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Editorial

The power of professional learning

Helen Lewis

There is no doubt that good professional learning can inspire, encourage and enthuse us. One of the most memorable professional learning events I ever attended involved a highly skilled, motivating early years teacher sharing ideas for bringing mathematics to life. Twenty years later, I can still remember how enthusiastic I felt during the day, and how motivated I was by the fabulous ideas she shared. I returned to my classroom eager to try things out. Over the following weeks, many of the simple, practical resources that I had seen made their way into my classroom. I still have the fluffy number line, some ducks of different sizes and a coat-hanger counting stick that I made after attending.

Professional learning may provide us with some practical ideas, and in a rapidly changing educational landscape, it can also help us to stay informed and up to date. Yet there is considerable research that suggests that many professional learning experiences are not effective (eg Sims et al, 2017). This is possibly because educators are prone to developing stable habits of practice, and these habits are hard to change (eg Wood and Neal, 2007). Indeed, although I was motivated and full of ideas after my day of maths ideas, I did not use the experience to consider my own practice in any depth.

Therefore, for professional learning to be truly excellent, it should help us reflect, reframe, refocus and revisit our own beliefs and practices. This will inform us, and when necessary enable genuine shifts and changes in our pedagogy, and this change is the power of professional learning. In this edition, we examine professional learning in more depth, considering the features that are needed to make it effective, informative and transformational.

In our first article Sandra Mathers explores what we know about effective professional learning. She identifies some key themes, such as identifying a clear focus, the value of collaboration and the importance of active involvement. Sandra also provides some useful questions that could be used to guide decisions about which professional learning opportunity is right for you and your context.

Our second article explores the development of a system leadership approach to professional learning. Amanda King discusses how the Warwickshire Teaching School Alliance delivered a bespoke professional learning offer to early years practitioners across the county.

Effective professional learning is closely aligned to ideas associated with reflective practice, action research, practitioner inquiry and teacher as researcher. With this in mind, the final two articles discuss research projects involving practitioners. Research suggests that scientific knowledge is one area in which early years practitioners often lack confidence. Our third paper, by Glenda Tinney, Natalie MacDonald, Anne-Marie Gealy and Jane Waters, discusses a professional learning initiative that aimed to address this. The article discusses how a bespoke professional learning programme, based upon “science talk” and hands-on, practical activities impacted on practitioner’s views of science, and would be useful to anyone planning or developing professional learning programmes.

Finally, in the fourth article I share the experiences of two teaching assistants who became involved in a project that they both felt passionately about. However, lack of time, funding and opportunity meant that it was challenging for them to meet up to collaborate and develop their practice in a traditionally collaborative manner. They came up with an innovative method to work with one another and share their learning experiences, and this article could be useful if you were seeking some alternatives to traditional professional learning courses.

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References

- Sims, S., Moss, G., Marshall, E. (2017). Teacher Journal Clubs: How do they work and can they increase evidence-based practice? *In Impact*, September 2017. Accessed 2.2.20 from <https://impact.charteredcollege/article/sims-teacher-journal-clubs-evidence-based-practice/>
- Wood, W., Neal, D. (2007). A new look at habits and the habit-goal interface. *Psychological Review* 114 (4): 843

What are the features of effective professional development?

Sandra Mathers

Ensuring a high-quality workforce means having access to high-quality continuing professional development (CPD). The motivation to continually refine ones' practice is part of what it means to be an early years professional. As Dylan William says, all practitioners need to improve "not because they are not good enough, but because they can be even better". Research has shown that high-quality interactions between adults and children are the key ingredient in effective early education. So how can school and setting leaders identify the CPD which is likely to be most effective in developing knowledge, skills and practice?

Over the past 20 years many programmes have been developed and tested as part of research studies, and found to be successful in improving practice and child outcomes. We know that investing in CPD can make a difference: but we also know that not all CPD does make a difference. Of the programmes tested through research, there are as many showing no effects as there are successful ones. Successful interventions that have been tested as part of academic studies are often not available to settings and schools; and the CPD that is available has often not been evaluated. While organisations like the Education Endowment Foundation are beginning to build a knowledge base by robustly testing approaches, the list of evidence-based approaches for the early years is still very limited.

A recent review concluded that practitioner CPD opportunities in England:

are insufficiently evidence-based; do not focus sufficiently on specific pupil need.... are too inconsistent in quality... [and] lag behind those experienced by colleagues elsewhere internationally. (Cordingley et al, 2015)

Approaches to CPD vary so widely that it is difficult – and unhelpful – to try and identify which “types” are effective: professional development can include external training courses, support embedded within the classroom context (eg coaching, mentoring) and peer support networks (eg lesson study, learning networks/communities). A more promising approach is to draw on research evidence about the characteristics of effective professional development.

Characteristics of effective CPD

What does research tell us about the features of CPD likely to be successful in achieving changes to knowledge, practice and child outcomes? At the top of the list is having a **specific and articulated objective**: starting with the end in mind. This means

being clear about what you need to improve (eg supporting children's self-regulation), and seeking or developing CPD with high-quality content which meets that need. Research shows that very general CPD, for example which aims to cover all EYFS areas of learning and development, will probably be too broad to be effective.

The length and depth of CPD should be **matched to the content**. Short and sharp CPD can be effective if you need to develop a narrow aspect of knowledge or practice, for example health and safety training or learning how to implement a structured phonics programme.

