, ongoing performance review and identification of development needs.

Where there are differences between organisations, these largely derive from the two organisations' differing funding and staffing models, as well as from the different ways in which they have operated historically. Both organisations are explicit that their processes should be transparent and clear for professional development leaders, with opportunities for professional development leaders to contribute to organisational development.

Next, we discuss the outcomes of this support from the perspectives of the professional development leaders themselves.

4. Professional development leaders' perspectives

In this section, we discuss findings from our analysis of interviews and focus groups with professional development leaders, including their understanding of their roles, the barriers they encounter in carrying out their roles, their recruitment, the ways in which they are supported by the two organisations and their perceptions of these.

As mentioned above, the details of the professional development leaders' roles vary across the two organisations, while the support offered to professional development leaders is broadly similar. There appeared to be considerable coherence between the organisations' intentions for professional development leaders' roles and professional learning, and that of the professional development leaders themselves. The professional development leaders were generally very positive about all aspects of their roles and the support provided for them; this might represent a bias within the self-selecting sample and/or might reflect their commitment to their roles as part of a shared community enterprise (see below). Since the professional development leaders for the two organisations gave largely similar (and generally very positive) responses with few significant differences, we present them together here.

4.1 Professional development leaders' perceptions of their roles

All the professional development leaders we interviewed in this study carried out their role within a wider portfolio of work in science education, in schools, in universities and/or as independent consultants for other organisations. This wider portfolio includes classroom teaching, professional development leadership, initial teacher education and other activities.

Two participants in this study operated as both Regional Reps for Ogden and as Hub Leaders for Primary Science Quality Mark.

Overall, professional development leaders' perceptions of their roles appear to be well-aligned with organisational expectations of their roles. As mentioned above, the details and expectations of the professional development leaders' roles vary in terms of their ways of working with schools and teachers; due to the different intentions of the two organisations. These differences were apparent in professional development leaders' descriptions of their roles.

I work ... between the different schools that are in partnership especially in new partnerships. The schools know each other exist but they don't know about each other, and individual teachers don't know each other. I help them make decisions about activities they want to do and money they want to apply for, and I help in the process of what Ogden will allow them to be given money for and I support them in those activities.

Ogden Regional Rep interview 3

Our role is to help the schools and guide the schools using the PSQM framework, which is fantastic, to reflect on the principles and practices of good quality science and then of course to create their own action plan in order to achieve the vision that they set out to achieve as a school.

PSQM Hub Leader interview 1

Some operational work was identified by professional development leaders for both organisations, including supporting staff in schools to complete reports, monitor activity and evaluate change. Again, this often involved working with teachers who are less experienced in this type of activity, and so the professional development leaders offer mentoring-type support to teachers in carrying out these requirements of working with the organisations.

I have phone calls with them. Talk about structuring their meetings. A little prod here and there about deadlines for minutes. Talking about how they can best address people in the partnerships who are less enthusiastic or who aren't attending meetings. Understanding the rhythms of school life, which was really important in the last year, when to step back and when to demand more of people in their partnerships.

Ogden Regional Rep interview 1

I can offer a lot of experience to those Subject Leaders because I'm very familiar with the curriculum, with teaching techniques and strategies, and developing science within a school. So, I suppose that's what I see my role as so it's a kind of ... yeah it's a mentor role really ... And being, you know, a friend to take them through that process.

PSQM Hub Leader interview 6

The professional development leaders' understanding of their roles appeared to reflect appropriately the expectations of the organisations, and, again in line with organisational expectations, both groups of professional development leaders saw their role as developmental in terms of supporting teachers to develop their practice around the teaching and leadership of science. This involved aspects of mentoring and coaching through tailored support and facilitating professional development.

Some of it is coaching and mentoring. The partnership coordinators need that element of mentoring and support and scaffolding to help them understand better what their job is.

Ogden Regional Rep interview 1

PSQM supports teachers' professional development. It's brilliant CPD and I feel and know that because I've been through the process myself ... there's a lot of signposting and learning about what science should look like, national curriculum science and lots of help with how to plan and assess science, organise wider opportunities in science. It's brilliant CPD and it arms the staff that I'm working with to be able to then go into their school and cascade what they've learned to develop science in their school.

PSQM Hub Leader interview 5

There is also an element of professional development coordination (Perry & Boylan, 2021), including acting as a broker between schools and professional development activities, promoting the aims of the two organisations to schools and teachers, and liaising between schools and the 'host' organisation.

Sometimes so we might put people in contact with people who provide certain activities for students and for the teachers so that's also part of the role.

Ogden Regional Rep interview 7

We've got a strong [regional] team so we liaise together and liaise with head office about which schools are embarking on it and we sometimes have a list of schools that have expressed an interest that we need to contact if for any reason they haven't been in touch with head office or head office haven't been in touch with them.

PSQM Hub Leader interview 5

While the two organisations have aimed for greater consistency in their expectations of professional development leaders' work with schools in recent years, a need for individualised support for schools is still apparent. This includes a desire to provide tailored professional development, which is part of the role of some professional development leaders, more commonly Ogden's Regional Reps.

Every school and individual is unique. It's like mentoring and coaching. You need to get a measure of the individuals as quickly as you can.

PSQM Hub Leader interview 4

We all put our own twist on it. I think it's important to be able to do that because that's where your passion can come through and that passes on to the people in the session you're running. It's not like teaching out of a book. It's much more than that.

Ogden Regional Rep interview 3

4.2 Recruitment of professional development leaders

As described above, professional development leaders are often recruited through informal routes, based on knowledge of practitioners who may have the expertise and capacity to take on these roles, particularly where they have previously engaged with the organisations. The professional development leaders in this study were generally either approached following participation in the organisations' work or approached the organisations themselves, again following engagement or participation.

