System leadership: policy implementation in mathematics and science professional development

Making change happen in teacher professional development

Strand Report **2**

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Methods

Data collection used mixed methods. The quantitative component was a survey of CPD leads. The qualitative component comprised interviews with head teachers, CPD leads and school governors, and focus groups with classroom teachers. We chose a case study approach to identify what works well in different school contexts such as phase and setting and build up a rich picture of the participating schools. This approach offered us in-depth insights into a range of participant experiences within their particular context.

We designed and distributed the survey to CPD leads through Qualtrics. Forty-six CPD leads completed or partially completed the survey. Of those respondents (27) who provided information about their schools, the data shows that they were broadly evenly split between those working in primary and secondary phases, and between those in academies and in maintained schools. Eleven schools were academies, with nine of those in MATs. One respondent worked in a university technical college, also part of a MAT, and one respondent worked at MAT level. Geographically, most respondents' schools were located in Yorkshire and the Humber and the East Midlands.

Eleven case study schools were identified through survey responses, existing networks and contacts, and suggestions from the project stakeholder group. The participating case study schools represented a mix of phase, type, and geographical contexts *(see Table 1, opposite)*.

Case studies were designed to gather a rich understanding of each school's approach to CPD, through interviews with the Headteacher/other senior leaders, CPD lead and a focus group with 2-5 members of teaching staff.

In the survey and the case studies, we asked respondents to identify and describe a CPD programme they had been involved with, in order to gain understanding of what the schools believe works in their context. However, factors of leadership emerged strongly in the data and for the purposes of this specific report we have concentrated our analysis on the characteristics and actions of school leaders with regard to CPD.

Each interview and focus group was audio recorded and transcribed and then imported into Nvivo software. We also produced summary notes of each case study visit to complement the interview and focus group transcripts.

Table 1: Participating schools and characteristics

Case Study	School	Characteristics
1	Trinity Specialist School	Community special school that hosts pupils with severe and complex learning difficulties aged between 11 – 19.
2	Oyston Primary Academy	Primary school, part of a MAT
3	Unsworth Academy and Sixth Form	Specialist technical academy and sixth form
4	Carter High School	Secondary school
5	Stamford Primary School	Primary school, part of a MAT
6	Blackley School	State-maintained, Church of England secondary school
7	Sycamore Grammar School	Grammar school with specialist status in science and mathematics
8	Huntley School	Mixed secondary school and sixth form college with academy status
9	Rowan Primary School	Local Authority maintained community primary school
10	Borough Primary school	Local Authority maintained community primary school
11	Barton Wharf Primary School	Primary school, part of a MAT

Analysis

Qualitative Analysis

A thematic approach to the analysis of qualitative data is particularly powerful in these circumstances. Braun and Clarke (2006) identify six key stages of thematic analysis:

1. **Familiarizing yourself with your data**: Transcribing data, reading and re-reading the data, noting down initial ideas.

2. **Generating initial codes:** Coding interesting features of the data in a systematic fashion across the entire data set framed by our research question and underpinning questions, collating data relevant to each code.

3. **Searching for themes:** Collating codes into potential themes, gathering all data relevant to each potential theme.

4. **Reviewing themes:** Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.

5. **Defining and naming themes:** Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.

6. **Producing the report:** providing rich and detailed description situated within appropriate existing theory

This approach informed our data analysis using the NVivo qualitative data management program to manage each data set.

Text units were arranged from the transcripts with potential themes categorised within our framework based on converging responses from participants which lead to the identification of common patterns.

Themes represented key issues emerging from the data (e.g. characteristics and actions of leadership related to CPD provision and support).

This approach contrasts with a purely inductive approach more typical of Grounded Theory (Charmaz & Belgrave, 2012). Thus, by asking the participants to explain what they meant in response to questions we could analyse their perceptions which in turn, allowed us to identify emerging themes.

Quantitative Analysis

Ethics

All University work of this nature is reviewed by university ethics reviewers to ensure that participants are treated appropriately, and their rights respected. An ethics submission was produced by the research team and assessed by the University Ethics Committee. Further information can be found here: https://www.shu.ac.uk/research/ethics-integrity-and-practice. All data was transferred and protected on an encrypted drive held by the university. All data was completely anonymised with any clear references to schools and/individuals removed.

Each school was provided with a project information sheet detailing the purpose and process of the research and a copy of the privacy notice. Each school was asked to complete a consent form prior to participation and all participants were informed of their right to withdraw from the research at any time.

Findings

We used three broad categories to frame our findings. The categories were identified in Strand 1 of our study to house the wide variety of emerging themes from the systematic literature review. The categories are a useful way of framing the emerging themes from Strand 3 as there is strong synergy between emergent themes from both strands. While there is a great deal of crossover between the three categories each offer enough variation to frame emerging themes.