But to develop and improve a complex aspect of practice, culture or leadership in a sustainable way, more will be needed: most one-off workshops or twilight sessions will do little to promote change. Training can be highly effective if it is of sufficient duration and intensity, and designed using evidence-based principles; but the evidence suggests that 20 contact hours or more - over two terms or longer - is needed for CPD which aims to achieve deep and sustainable change.

Effective CPD has an **explicit focus on practice**, and on **linking theory to practice**. It will include both theoretical knowledge (the what) and its application to practice (the

Figure 1: Characteristics of effective CPD



how), and build in explicit support for work-based learning and transfer to practice.

Collective participation of practitioners from the same school or setting is also important, to support sustainability through collaborative learning and joint practice development. Anyone who has been responsible for cascading external CPD will recognise the challenges of finding the time to share learning with colleagues, and act on that learning to inform change, when you have been the sole attendee at a training course. Effective CPD draws on **expert knowledge** when needed, including knowledge from research, theory and high-quality practice, but is also **appropriate for individual contexts**. Developing and/or commissioning effective CPD means balancing all these requirements. For example, when accessing external CPD, how can we support collaborative learning (perhaps sending multiple staff members), ensure high-quality content (try asking CPD providers to show their evidence-based credentials) and apply new learning in a manner which is evidence-based but also adapted to our school or setting, our context and our children?

Finally, **effective CPD involves active rather than passive learning**: adults are no different to children in this regard. This can take many forms, but might include professional enquiry, discussion, action research, active use of child assessment or practice observation to inform change. What springs to mind is the oft-cited quote from an unknown practitioner who wished s/he might “die during an in-service [training programme] because the transition between life and death would be so subtle”. Effective CPD should engage, empower, challenge and excite us as professionals: it should be “minds on”.

What can you do in your own school or setting?

Prioritise and plan for high-quality CPD. Rather than responding when a training need arises, actively take the initiative in the form of a staff development plan. Start with your child assessments: what do children need and is your team equipped to meet those needs? Use self-evaluation tools to support shared observation and professional discussion about practice strengths and areas for development.

Use Education Endowment Foundation toolkit and other sources to identify evidence-based approaches and

programmes, but also consider carefully which are right for your setting and children and how you might need to adapt them (while retaining the “active ingredients” which make them evidence-based and likely to be effective). This advice is frustratingly difficult to act on at the moment, as so few evidence-based approaches are available for the early years. But the knowledge base is growing, and strong demand for research-informed CPD from the sector will help to make sure this continues.

Use research evidence on the characteristics of effective CPD to guide decisions about which external CPD to invest in, and development of your in-house CPD. Questions to ask yourself and/or potential CPD providers might include:

- ▶ What CPD do you need for your staff team (and how do you know you need it)?
- ▶ Does the CPD have clear and articulated objectives for improving a specific aspect of children’s development, professional learning or practice, and does this match your plan?
- ▶ Is the length and duration appropriate to support sustainable change? How do you know?
- ▶ Does the content specifically address the intended goal; how is this informed by research?
- ▶ Can the CPD be applied in practice and does it actively support application? How?
- ▶ What are the opportunities for collective participation/learning? How will you plan for and support whole-team learning and application if not everyone has been involved in the CPD?
- ▶ What are the opportunities for active professional learning and enquiry?
- ▶ How will the CPD allow you to use evidence-based approaches but also meet the specific needs of your school/setting, staff and children?

Plan for making the most of your investment in CPD. Make concrete arrangements for engaging and involving the whole team, if not everyone has been involved. Plan for application to practice and invest time in making sure this happens and is sustained. Try things out, refine and adapt based on evidence. CPD is a process rather than an event.

If you are using structured interventions or programmes in your school or setting (eg programmes which provide a specific script or activities to follow), consider how

these will facilitate professional development and learning. Where possible, choose programmes which do both (ie provide a script but also some element of CPD).

Evaluate the impact of the CPD. Try and avoid using a tick-list approach. How has staff knowledge and understanding been developed? How do you know that there has been a change in your targeted outcome for improvement?

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References and reading

- Cordingley, P., Higgins, S., Greany, T., Buckler, N., Coles-Jordan, D., Crisp, B., Saunders, L. & Coe, R. (2015). *Developing Great Teaching: Lessons from the International Reviews into Effective Professional Development*. London: Teacher Development Trust. <https://tdtrust.org/wp-content/uploads/2015/10/DGT-Full-report.pdf>
- Stoll, L., Harris, A. & Handscomb, G. (2012). *Great professional development which leads to great pedagogy: nine claims from research*. Nottingham: National College for School Leadership. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/335707/Great-professional-development-which-leads-to-great-pedagogy-nine-claims-from-research.pdf
- Timperley, H., Wilson, A., Barrar, H., & Fung, I. (2007). *Teacher professional learning and development: Best evidence synthesis iteration*. Wellington: Ministry of Education. <http://www.educationcounts.govt.nz/publications/series/2515/1534>.
- Zaslow, M., Tout, K., Halle, T., Whittaker, J. V., & Lavelle, B. (2010). *Toward the Identification of Features of Effective Professional Development for Early Childhood Educators*. *Literature Review*. Washington: Office of Planning, Evaluation and Policy Development, US Department of Education. <https://www2.ed.gov/rschstat/eval/professional-development/literature-review.pdf>

Developing system leadership in the early years sector: a case study



Amanda King

This case study considers an emerging approach to early years system leadership, intended to act as a strategy for workforce development, and ultimately to improve outcomes for children in the Early Years Foundation Stage.