I wanted to be involved with Ogden Trust, so I got in touch with them ... I approached Ogden directly and asked if there were any opportunities to be involved in their work ... I really appreciate the work that they do ... I admire the work they do. Their goals match mine.

Ogden Regional Rep interview 3

I had been at a school that had been through the PSQM process and found it a quality provision development tool ... [I] was approached by PSQM to see if I would be interested in becoming a Hub Leader.

PSQM Hub Leader interview 2

These quotes illustrate the value that the professional development leaders in this study attach to the work of their respective organisations, and this emerged as a common reason, across multiple professional development leaders, for taking on the role. Another group of reasons centred around a desire to extend their own knowledge and expertise by taking on a broader role in the system, and, for those professional development leaders who are also teachers, working beyond their classrooms.

I like diversity in what I'm doing. I love the fact that I get out as part of it, meeting lots of people. Much as I love teaching, in some ways I was getting a bit disillusioned, bored and just not terribly happy. Partly because of the opportunity to work with others but also, I'm enjoying meeting other people and I get to go out and do these things. I get to go to a conference and meeting really interesting people ... This has allowed me to do that kind of thing where I'm helping other people and actually, I do know what I'm talking about. It's quite nice to be reassured.

Ogden Regional Rep interview 5

It enables me to be nationally involved in primary science, and it has enabled me to be more active in primary science across the country ... It was a kind of a way out ... yeah, a way to extend myself.

PSQM Hub Leader interview 7

Finally, taking on the role enabled professional development leaders to make a contribution to improved science teaching by supporting teachers of science and improved leadership of science in schools. We return to the importance of these shared aims below.

To really support teachers whether in primary or secondary school to feel confident in sharing enthusiasm for physics as a subject with their students. I would describe it as sharing the love and taking the difficulty out of it ... by sending the message through students you want to spread it wider to the world in general, through parents and into the community that physics is there all the time. It's not something to be scared of.

Ogden Regional Rep interview 3

I am passionate about quality ... quality primary science. So, I want to see all teachers confident in teaching science and I want to see children enjoying science. And therefore, anything that I can do to ensure that that happens in schools is positive for me.

PSQM Hub Leader interview 6



4.3 Barriers to professional development leaders carrying out their roles

Perhaps not surprisingly, time appeared to be the biggest challenge for professional development leaders in carrying out their roles effectively. This is both the time that professional development leaders themselves have available for their roles and the time available to them from teachers and schools.

For professional development leaders, these time constraints derive in part from expectations within their roles, such as travel to visit schools, and in part from the challenge of balancing multiple professional roles.

The areas I deal with it's quite a lot of driving, some of the places I go to are an hour away ... I might leave at 6am to get to somewhere to be able to deliver a full day's CPD.

Ogden Regional Rep interview 5

I am a full-time teacher as well and I think that is the hardest part is that I'm a PSQM hub leader in my spare time effectively although I see it very much as a role that I do and it's an important role I don't see it as being lesser, but it does have to fit in around a full-time job.

PSQM Hub Leader interview 3



For many professional development leaders, the time formally allocated to their role does not accurately represent the time they commit to it. This goodwill appeared to derive from the professional development leaders' aims of supporting teachers and thereby contributing to improved science teaching, as mentioned above.

I think you're supposed to spend I think it's five, five half-day sessions effectively but inevitably you spend, well I spend, more than that. Perhaps, that's just because if they're local schools and also there was quite a bit of crossover ... So, I would, you know, have an extra hour with them from time to time where it was appropriate.

PSQM Hub Leader interview 6



Interestingly, while some professional development leaders experienced the management of multiple roles as a challenge, others found it to be beneficial, not just because of a variety this brings, but also because their learning across roles is mutually supportive, with the knowledge and skills developed in one being applied in others.

The more pies you've got your fingers in the better you are at doing your job than any one of those pies. They will support each other.

Ogden Regional Rep interview 3

I think probably my various roles do all feed in together to support each other. So obviously the CPD that I deliver for [other organisations] can also feed into supporting me as a Hub leader ... I think those roles also go hand in hand as well so I can support teachers in that role too and then my experience still teaching in classroom means that I'm current and I'm relevant, can understand the pressures.

PSQM Hub Leader interview 2

The time available for teachers to engage with relevant activities can also be limited by other priorities. For some schools, this can be further limited by a lack of awareness of the potential benefits of working with the organisation.

The main issue we've got is where headteachers are not fully aware of the commitment that's needed to be involved in Ogden and sometimes they don't take it. They're not as conscientious in their involvement and release of pupils, staff or whatever ... or if you've got a change of headteacher who suddenly doesn't value science and withdraws them from the partnership because they really don't understand it.

Ogden Regional Rep interview 5

Time is always going to be the biggest barrier both from having time with our schools and supporting them and giving them that quality guidance and mentoring that they need but also from the schools' perspective themselves because obviously as primary science subject leaders they're also doing English, maths and all the other subjects so for them to find for inset time and for them to fight for time to actually do their action planning and reflection is always going to be one of the biggest constraints.

PSQM Hub Leader interview 1

For both groups of professional development leaders, maintaining and expanding their networks of schools and teachers forms an important part of their role. However, it can be difficult to maintain communication, especially in the early stages of building relationships with schools and developing knowledge of the aims and potential benefits of working with either Ogden or Primary Science Quality Mark.

It's breaking through that barrier of 'I'm not trying to do something to get you to part with money' or 'yes I am trying to get you to part with time and join in. but I think this will be fantastic for you'.... I was trying to get a partnership going in one area ... and I was phoning schools and phoned and phoned schools, spent a long time on it and I could tell that the school receptions, I mailed as well, just didn't believe that I was genuine.