The three categories are:

Trust leadership

- leadership have best interests of the school, teachers and students at heart
- learning around what a collaborative culture looks like
- encouraging vulnerability and being vulnerable
- admitting to shortcomings and areas for improvement/learning
- risks/experimentation are encouraged
- learning from mistakes
- collegial learning

Engaged leadership

- shared leadership, vision, responsibility and decision making in schools – a two-way street
- taking a distributed/shared approach to change i.e. leaders and teachers working together as peers
- leaders modelling the moves towards change e.g. engaging in the language, behaviours, CPD, mindset

Learning leadership

- CPD is 'leader initiated and teacher driven' (Barton & Dexter 2020) – teachers deciding what they need
- Leaders brokering CPD and support
- Collegial learning and dissemination
- Creating a collaborative learning environment
- school as a learning community
- belief that teacher learning is a not an individual responsibility i.e. the leadership's/peers' too

Trust Leadership

> School leaders develop a collaborative sense of teacher professional learning with features that instil collegial learning, including risk taking and curiosity about practice, thus leading to improved teaching and learning.

School leaders significantly contribute to the culture within a school and that includes developing positive attitudes towards CPD as described by a head teacher below when discussing the school development plan:

> *Our school development plan has in it, on the first page, five things we believe in. They're nothing to do with exam results or anything like that, they are to do with our belief that if you come and work here you should be learning as well, and we are willing to support you in learning as well (C, HT).*

Focus groups with classroom teachers revealed the importance of developing a supportive school environment to eliminate any potential sense of blame and provide teachers with the confidence to express their voice and discuss emerging issues in a supportive environment, as one teacher explained:

> *So, it is very much part of the culture here that I've never felt there is any sense of blame here that you can say 'Oh, okay, that just went horribly wrong', what do I do now, and it has always been, I think, a really supportive environment to be able to say and do stuff (C, teacher).*
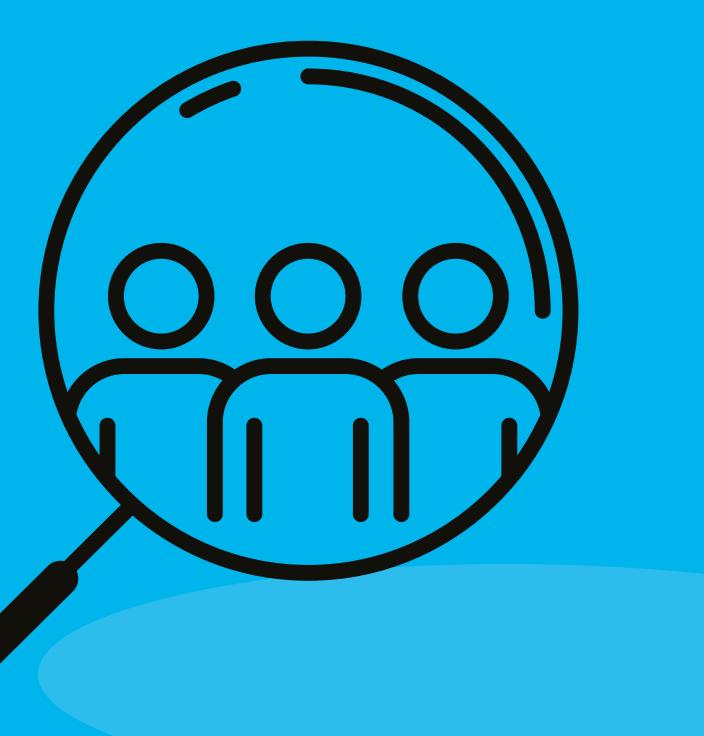
The above quote relates strongly to the emergent themes of 'team' and 'team cohesion'—a belief that 'we're all in this together'. That notion is perfectly captured by one head teacher who described the school ethos:

> *it's very, very, very flat and it's not hierarchical. Everybody sees themselves as being part of the same team, everybody understands very well what the mission is. And we have to find our way through the difficulties of the current political and educational system together as a team.....I would argue that what we get back from that is a team of people who without having to be told to work harder, because I never, ever, tell them to work harder, just work bloody hard because we invest in them and therefore they invest in what we're trying to do (C, HT).*

In addition to the above statement, this head teacher described some of the characteristics of a good team:

> *Communication, sense of humour, understanding, and determination. And they are just off the top of my head. I could think of lots more I'm sure....Again it's that team, isn't it. Looking at it from a collective point of view (C, HT).*

Text