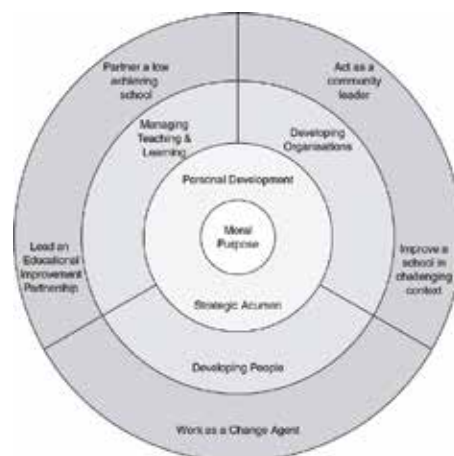
Introduction: What is system leadership within education?

The objective of system leadership within education is for good and outstanding leaders to work beyond their own school, acting as a catalyst for improvement where schools are facing specific challenges or performing less well than they might. Fullan (2005) describes these types of leader as “system thinkers” who have a moral purpose to engage with and facilitate the development of individuals and groups.

Why is this approach needed in early years education?

Acknowledging research regarding the relationship between the quality of practice and qualification base within the early years sector, the past fifteen years have seen government initiatives aimed at improving outcomes and closing the attainment gap (eg Mathers et al, 2007; Mathers and Smee, 2014). One strategy has been to aspire to a more highly trained early years workforce (eg DfE, 2017). The challenge is achieving this aspiration in a climate of diminishing resources. In 2018, the Education Policy Institute report (EPI, 2018) identified that around 50% of 3- and 4-year-olds were educated in settings with a graduate, falling somewhat short of the intended 100%. This figure reduces to 44% in respect of funded 2-year-olds (EPI, 2018: 24-26). This outlines a potential difficulty in sustaining the current proportion of graduates working within the sector.

Figure 1 System Leadership from Fullan, M (2005)



My discussions with practitioners have led to an understanding of multiple barriers which challenge access to continued professional development. Anecdotal conversations suggest that the barriers include:

- ▶ lack of respect and parity between Early Years Teacher and Qualified Teacher roles
- ▶ maintaining staffing ratios whilst individuals attend training
- ▶ inadequate funding hinders the ability to appoint graduates and pay them
- ▶ high turnover of staff
- ▶ cost of achieving a higher qualification
- ▶ time to achieve further qualifications and also to work.



If workforce development is known to improve outcomes for young children, such barriers need to be surmounted. One solution is an emerging model of system leadership for the early years sector which the following case study exemplifies.

Case study: beacons of excellence - support across the early years sector

Warwickshire Teaching School Alliance (WTSA) is co-led by Bedworth Heath and Kenilworth Nursery Schools. Since their designation as a Teaching School in 2016 they have developed an alliance with infant and primary schools and an increasing number of early years providers across Warwickshire and Coventry. Their work around system leadership for the early years can help to understand how improvement within the sector can be built from within. The focus of this work is centred on the Early Years & Key Stage 1 and there is a clear ethos:

- ▶ The quality of what we deliver matters.
- ▶ High aspirations are crucial if all children are to realise their potential.
- ▶ “Every child is our child.”

The WTSA offers the following options.

Professional development

The Teaching School professional development offer has enabled over 2,000 practitioners to access training over the last three years. As a not-for-profit venture, the cost of courses is low and quality is high with content relevant to the needs of early years providers.

School-led initial teacher training

WTSA offers 15 early years specialist initial teacher training places in partnership with Warwick University.

School to School support and Setting to Setting support

The Teaching School links the organisations in their Teaching School Alliance with schools and settings who request extra support and advice. They are well placed to do this because their leaders have local knowledge and can identify where the key resources and expertise lie. The Teaching School coordinates dissemination of expertise in partner schools and early years settings to provide:

- ▶ peer-to-peer leadership development and coaching
- ▶ supported strategic development
- ▶ direct support for other schools and settings to improve the quality of practice
- ▶ specialist leaders of education (SLEs) to support the sector
- ▶ engagement opportunities in research and development activity

Developing a self-supporting sector: Early Years Aspiration Networks

The success of this work has led to a close working relationship with Warwickshire County Council via an annual service level agreement. The first priority within the Warwickshire Education Strategy is early years education:

Our challenge is to foster children's love of learning from birth through early childhood and into year 1 so that all young children achieve their potential. Together we will champion the Early Years Foundation Stage.

One element of the work to support this priority has been establishment of locality-based pedagogical networks. These provide free access to professional development, dialogue and reflection. Fourteen geographically-based Early Years Aspiration Networks, have been set up, facilitated by WTSA members. They are open to all early years practitioners working with children aged birth to five in schools and settings. There is a small amount of funding to facilitate the work of each group. A local early years data set is provided to support each group's work. They meet five or six times each year. The focus is varied and currently includes:

- ▶ effective teaching, learning and assessment
- ▶ vulnerable learners, closing the gap
- ▶ what “good” or better practice looks like and how to achieve it
- ▶ the leadership of quality improvement and professional pathways for learning
- ▶ communication & language development
- ▶ physical literacy.

Whilst the networks are still at an early stage, they are beginning to champion collaboration and enable practitioners to share good practice and work together.

At a strategic level the initial barriers were related to mapping 1,062 registered early years providers, 39 nursery classes and 6 maintained nursery schools into the 14 local areas. Some groups are larger than others and further work needs to be done to make the group size manageable. Warwickshire is a large county, running some 60 miles north to south. The immediate challenge was ensuring all practitioners could access a network. A pilot of five networks was decided upon as a manageable starting point, with a roll out of the remaining networks over a 12-month period.