Ogden Regional Rep interview 6

Although there is some central marketing done we are kind of responsible for recruiting our own schools I suppose and there is support from HQ around that in terms of what we can do to increase that reach and that marketing so there's things in place but obviously that is unpaid work but it means the more you market the more schools there will be so the more schools you'll have in your Hub so the more income you will get so it pays off in the end.

PSQM Hub Leader interview 2



4.4 Professional development leaders' experiences of the support offered

As mentioned above, the professional development leaders' perceptions of the support offered by both organisations were notably positive. The overwhelming feeling from the professional development leaders was of working for organisations which cared for them and cared for the future of science teaching.

I think it's been really great. I mean seeing as I'm really just part time with them I've always been very grateful and impressed with how much training and support and things like that they do give us. So yeah, I have nothing to complain about at all, I think they've been really brilliant.

Ogden Regional Rep interview 8

Honestly from the top down they're brilliant. They're so supportive and if I've got any problem I could ring someone up now and they would help me ... I'm really happy with everything there is done there. It's brilliant.

PSQM Hub Leader interview 5



Few professional development leaders were able to identify additional learning needs which were not being met either directly by their 'host' organisation or indirectly through other learning opportunities. One Primary Science Quality Mark Hub Leader mentioned a lack of confidence, even with the support provided, in completing some of the assessment-focused aspects of their role, and another highlighted the importance, for those who had been out of the classroom for a while, of learning from those who were still teaching. However, both these professional development leaders felt that support was provided which helped to meet these needs, through formal and informal activities. One issue which arose, again, was of time needed for participation in, or travel to, learning activities provided by the two organisations. For some professional development leaders, especially those with teaching roles, these could be hard to access.

As described above, the intentions of the support offered to professional development leaders focus around ensuring that professional development leaders can deliver operational aspects of their roles (such as reporting) and on their expertise in science education. The support led to a variety of outcomes, which we have grouped into three categories:

- Operational knowledge;
- Knowledge of science education;
- Contributing to a shared community enterprise.

Each is considered in turn below.

Operational knowledge

Operational knowledge helps professional development leaders carry out their roles for the two organisations. This knowledge derives from:

- Induction and training updates;
- Regular discussion with organisational leads, including being able to contact the team for support;
- Being able to question and share experiences with other professional development leaders.

Both groups of professional development leaders were consistent in feeling well-supported to understand what is expected of them in carrying out their roles and in being able to reach out to organisational staff and other professional development leaders when needed, thereby suggesting that induction and operational processes are effective.

I initially had an induction programme into the role of a Regional Rep, pointing me through all the different systems where documents lie. In terms of how it all works, I was introduced to colleagues, although I knew quite a lot of them already.

Ogden Regional Rep interview 3

I participated with the Regional [Senior] Hub Leader in a round of PSQM. I was with her while she undertook all of that. She talked me through it all. We did on the job training. We had meetings before the meetings, went through all the slides, talked about what would happen and I was really well supported through a whole round of PSQM and after that I then took on my own group.

PSQM Hub Leader interview 5

Several professional development leaders highlighted the ease with which they could contact colleagues, both from the organisation and other professional development leaders, with questions, which engenders confidence for them to respond to schools' and teachers' queries.

I have a good relationship with [Ogden lead] and if I have any queries or questions that's causing concern I can speak to [them] ... You can speak to any of them if you have a concern ... They are all very approachable and supportive. It worked really well. You know you can send an email or ring them ... You have instant support if that's what you feel you need at this moment in time.

Ogden Regional Rep interview 2

We all work together hand-in-hand and we're always discussing and ensuring that we are providing the best practice, so in terms of all of our sessions that we have with our PSQM schools we work together.

PSQM Hub Leader interview 1

From the professional development leaders' perspective, the two organisations seem to be aware of the challenges faced in carrying out their roles, and respectful of the potential

workload which comes with managing them. This again contributes to a feeling of positivity about their roles.

And I think that PSQM are very aware that you know PSQM is only a very small part of our wider roles in primary science I think that they respect that in making sure that they look after our workload and as advisers I think that's very important.

PSQM Hub Leader interview 1

Knowledge of science education

Some activities provided by the two organisations aim to improve professional development leaders' knowledge of science education and education more broadly. Examples of these activities include inputs from experts on widening participation and diversity, opportunities to work with colleagues to share and develop pedagogical approaches, and less direct learning gained through the provision of resources to use with schools. These activities develop the professional development leaders' subject expertise in ways which can be beneficial for their work with Ogden or Primary Science Quality Mark.

Picking up a few things like, I don't know, like someone made this loudspeaker using a yoghurt tub and a bit of like wire and magnet and things like that and oh so that's quite a cool way of doing it, so sort of adding onto what I do anyway. So yeah little small takeaways in terms of the physics side but then on the whole things like learning about best evidence science and these other kind of strategies and things like that that I probably wouldn't have come across otherwise.

Ogden Regional Rep interview 8

Going to the PSQM Hub conferences you get as much out of it ... It's as much about professional development for you as a teacher and for a Subject Leader yourself, as it is for you then taking other schools through it. I mean definitely, you know, you get exposed to all sorts of, you know, their new ideas, new things that are going on ... There are all sorts of things that have just as much benefit for you as an active Subject Leader as they do as a Hub Leader. So definitely you know I get an awful lot out of it.

PSQM Hub Leader interview 6

This learning about education also has benefits for professional development leaders' other roles, whether as teachers or in other professional development leadership roles. This is in turn reciprocated by mutually beneficial learning which takes place via other organisations.

Everybody tends to meet up. You tend to go to the [Association for Science Education] conference not only for the conference aspect but ... it's also a great place to meet up with colleagues from around the country. You have a catch-up together and it's part of supporting each other. It then means that you know somebody who if you have a problem arise that you don't know how to solve or you just want to share your thoughts or get somebody's opinion you know people and you can just phone them or ping them an email even if they're in Durham. Far away. That doesn't matter. You've met, chatted, you know each other ... that's the whole purpose of events like that.

Ogden Regional Rep interview 3

Contribution to a shared community enterprise

The last point above illustrates the third group of learning outcomes: being a Regional Rep or Hub Leader contributes to and is supported by being part of a wider community. One PQSM Hub Leader referred to being part of a community of practice. In Wenger's (1998) community of practice theory, one of the distinguishing features of a community of practice is a joint enterprise, and this reflects one of the reasons for taking on the role, mentioned above: becoming part of a joint enterprise to improve science teaching.

It's very difficult to separate PSQM from the wider primary science community of practice and I think it's a massive strength so all of my colleagues who are within our PSQM hub ... they all have expertise in different areas of primary science and they're either researching or they're working with [Primary Science Teaching Trust] fellows or working with the [Association for Science Education] so I think that the opportunities to get together as PSQM Hub leaders enables that shared, you know, that networking and shared best practice.

PSQM Hub Leader interview 1

The professional development leaders were strongly committed to their roles, and this feeling of a shared aim of improving science teaching appeared to be important to many of the professional development leaders: a shared moral purpose previously identified with effective professional development leadership (Boylan, 2018). This is perhaps not surprising when looking at a group of professional development leaders working for a single organisation; here there appears to be a consistent shared purpose across both groups of professional development leaders which plays a significant part in their commitment to their roles.

We know each other. We speak to each other and we'll ask each other for ideas. If somebody develops something, because I'm retired, other regional reps work for the [Institute of Physics] so they've got 2-3 hats on. Some are teachers and do it as well as that. So, there's a wide variety of experience with the regional reps ... It is very useful. Yes. We'll all help each other out if we can.

Ogden Regional Rep interview 2

The science education community I'm involved with is brilliant. Such a lot of quality training and support. It's such a lovely community you know when you get involved sometimes with communities in the past my experience hasn't been as welcoming but science community they just want to help you to be involved ... It's a lovely community to work within. I utterly love it. It's one of my favourite things that I do ... I'm really proud to be part of the team. I love it.

PSQM Hub Leader interview 5

The community here is multi-layered and complex, containing each immediate group of professional development leaders working for the same organisation, and then a wider group of practitioners working in science education, with overlaps and movement between the groups. As we have seen, for some professional development leaders, starting work with Ogden Trust or Primary Science Quality Mark enabled them to join the community. For others, being part of the community led to their role with their 'host' organisation.

I'm also a Primary Science Teaching Trust Fellow. And again I do that just to be out there because I enjoy being with, being with lots of like-minded people and passionate about primary science. So yeah, it has enabled me to do that ... Yeah. It's promoting primary science and being part of that community. It's seeing science as a key part of primary education and being really important.

PSQM Hub Leader interview 7



Both organisations provide opportunities for professional development leaders to build links within their immediate network, through annual conferences, shorter workshops and facilitated sessions for sharing practice. These sometimes include opportunities to build knowledge of and links with other organisations involved in science education. Many professional development leaders also participate in varying activities within the wider community such as through the Association for Science Education and other professional development providers.

Participation in support activities, when provided by Ogden or Primary Science Quality Mark, may be funded as an essential component of the professional development leader role. However, other activities in the wider network are likely to be unfunded and may entail a cost to the professional development leader. But, as we have described elsewhere, the benefits of involvement appear to outweigh any financial or time-related costs.

If you were doing it for money you wouldn't do it. [laughs] Because it's not terribly well paid. But there are all sorts of other benefits for you as a Hub Leader for you as well in terms of the networks that you're connected with and what you learn and take away from it yourself.

PSQM Hub Leader interview 6



5. Conclusions and recommendations

Finally, we return to the three research questions which underpinned this study, drawing together findings relating to each in turn and providing recommendations for stakeholders and for further research.

5.1 What works well in recruiting and managing remote professional development leaders?

Professional development leaders often acquire their roles through prior experience either with the organisation directly or through contact via their wider networks. For example, for Primary Science Quality Mark, science subject leaders in schools which have engaged with the Quality Mark process sometimes move on to becoming Hub Leaders themselves. This approach to recruitment appears to work effectively in building a community of professional development leaders who feel a shared purpose, which, in the context of this study, relates to the improvement of science education.

However, while this can be a convenient and often practical approach, it may present challenges to succession planning through a reliance on existing networks in which participation changes over time. It may also lead to a perception of a 'closed shop' of those who are permitted, and have the knowledge or expertise needed, to take on the role. Therefore, these approaches to recruitment may limit diversity in terms of representation across locations, experience and demographics.

We are not aware of any studies which have collected and analysed data about professional development leaders' backgrounds or characteristics within a particular subject grouping. Therefore, we recommend that a sector-wide study could be carried out which looks across the field of professional development leaders working in science education in England. This could examine how well the professional development leaders currently working in the system represent the teaching workforce, where there are demographic or geographic gaps, and lead to the identification of strategies to widen participation and increase diversity.

A sector-wide study could also be used to analyse the different ways in which professional development leaders are funded by their 'host' organisations. While not a specific area of focus for this study, we are aware that, across the sector, a variety of consultancy and employment models exists; further research here could identify benefits and drawbacks with these models for both the professional development leader and the 'host' organisations.

The two organisations involved in this study use a variety of processes to support professional development leaders' induction and management. These include operational handbooks, regular meetings with organisational staff and making links to more experienced professional development leaders. Both organisations use Frameworks of Expertise (Appendix 2) to support annual performance reviews and/or professional discussions, quality assurance and needs analysis. These induction and ongoing operational support processes are well-received by the professional development leaders involved in this study. The resources provided, clarity of purpose and ease of contact all help them to feel confident in their roles, in being able to approach the organisations for further support when needed and in feeling appreciated.