A further consideration was dissemination and reaching the sector. To surmount this, the local authority sent out the initial invitation letters for each launch event. They were advertised using social media and via early years manager and headteacher briefing sessions. In building anticipation of something new that was free the initial launch sessions got off to a good start.

There is a cost to delivery of this model, but it provides good value and equates to £35 per Ofsted registered organisation. The Early Years Aspiration Networks are funded for two years. The funding pays to release the Network lead to plan, deliver and report on each meeting. There is a small research

Networks	6 meetings p/yr	Network action research fund
1 network	£2,250	£500
14 networks	£31,500	£7,000
Total		£38,500

Table 1: Delivery Costs for the Networks

grant to facilitate the work of each group. The long-term future requires bidding for money from various funding streams within the county and beyond.

Focussing on what is pertinent to each locality group

The meetings need to be relevant and to focus on improving practice in areas where children's achievement is lower. To provide this in a succinct and easy to manage way the local authority's data team "Insight" created a data profile for each Aspiration Network to outline key strengths and areas for development. The image below shows the "Good Level of Development" profile across the Schools within one of the network groups and determines that the area for focus is reading and writing.

Figure 2: Data profile example



With the groups organised and a focused starting point identified, the next step was to identify Aspiration Network Leaders. These were identified as being individuals with a strong track record of supporting early years education beyond their own organisation. An initial meeting outlined the rationale and approach. It was agreed that the networks would have a consistent agenda but be flexible enough to develop their own identity. A framework for implementing a network was drawn up that included a checklist:

- ✓ Review the data set for the network area and be aware of priorities.
- ✓ Make direct contact with the settings and schools in your network area to establish relationships and explore what support is needed.
- ✓ Plan and deliver a launch event.

- ✓ Establish network terms of reference with attendees.
- ✓ Draw up an action plan.

WTSA supported the operational aspects by providing templates for agendas, minutes, action plans, monitoring spend etc and they worked with the LA to draft a memorandum of understanding and an information sharing agreement. The proposed meeting framework was clear about the supportive nature of the networks alongside the drive to improve quality, and included:

- ▶ practitioner wellbeing
- ▶ sharing problems and celebrating achievements
- ▶ training and research feedback
- ▶ assessment and moderation
- ▶ focus of the session from the action plan

Each Aspiration Network Leader has been asked to reflect upon the challenges and successes so far. The opportunity to network, build relationships within a locality and develop clear pathways around transition has been highlighted as a strength in this approach by all of the pilot groups. Each of the Aspiration Network leads have been asked to provide a summary of the challenges they have encountered and some of the solutions they have tried, some of which are discussed in Table 2 overleaf.

Next steps

This model needs longer to embed before it will start to have a long-term influence on practitioner development and outcomes for children. To ensure there is consistent quality and the necessary impact, a monitoring programme is being developed. There is a need to secure longer term funding to ensure sufficient capacity to deliver the Aspiration Networks and to respond to the needs certain to arise as their value in offering support becomes more established. To build capacity, 10 early years specialist leaders of education (SLEs) with qualified teacher status have been accredited. This will build to 14, with the plan to assign one SLE to each Aspiration Network.

Work is underway to broaden this to an accreditation for practitioners called a "specialist lead practitioner" (SLP). This will recognise and celebrate the huge expertise that sits within the sector and begin to think about succession planning, building early years leaders for the future with the knowledge, skills and confidence to disseminate good practice.

With this capacity in place comes the opportunity to secure funding to pay to release individuals to undertake a direct role, supporting improved practice through and mentoring to improve outcomes across Warwickshire. It builds a framework in which to deliver support in a system-led way and features prominently within a new integrated early years strategy due to be published in Summer 2020.

In summary

This emerging model of early years system leadership acknowledges that the early years sector in England is based on mixed market delivery of early childhood education and care. Private day nurseries, pre-schools, childminders and schools as well as the voluntary sector provide services. Business models play an inherent part within many of the structures that exist, therefore it is somewhat inevitable that a climate of competition is in play. This must be acknowledged as a barrier to system leadership where successful leaders step up to improve the quality of provision for all children, and therefore indirectly improve the fortunes of their competitors.

Within the context of this, the Warwickshire Early Years Aspiration Networks are proving to be a useful vehicle, providing an approach to bring the early year sector together to:

- ▶ improve the quality of practice in all early years provision
- ▶ improve practice in disadvantaged areas and close the gap
- ▶ improve transition across the Early Years Foundation Stage
- ▶ make best use of the expertise available across the sector
- ▶ celebrate and recognise success within and beyond the sector
- ▶ ensure succession planning and workforce development into the future.