These internal processes also help organisational staff to ensure the quality of their work. Therefore, we recommend that the two organisations involved in this study maintain these approaches, regularly gathering feedback and data from professional development leaders to continue their development. Further, we are aware that other organisations use similar documentation and processes; we recommend that organisations working in the field of science education professional development share their models of support and quality assurance in order to collaboratively refine their processes and develop effective practice.

5.2 What are 'remote' professional development leaders professional learning needs?

We have previously categorised professional development facilitators' professional learning needs as knowledge and skills for teaching; facilitation skills and knowledge; and knowledge about professional development (Perry & Boylan, 2018). This study looks beyond the facilitation of professional development to a wider set of professional development leadership roles, including mentoring and coaching teachers, coordinating, brokering and organising professional development for teachers and, for some, designing and/or facilitating professional

development. Through our analysis, we identified three groups of outcomes for professional development leaders' learning (Table 3).

Professional learning	Details
Operational knowledge	Organisational processes, systems and expectations
Knowledge of science education	Science pedagogy, subject and curriculum knowledge; wider issues such as school inspection, equality and diversity
Contribution to a shared community enterprise	Improving teaching of and engagement with science; increasing the profile and value of science education

Table 3. Professional development leaders' learning outcomes

The learning needs of the professional development leaders involved in this study broadly fit into these three categories. However, the varying roles and backgrounds of professional development leaders mean that they bring a range of expertise and experience to their roles, and therefore, when looking more closely within each category, their individual professional learning needs are likely to vary. Therefore, organisations who work with remote professional development leaders might consider how effectively they identify and meet these needs.

For Ogden Trust and Primary Science Quality Mark, the Framework of Expertise provides a valuable support for this, used alongside and within regular review meetings. For other organisations, similar processes might be considered or developed, and again, collaboration across the sector could provide an important route for sharing effective practice. Further research, looking in-depth at professional development leaders from different backgrounds and/or working for different organisations, could identify the particular learning needs of specific groups of professional development leaders. In particular, the last category of learning – contributing to a shared community enterprise – needs further consideration, such as how science education compares to other subject areas and phases, and whether/how the community can be sustained over time, as the current generation of professional development leaders retires.

5.3 How can these needs be effectively supported?

The professional development leaders involved in this study felt that their professional learning needs were largely met through a combination of the support offered by the organisations they work for and through their wider networks. As we have seen, the support offered includes a variety of activities. Professional development leaders recognised value in each type of activity, but our data does not reveal whether some activities make a greater or lesser contribution to the professional development leaders' effectiveness in their roles. Since professional development leaders report challenges of time, both for themselves and for the teachers they work with, organisations should allow for this by providing support which is not overly time-consuming, whether in expectations of participation or travel. Online activities may reduce the need to travel, while also potentially limiting opportunities for beneficial network-building. As part of this, further research, whether carried out by organisations internally or by external researchers, could consider the role of online, blended and face-to-face activities and explore

the impact of each learning activity in order to establish its relative value to the organisation, the professional development leader and the schools they work with.

Despite the uncertainty described here, the induction and review processes which provide operational support are likely to be essential in ensuring that professional development leaders feel confident in their roles. The professional development leaders in this study understood that their organisations need assurance that operational processes were followed and appreciated having regular and speedy contact and support from organisational leads and other professional development leaders when needed. Many organisations involved in professional development provide similar operational learning to their professional development leaders. These organisations might usefully review which aspects of this learning are non-negotiable and which could be flexible based on identified learning needs. In addition, they could consider how professional development leaders are given opportunities to feed back into the system, to contribute to organisational improvement and strategy.

The organisations involved in this study view professional development leaders' knowledge of science education as essential to their recruitment and quality assurance processes. They support learning in this area through activities including structured, formalised support from their 'host' organisations which enabled sharing practice with other professional development leaders, inputs from other organisations and links with schools and teachers.

As we have mentioned, contributing to a shared community enterprise appears to be important for professional development leaders. This contribution comes from the professional development leaders themselves, and is supported through activities provided by the organisations they work for, and by their wider professional networks. Opportunities to share practice with other professional development leaders appear to be particularly important. Therefore, organisations should consider how best to support these, through formal and informal activities. Further research might analyse in greater detail the professional networks of a wider group of professional development leaders, mapping how they build their relationships, what they gain from them and what they contribute to them, and how these networks, as a whole, support them in their roles.

Finally, the professional development leaders involved in this study demonstrated their commitment to their roles, to supporting each other and to their contributions to the system of science education, even when time and/or funding was felt to be limited. This goodwill should not be taken for granted or under-estimated. Previous studies have indicated that professional development leaders' expertise is often under-valued (Perry & Bevins 2019, Perry 2020). Therefore, stakeholders throughout the system, including professional development leaders themselves and the organisations they work for, might consider how to raise the profile of and celebrate their expertise. This could take place through opportunities for further development, progression routes, and/or ways of supporting professional development leaders to contribute further to the organisations they work for, so that professional development leaders' value and contribution to the system is understood and recognised.

6. References

- Boylan, M. (2018). Enabling adaptive system leadership: Teachers leading professional development. *Educational management administration & leadership*, 46 (1), 86-106.
- Kennedy, M. (2016). How does professional development improve teaching?, *Review of Educational Research*, 86 (4), 945-980.
- Ogden Trust (2021). The Ogden Trust, <https://www.ogdentrust.com>. Accessed 10 August 2021.
- Perry, E. & Bevins, S. (2019). Building capacity for professional development: the development of teachers as facilitators in Ghana, *Professional Development in Education*, 45 (3), 390-404, DOI: 10.1080/19415257.2018.1474489.
- Perry, E. & Booth, J. (2021) The practices of professional development facilitators, *Professional Development in Education*, DOI: [10.1080/19415257.2021.1973073](https://doi.org/10.1080/19415257.2021.1973073).
- Perry, E. & Boylan, M. (2018). Developing the developers: supporting and researching the learning of professional development facilitators, *Professional Development in Education*, 44 (2), 254–271.
- Perry, E. & Boylan, M. (2021). The roles of professional development leaders: an analytical model. Unpublished manuscript.
- Perry, E., (2020). The roles of professional development leaders. *Science Teacher Education*, 88, 10-16.
- University of Hertfordshire (2021). Primary Science Quality Mark, <http://www.psqm.org.uk>. Accessed 10 August 2021.
- van Driel, J.H., et al., (2012). Current trends and missing links in studies on teacher professional development in science education: a review of design features and quality of research. *Studies in Science Education*, 48 (2), 129-160. doi:10.1080/03057267.2012.738020.
- Wenger, E. (1998). Communities of practice: Learning as a social system. *Systems thinker*, 9 (5), 2-3.

7. Appendices

Appendix 1: Logic models

PSQM

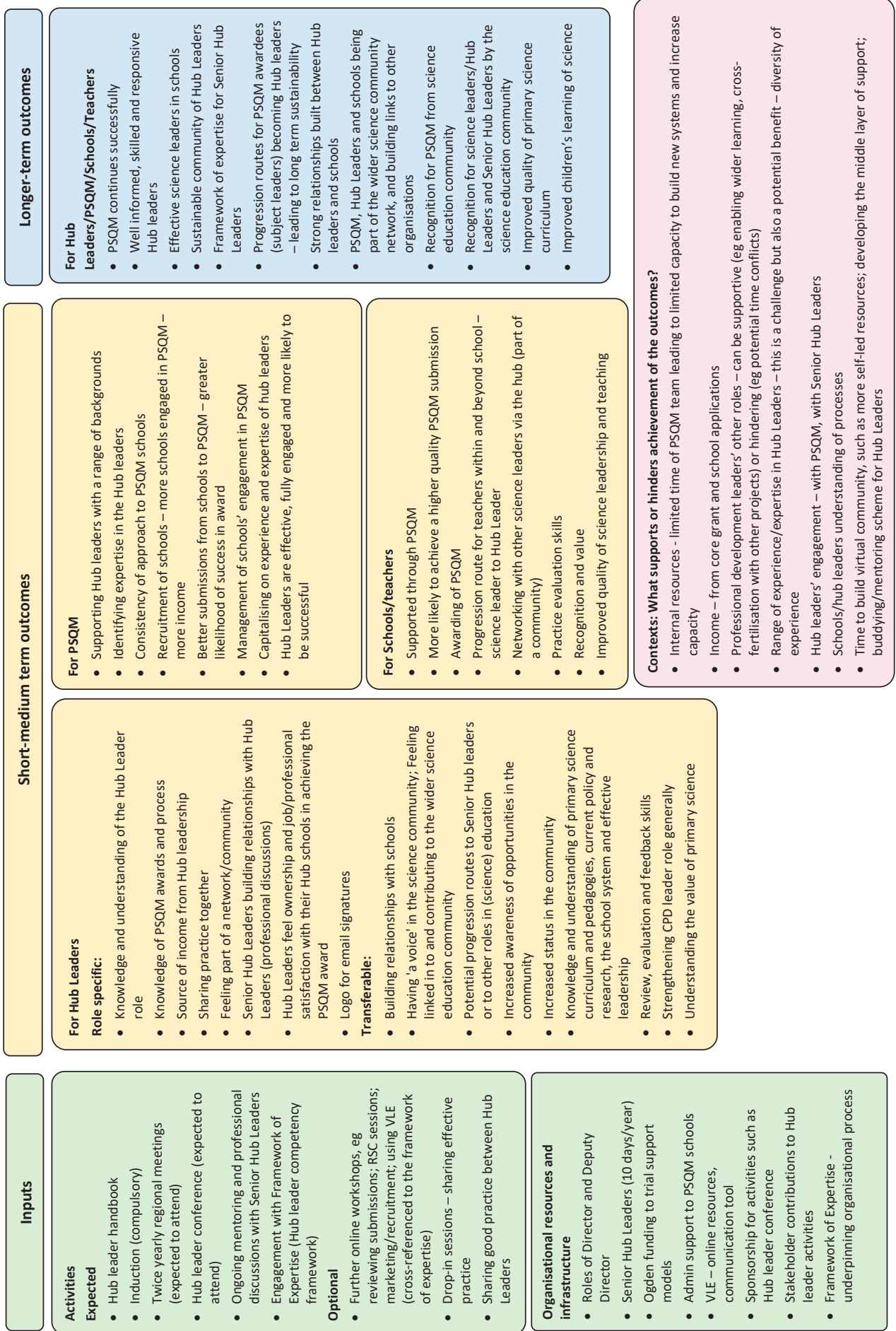
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Appendix 2: Frameworks of expertise