Table 2 Aspiration Network Leads comments on challenges and solutions of the initiative]

Challenges	Solutions
Travelling time for organisations in the largest areas	Splitting into two separate meetings solved this problem, practitioners can attend any session they choose across all of the networks
Session times do not meet everyone's needs, attendance for childminders is difficult	We are looking at rotating session times to be more inclusive
Building relationships and trust to establish regular attendance. Breaking down barriers and perceptions of what the groups are about within a business-driven environment	It has been important to visit each setting to explain the purpose of the Aspiration Networks and the benefits, the personal touch has definitely helped. We have been clearer about the vision for Aspiration Networks and explained that support is reciprocal and to help everyone deliver the best possible practice
Competing demands/lack of time	For some of the Academy groups and day nursery chains the Aspiration Networks are an addition to what they already receive. We have encouraged attendance by focussing on the importance of shared moderation and standardisation of assessment information, networking beyond your own organisation, sharing good practice and supporting transition
Building identity and sense of belonging to the group	Setting up and agreeing shared terms of reference. Providing a folder and proformas to record network meetings, evidence engagement and impact for parents, Ofsted etc has been helpful. Branding the meetings, providing resources, visiting practitioners in their own organisations and ensuring regular communication and updates has given a sense that the groups have a long-term future
Cascading of information	A mailing list has been established and all the notes, ideas and written documents are circulated. A central website could post information about all 14 Networks, so we share learning across networks as well as within them
Making the meetings relevant across different provider types within the early years sector	Use of data as a focus for work is important in establishing purpose and relevance. We are also constantly asking what practitioners what they need and want to focus on.

Building quality and system leadership for the early years sector follows the government's direction of travel and ensures that Warwickshire is working in a proactive and forward-thinking context that is providing a solution to some of the barriers that limit workforce development.

Amanda King has worked in early years education for 25 years undertaking roles in local authorities as an adviser, training as an additional inspector for Ofsted, writing and delivering training to a wide range of audiences and leading two maintained nursery schools and a Teaching School in the West Midlands.

References

- Bonetti, S. (2018). *The Early Years Workforce: A fragmented picture*. London: Education Policy Institute. Available at https://epi.org.uk/wp-content/uploads/2018/03/EPI_
- DfE (March 2017). *Early Years Workforce Strategy for England*. London: Dfe. <https://www.gov.uk/government/publications/early-years-workforce-strategy>
- Fullan, M. (2005). *Leadership & sustainability: Systems thinking in action*, California, Corwin Press.
- Mathers, S., Sylva, K., & Joshi. H. (2007). *Quality of Childcare Settings in the Millennium Cohort Study*. Research Report SSU/2007/FR/025. London: DfE. Available at: http://www.dfes.gov.uk/research/data/uploadfiles/SSU2007FR025_per centREV.pdf
- Mathers, S. & Smees, R. (2014). *Quality and Inequality. Do three- and four-year olds in deprived areas experience lower quality early years provision*. London: Nuffield Foundation. Available at: www.nuffieldfoundation.org/sites/default/files/files/Quality_inequality_childcare_mathers_29_05_14.pdf

“Too complicated for little ones....”: Developing a professional learning programme to support early years practitioners’ confidence in engaging science concepts in their practice

Glenda Tinney, Anne-Marie Gealy,
Natalie MacDonald and Jane Waters

Introduction

This article outlines a professional learning programme intended to support practitioners from 16 Flying Start settings in one local authority in Wales. The research team used the Sustained Shared Thinking and Emotional Well Being (SSTEWE) rating scale (Siraj-Blatchford et al, 2015) to observe and rate adult-child interactions in each Flying Start setting. Overall, the observations highlighted some good and excellent practice, however adult-child interactions linked to critical thinking, curiosity, investigation and concept development were the least developed aspects of practice (Waters and Macdonald, 2018). This led to the production and delivery of a bespoke two-day professional learning programme, “Talking Science”, designed to support practitioners to develop confidence to support problem solving, critical thinking and science concepts with young children.

Context

Young children are often referred to as young scientists who have natural curiosity about the world (Cremin et al, 2015). However, Andersson and Gullberg (2014) highlight that early years practitioners often have negative feelings about science. These are often related to concerns about posing or responding to children’s questions; a lack of subject knowledge; and difficulties planning activities for young children.

We wanted to design and evaluate a programme that addressed these concerns, with a focus on encouraging children’s engagement and enjoyment rather than science as subject matter alone. Such an approach would support creative learning and child-led pedagogies and find the science in the everyday rather than as a “special” subject (eg Cremin et al, 2015).

Designing the professional learning programme

In order to encourage practitioners to consider ways to support children’s concept development through encouraging curiosity and exploration, the professional learning provided examples of practical, fun activities. These allowed exploration of everyday activities that might occur in early years settings, with the objective of encouraging discussion, experimentation and “science talk” such as “what happens if”, or “why did that happen”.

Key features of the programme included:

- ▶ opportunities for hands on inquiry,
- ▶ emphasis on the use of open-ended questions, science talk, and modelling of concepts
- ▶ understanding that “mistakes” were viewed as a positive learning opportunity.

This approach was informed by Katz’s (1993) work on dispositions for learning, creating practice where practitioners and children explore, discovers and develop ideas together, and supported sustained shared thinking (Siraj-Blatchford et al, 2015), which underpins the SSTEWE rating scale.

The format of the “Talking Science” professional learning programme was two half days, each of 4 hours, three weeks apart.

Day 1 included opportunities that:

- ▶ acknowledged current practice and confidence
- ▶ enabled participants to think about science and interpret what science meant in their own context
- ▶ enabled hands-on participation in prepared practical work linked to sinking and floating
- ▶ enabled small group and whole group discussion

- ▶ developed skills in meta-cognitive talk and modelling thinking
- ▶ supported practitioners to plan science activities for conducting in forthcoming weeks. They would film record these activities for reflection with colleagues within their setting, in preparation for Day 2 of the professional learning.

Day 2 included opportunities:

- ▶ that allowed the practitioners to reflect and share experience of conducting the planned and filmed science activity
- ▶ enabled all to partake in a carousel of indoor and outdoor supervised early years activities focusing on forces, biodiversity and the water cycle
- ▶ revisited their earlier interpretations of science from Day 1
- ▶ and re-evaluated their approach to science in the early years.

A total of 64 participants attended the professional learning from 16 Flying Start settings across one local authority in Wales. Each setting closed for the duration of the training. This allowed the whole staff of each setting to attend together and have an opportunity to share the experiences and hear the same key messages. This was instead of a more traditional cascade model of professional learning where only some practitioners attend and then share the training outcomes with setting colleagues. During the professional learning the insights of the practitioners taking part were collected, and views on Day 1 were compared with those on Day 2.

Findings

On Day 1, the main perception of science was very much linked to the practitioners' experience during their own education. Perceptions of science as complicated or difficult; and their own confidence in supporting science learning in practice formed a significant part of all Day 1 group discussions. Some groups suggested that "At adult level it is scary" due to "not knowing if all the information was correct". Participants also explored how school experiences of science had led to worries of "getting it wrong" and "wanting to be right". There were some participants in different groups who noted they "hated" science at school, and that that the term "science" was a "turn off" and that they were apprehensive about it. One group suggesting that it is "Too complicated for little ones....When I think of children we're aiming too high". Practitioners suggested that they would need to think more when trying to explain scientific ideas, and that they did not have the confidence to do this.

Some participants did suggest that science was part of the everyday. They commented for example, "We do it automatically but don't realise it's science" and "We

do things in work which are science, but don't think of them as science". This perception was more widely held by the end of Day 2, the understanding of science in the everyday, rather than science as "special", was a key theme within the feedback. Several participants' initial view of science as a specific subject linked to the school curriculum had evolved to viewing science as part of the natural play and activities within the settings. One practitioner wrote that she was "Given lots of ideas of using science and realising that we do use it every day in the setting". This aligned with the professional learning aims, which were to support practitioners to see that science can be found in everyday experiences: suggesting that this aspect of the professional learning was successful. Some of the key shifts in perceptions are illustrated in Table 1 overleaf:

Practitioners also noted the value of the practical and experiential approach to professional learning, which they could use to support children's explorative learning and to support "science talk". Several groups discussed science as being sensory, for example playing with ice and making potions with one group noting that "smelling, touching and using senses" is part of science. One practitioner wrote "Taking part in the practical activities highlighted that even as adults you do not always know the answers".

Andersson and Gullberg (2014, p.42) identified four skills which preschool practitioners can develop when teaching science; one being "capturing unexpected things that happen at the moment they occur." The data collected from practitioners in this professional learning suggested an increased willingness to engage with this. One group discussion provided examples of opportunities to explore science concepts during cooking, outdoor learning and "welly walks", changes in the weather, recycling, planting and looking after pet fish, water play and construction play. For example, one practitioner said they had valued the opportunity to "Explore with the children activities which may accidentally happen" and another commented on "Allowing children to take the lead and follow through with questions relating to science".

Siry and Lang (2010) discussed the benefits of exploratory talk to support children's understanding of science concepts and how adults play an important part in facilitating and enabling this talk. Wright and Gotwals (2017) found that young children, when receiving support and appropriate scaffolding, participated in sophisticated science talk. Talking out loud as a scaffold for learning was explored in the professional learning and appeared within Day 2 discussions and in the evaluation questionnaires. For example, one participant said that "Talking out loud – seems strange to do, but observed the children get a lot out of it" and another said "Talking about what you think is happening to the children out loud.... Going on a journey with the children". One practitioner said "I will be much

	Day 1	Day 2
Perceptions of science	<ul style="list-style-type: none"> ▶ Linked to own school experience ▶ Associated with white coats, professors and “Einstein” ▶ For intelligent and “geeky” people ▶ Science as a subject: Periodic tables, Bunsen burners ▶ Seeking the “right” answer 	<ul style="list-style-type: none"> ▶ Science as happening in the everyday. ▶ Science as everyday experience. ▶ “All play involves an element of science” ▶ Excited for new experiences
Confidence in science	<ul style="list-style-type: none"> ▶ “Science is complicated” ▶ “Science is scary” ▶ “Science is confusing” 	<ul style="list-style-type: none"> ▶ “Science is simple” ▶ “Feel more confident” ▶ “It’s ok not to know everything”

Table 1 Practitioner’s perceptions of science: Day 1 and Day 2

more open-minded during free play and activities with the children and talk about my own thoughts and interest in what might happen” and another suggested she would be “Thinking out loud to encourage the children to talk about their own thoughts and feelings”. The findings from the evaluation questionnaires and Day 2 discussions suggest the participants had identified the significance of questioning as part of their role in scaffolding science learning.

Conclusion

Practitioners play a significant role in engaging young children’s early interest in problem-solving, critical thinking and science. The professional learning experience outlined here suggests that by exploring practical examples; modelling questioning and highlighting the opportunities for learning that come from “not knowing”, practitioners develop more positive perceptions of early years science.

Andersson and Gullberg (2014) suggested that finding answers to questions through observation and investigation can be empowering and that practitioners supporting children to find things out for themselves can support the children’s confidence and self-esteem. Not feeling that they have to be all knowing and having the confidence to ask questions may support practitioners to develop the child’s own confidence to investigate as well.

Furthermore, participants who noted negative experiences of science, especially during secondary education, may benefit from professional learning that is designed to model early years pedagogy, as it can make science education more meaningful and accessible, and change some of the negative perceptions practitioners hold. Where participants were involved in activities such as water play, nature activities and small world play they developed confidence and a more positive approach to science.