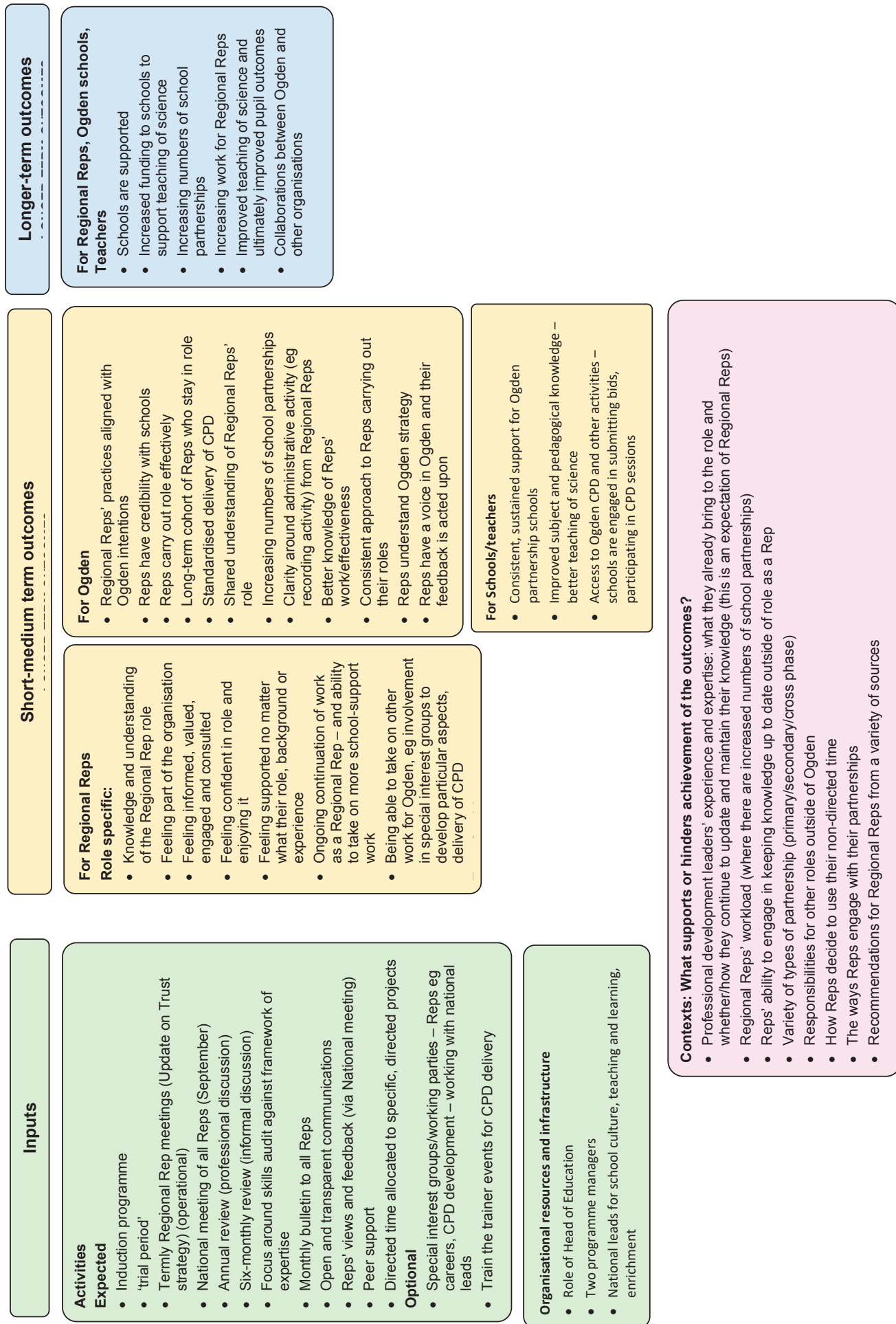
PSQM - Hub leader framework of expertise

Ogden Trust - Framework for Regional Representatives supporting partnerships

Primary Science Quality Mark – supporting remote professional development leaders: logic model



Ogden Trust – supporting remote professional development leaders: logic model



Hub leader framework of expertise



Responsibilities	Knowledge and skills	Professional qualities
<p>Understand local and national issues and practice in primary science</p> <ul style="list-style-type: none"> Actively shares recognised good practice in primary science Identifies ways for schools to participate in national and local opportunities 	<ul style="list-style-type: none"> Secure knowledge of <ul style="list-style-type: none"> primary science pedagogy primary science subject knowledge (including conceptual understanding and workingscientifically) primary science curriculum and assessment Awareness of <ul style="list-style-type: none"> current research and good practice in primary science teaching and learning national issues (e.g. Ofsted agenda) local issues and opportunities work/aims of key organisations e.g. ASE, Wellcome, RSC, IOP, RSB, PSTT, STEM Learning, Ogden, CLEAPSS national opportunities e.g. CSciTeach, PSTT Fellow, CREST, British Science Week, Great Science Share 	<ul style="list-style-type: none"> Values and understands the importance of primary science Actively keeps own knowledge up to date (e.g. professional membership of ASE Futures) Ability to seek and apply knowledge gained from other professionals Disseminates own learning and expertise with others
<p>Lead and mentor a hub</p> <ul style="list-style-type: none"> Oversees school self-assessment process Delivers PSQM core CPD sessions Coaches and mentors subject leaders throughout the entire PSQM process, providing timely support and feedback and ensuring PSQM criteria are met Develops and maintains a community of practice 	<ul style="list-style-type: none"> Understanding of the school system which schools operate within and awareness of key factors which lead to school improvement – taking into consideration current issues and challenges which could have an impact on the progress of PSQM Understanding of good practice in subject leadership Secure knowledge of PSQM framework, processes and systems Ability to lead effective CPD - for impact and development of reflective practice 	<ul style="list-style-type: none"> Prioritises tasks, meets deadlines, manages own workload and supports subject leaders to do the same Builds and maintains effective working relationships Reflects on school practice in science and provides constructive feedback, inspiring and motivating subject leaders to achieve aspirational goals and be reflective themselves Pro-actively monitors progress throughout the PSQM process and takes action to encourage a high standard of completion (e.g. giving feedback, reporting issues)
<p>Review submissions</p> <ul style="list-style-type: none"> Audit submissions and evaluate against PSQM criteria Provide professional review feedback 	<ul style="list-style-type: none"> Secure knowledge of the different quality mark expectations Understanding of how different schools might evidence how they have met the criteria 	<ul style="list-style-type: none"> Has an analytical approach to evidence presented Provides concise, constructive feedback which is clear and grammatically correct, using appropriate language Demonstrates a flexible attitude to consider the variety of approaches adopted by different schools
<p>Communication and collaboration</p> <ul style="list-style-type: none"> Maintains regular communication with hub schools throughout the PSQM process Keeps HQ and SRHL informed of changes where appropriate Works co-operatively and productively with HQ and SRHL Promotes PSQM programme in local area, following up with interested schools as appropriate Attends PSQM regional meetings, training and hub leader conference 	<ul style="list-style-type: none"> Awareness of potential issues arising within the PSQM process and how to manage these effectively by utilising the appropriate communication channels Knowledge of local networks and opportunities for sharing information 	<ul style="list-style-type: none"> Facilitates discussion and clearly articulates messages to a range of audiences Works as a PSQM ambassador, ensuring own high professional standards are consistently maintained Works collaboratively and empathetically with others taking into account different perspectives

Framework for Regional Representatives supporting partnerships

All RRs are expected to demonstrate consistent performance matching or exceeding the standard detailed below.

Standard	All RRs will be able to demonstrate:	Examples of evidence
Knowledge	<ul style="list-style-type: none"> • Secure knowledge and understanding of: <ul style="list-style-type: none"> - effective primary science pedagogical approaches - primary science subject knowledge (including conceptual understanding and working scientifically) - primary science curriculum and assessment strategies - curriculum design and progression in primary science - secondary physics education (including curriculum, assessment and exams) • Strong understanding of: <ul style="list-style-type: none"> - current research and best practice - embedding good practice into learning • Awareness of: <ul style="list-style-type: none"> - the school system which schools operate within, taking into consideration current issues and challenges - National issues (eg Ofsted agenda) 	<ul style="list-style-type: none"> • Maintains understanding of the current primary school system through spending quality and sustained time in primary schools and primary classrooms • Maintains understanding of the current secondary school system through spending quality and sustained time in secondary labs and departments • Completes a STEM Learning course eg Lead Practitioner • Further develops own knowledge through a Masters/ PhD • Reads journals • Publication of articles relating to knowledge/pedagogy
Skills	<ul style="list-style-type: none"> • Strong facilitation/communication skills • The skills to inspire, challenge, motivate and empower others to achieve excellence • Critical thinking and decision-making skills • Management skills to bring out the best from teachers • Regular communication with partnership schools • Good communication with programme managers and T&L lead to keep them informed of changes where appropriate • Effective working relationships (building and maintaining) • Facilitation of discussion and clear articulation of messages to a range of audiences • Consistent maintenance of own high professional standards • Collaborative and empathetic working with others, taking into account different perspectives • Excellent organisation skills linked with good time management 	<ul style="list-style-type: none"> • Provides opportunities for structured collaboration, discussion and/or peer support • Creates opportunities to draw out and constructively challenge the existing beliefs of participants • Understands and supports partnership co-ordinators to embed changes to practice over time • Year-on-year increase in the number of Ogden partnership schools participating in meetings/events • Ensures submissions are returned to the Trust on time
Professional behaviours	<ul style="list-style-type: none"> • A passion for the physical processes in primary science and physics in secondary education • A commitment to own professional development/reflects on own practice • High personal standards and expectations • Values and understands the importance of primary science • Actively keeping own knowledge up to date (eg professional memberships) • Ability to seek and apply knowledge gained from other professionals • Dissemination of own learning and expertise with others • Prioritising tasks, meeting deadlines, managing own workload • Engagement in the QA process (coaching conversations/ peer observation) 	<ul style="list-style-type: none"> • Maintains personal profile or role in the wider science landscape (ie PSQM, PSTT, CSciTeach, SLP) • Maintains active professional memberships (ie ASE) • Attends conferences/'teach meets' • Reflects on own practice • Leads science in school • Engages in social media – sharing practice • Contributes to local/regional science networks

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Authors of the report

Josephine Booth

Mark Boylan

Joelle Halliday

Emily Perry

Claire Wolstenholme

Sheffield Institute of Education, Sheffield Hallam University.

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For further information about the Primary Science Quality Mark:

www.psqm.org.uk

For further information about The Ogden Trust:

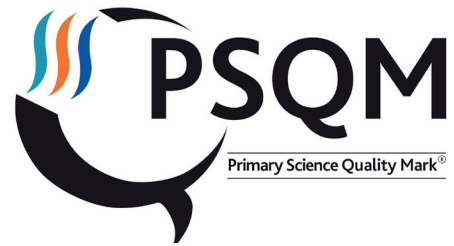
www.ogdentrust.com

Design by:

www.lippettcreative.co.uk



The Ogden Trust
The Phoenix Brewery
13 Bramley Road
London W10 6SP
T: +44 (0)20 8634 7470
E: office@ogdentrust.com
W: www.ogdentrust.com
@ogdentrust.com



Primary Science Quality Mark
School of Education
University of Hertfordshire
Hatfield, Herts AL10 9AB
T: +44 (0)1707 281034
E: psqm@herts.ac.uk
W: www.psqm.org.uk
@psqm_HQ

Registered charity: 1037570



Sheffield Hallam University

Researching professional development leaders: investigating support for 'remote' professional development leaders

PERRY, Emily <<http://orcid.org/0000-0003-3413-1159>>, HALLIDAY, Joelle, BOOTH, Josephine <<http://orcid.org/0000-0002-4553-6402>>, WOLSTENHOLME, Claire <<http://orcid.org/0000-0002-6660-6385>> and BOYLAN, Mark <<http://orcid.org/0000-0002-8581-1886>>

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