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References

Andersson, K. and Gullberg, A., 2014. What is science in preschool and what do teachers have to know to empower children? *Cultural Studies of Science Education*, 9 (2), 275–296. Available from <https://doi.org/10.1007/s11422-012-9439-6> [Accessed 8 May 2019].

Cremin, T., Glauert, E., Craft, A., Compton, A. and Styliandou, F., 2015. *Creative little scientists: exploring pedagogical synergies between inquiry-based and creative approaches in early years science. Education 3-13*, 43 (4), 404-419.

Katz, L.G., 1993. Dispositions: definitions and implications for early childhood practices. Perspectives from ERIC/EECE: *A Monograph Series, No. 4. ERIC Clearinghouse on Elementary and Early Childhood Education*, Urbana, Ill.

Siraj, I., Kingston, D. and Melhuish, E., 2015. *Assessing Quality in Early Childhood Education and Care: Sustained Shared Thinking and Emotional Well-Being (SSTEW) Scale for 2-5-year-olds Provision*. Stoke-on-Trent: Trentham Books.

Siry, C. and Lang, D., 2010. Creating participatory discourse for teaching and research in early childhood science curricula. *Journal of Science and Technology*, 20, 643-655.

Waters, J. and Macdonald, N., 2018. Using ‘quality’ measures of children’s learning experiences to target professional learning in early years pre-school staff: the experience of one local authority in Wales. In: *‘Early Childhood Education, Families and Communities’*. [online] Budapest: EECERA, p.59. Available at: <http://www.eecera2018.org/uploads/2018/Abstract%20book%20-%20Final%20@%201.8.18%20v2.pdf> [Accessed 19 Aug. 2018].

Wright, T.S., & Gotwals, A.W. (2017). Supporting kindergartners’ science talk in the context of an integrated science and disciplinary literacy curriculum. *The Elementary School Journal*, 117(3), 513-537.

Caught on camera: using video reflection as a tool for professional learning.

Helen Lewis

This paper shares the experiences of Hayley and Theresa, two teaching assistants working in early years classrooms in two schools in south Wales. Both had responsibility for developing a new initiative in their settings – the introduction of reading dogs to support children’s literacy and wellbeing. Both had to reflect on the impact of this practice on the children they worked with.

Reflection is widely acknowledged to be an important part of good professional learning, offering the opportunity to investigate, revitalise and transform what we do. However, despite the comprehensive literature on the subject, there is surprisingly little advice on how to improve reflective skills, and reflecting well is not always as easy as it seems. Hayley and Theresa decided that they would collaborate in order to explore their practices and to reflect more deeply on these. This article explores what happens when the practitioners used video reflection to develop and inform their practice.

Introduction

The term “reflective practice” is a familiar one to those working in education. There are many publications dedicated to the subject, most of which revolve around the notion of reflection as involving revisiting and evaluating what we do. To help us do this, there are many models to scaffold and support our reflections (eg Schön, 1983). An important consideration that we need to remember is that effective reflection should lead to transformation not just examination of practice.

However, a key limitation of many models of reflection is that they rely solely on our own personal reflections. These are of course valuable, but carry some risks. For example,

how do we know if we are reflecting on the right things to transform our teaching and pupil learning? What if we are unaware of some of our practices – both the good and the not so good – if we do not know about them how can we transform them? And, of course, what if “what we think we do” is not necessarily what actually takes place in our classrooms, in this case we may be transforming the wrong aspects of our practice.



Koda the dog

This article considers a process that Hayley and Theresa used to examine their practice in a collaborative manner. It is called “video stimulated reflective dialogue” or VSRD. Moyles et al (2003:4) describe VSRD as “an opportunity to reflect with a knowledgeable research partner on one’s own teaching”.

Hayley and Theresa decided to use VSRD because they felt that the presence of the dog was making a difference to pupil learning, but wanted to find a way to investigate this in more detail. Using video reflection offered them the chance to revisit the session in depth and to challenge and question assumptions about practice.

Key to better reflection is the need to become deliberate and critical about what we do – and this means challenging and questioning existing practices. The strength of VSRD is that it goes beyond the process of viewing the video clip by yourself and supports deliberate reflection. Day (1999) suggests that critical reflection happens when there is opportunity to systematically discuss practice with another person acting as mentor or critical friend. So, the next step in the VSRD process is to select a small part of the video (maybe because it surprised, confused or delighted you) to watch with a trusted colleague or mentor. This is different to peer observation processes, or other strategies since you



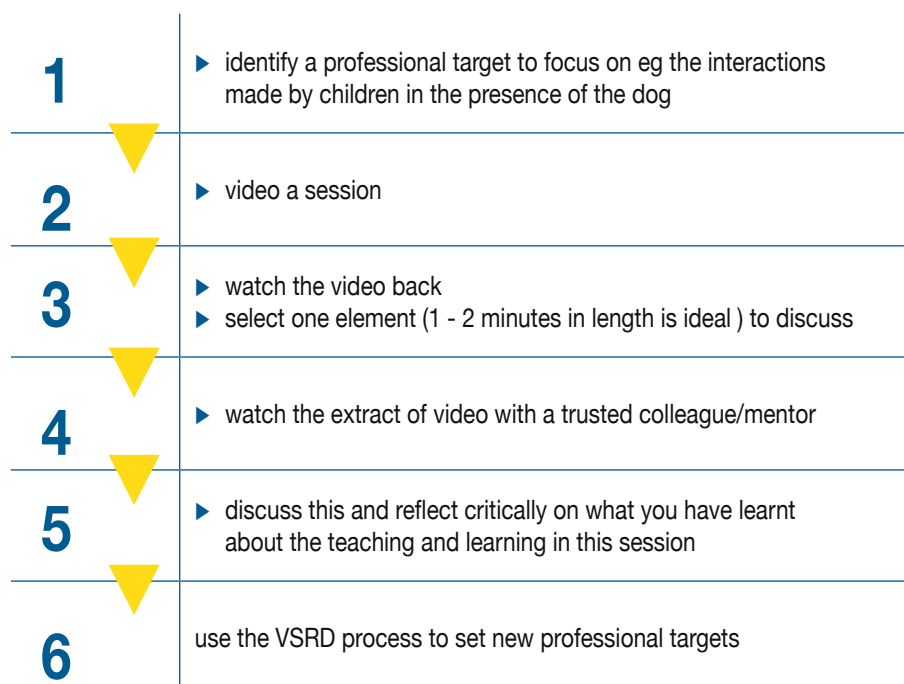
Jonesy the dog

remain in control of the parts of the lesson that are talked about since you select which part of the session to share. The resulting dialogue helps extend, explore and critically reflect on your practice – how you feel about it, and how you understand it.

This process is illustrated in the diagram below:

Hayley and Theresa began by identifying an aspect of their practice that they wanted to focus on. This focus related to how children behaved when the dog was present in role-play sessions, and also on how comfortable the dogs, Jonesy and Koda, appeared in these sessions. Hayley and Theresa videoed themselves teaching. Immediately after the session, they reflected on the lesson, and any particular strengths or areas they wished to highlight were

Figure 1 The VSRD process



noted. This reflection-in-action relied on their memories and feelings about the session. They then watched the video of the session and used this as a basis to reflect (first privately and then in dialogue with each other) upon their teaching and the children's learning.

Findings

At first Hayley and Theresa were a little apprehensive about being filmed and VSRD was viewed as a fairly risky endeavour, but as soon as they had a go they said they wished they had done this years ago. They agreed that VSRD had been of great use, both for their own teaching and also for closer observation of individual learners, and for monitoring the wellbeing of the dogs. VSRD had surprised them. The surprise was sometimes in terms of the things that they thought they were very good at but then realised that they could improve. Sometimes VSRD revealed that they were actually teaching something better than they thought they were. Sometimes the VSRD helped them to look specifically at learners and their responses – both verbal and non-verbal – in sessions.

Researchers such as Muir and Beswick (2007) suggest that there are different levels of reflection that can take place, which move from descriptive to critical forms. It is the critical reflections that help us transform our practices. Analysis of the reflective dialogues revealed that the teachers changed how they reflected when they used VSRD. There was no critical reflection evident when the teachers reflected without having seen the video. When they first watched the video the teachers all reflected on the technical aspects of their practice and things such as their hair, their voice and their mannerisms, but through dialogue they quickly moved beyond this. All identified some critical incidents in sessions and deliberately reflected on these. This is important, as it is the critical reflections that have implications for transforming teaching, and the teachers were all more likely to reflect in this way when talking through their practice. The video acted as a scaffold for this discussion.

Summary

Reflective practice is clearly something that education professionals should engage with, but it is not without challenges. There are many questions to consider, for example, how do you gauge the quality of reflection? What does good reflective practice look like? How do we know whether we are getting better at reflecting? What sort of reflection really contributes to transforming practice?

VSRD offers an inexpensive, practical solution to some of these challenges, and in this study improved the quality of Hayley and Theresa's reflections, which had a positive impact on their practices. They both said VSRD had been very beneficial, and was something that they felt was a valuable staff development tool. All felt that they had made

genuine and sustainable changes to their practice as a result of using VSRD.

But VSRD is more than just making a "nice film" of a session. The talking about the video clip is particularly useful in helping to focus on the children's thinking and practitioners' teaching of it. Good conversations about learning have a number of dimensions to "stimulate, scaffold and sustain" (Lofthouse, 2017:11). Conversation using VSRD can contain these dimensions. Establishing a relationship that is trusting, open and honest is key. It is also important as it helps us to expose and re-examine beliefs, assumptions and expectations. To do this effectively you need to be open-minded, active and committed to improvement.

Clearly VSRD as a process entails organisation, practical considerations relating to the ethics of videoing classroom practice need to be made and, of course, the process needs the luxury of time and the identification of someone with whom to discuss your practice. It is not something that could be undertaken on a daily or even weekly basis. Nonetheless, it is a valuable tool to help refine and deepen reflective practices and, as the teachers in this study discovered, can really reveal some unexpected things, which can lead to transformation of practice.

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References

- Day, C. (1999). *Professional Development and reflective practice: purposes, processes and partnerships*. *Pedagogy, Culture and Society* 7 (2): 221-223.
- Lofthouse, R. (2017). Improving mentoring practices through collaborative conversations. *CollectivED* (1):10-12 Carnegie School of Education, Leeds Beckett University.
- Moyles, J., Hargreaves, L., Merry, R., Paterson, F., Esarte-Sarries, V. (2003). *Interactive teaching in the primary school: digging deeper into meanings*. Maidenhead: Open University Press .
- Muir, T., Beswick, K. (2007). *Stimulating reflection on practice: using supportive classroom reflection processes* *Mathematics Teacher Education and Development* 8: 74-93.
- Schön, D. (1983). *The reflective practitioner: how professionals think in action*. New York: Basic Books.



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