Curriculum Evidence

Probe 3 Report

CPD and Curriculum Development

in association with:

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Contents

Summary

1.   The aim of this small-scale probe was to explain why CPD that seems to effectively support teachers undertaking curriculum development works. Our approach was to:
     (i)   refer to evidence from research literature, specifically the outcomes of four systematic literature reviews that specify the characteristics of effective CPD; and
     (ii)   synthesise evidence from practice gathered from six curriculum development projects taking place in three secondary schools.

2.   Five conclusions and implications for further reflection and testing were suggested by the findings.

3.   When teachers engage in curriculum development work in ways that are properly planned, resourced and supported, the development work they do can itself be an important and effective form of CPD. By structuring curriculum development for learning and/or by using curriculum development as a vehicle or site for CPD, school leaders create opportunities that do double duty thus increasing efficiency and effectiveness. Structuring CPD and curriculum development this way can also make professional learning and practice development around the curriculum feel like an intrinsic part of the teacher's 'day job' rather than an additional burden. If the support provided includes collaborative experiments, engagement with evidence from classrooms and shared questioning and reflection on that evidence the activities may well also increase participants' metacognitive control over their learning.

4.   *Implication 1: Are school leaders and those who support them in national, regional and local organisations making strategic use of the opportunities for CPD that curriculum development presents? Are they also capitalising on the way in which curriculum development can provide a fertile environment for CPD?*

5.   When curriculum development work is closely and explicitly aligned both with school development priorities and with CPD and accountability processes, the value of such development work to the individual teacher, as well as to students and to the school, is made clear. Valuing curriculum development work in this way is motivating and engaging and helps to create a sense of ownership for participating teachers. It also makes it more likely that the approaches and resources they develop will be adapted and applied to other areas of their practice.

6.   *Implication 2: Could QCA offer CPD and school leaders illustrative examples of how curriculum development work fits with existing accountability frameworks such as the Professional Standards for Teachers and performance management?*

7.   When curriculum development work is undertaken by teachers in groups, the range and diversity of professional perspectives increases, enriching both the learning experience and the quality of the outcomes beyond what one teacher, however expert could achieve on their own. In small schools or schools with limited capacity for other reasons, working in groups may be difficult. In these cases facilitating a network, cluster or family of schools to bring together one or more representative from each school will create new opportunities for curriculum development and for professional learning.

8. *Implication 3: How might tools and protocols, such as those being developed in the action research scheme in 2007-2008, support leaders of curriculum development groups to work with teachers in facilitated groups in order to access these benefits?*

9. Schools are likely to contain several specialists in curriculum development whose skills and experience may be being overlooked. Identifying and deploying internal expertise builds capacity in a school. In secondary schools this might mean looking at how development approaches in one curriculum area could be tested and applied in another. In primary schools it might mean subject specialists from within the primary or from a secondary school supporting non-specialist colleague to develop curriculum for their class or year group. This approach also usefully promotes integrated approaches to the curriculum. Specialist coaching supported by co coaching is well suited to supporting this kind of activity.

10. *Implication 4: How are leaders of curriculum development making strategic use of internal capacity and expertise? To what extent are school and CPD leaders promoting the use of specialist and co coaching to support curriculum development? How can CPD leaders support colleagues engaged in curriculum development to become skilled specialist coaches and co coaches?*

11. Schools with established professional learning communities and with clear and well-rehearsed frameworks for accountability are likely to be in a good position effectively to support curriculum development and to recognise and evaluate its contribution to improving student learning through existing structures and processes. Schools without this kind of infrastructure may struggle to evaluate the impact of curriculum development and therefore to prioritise it over other perceived areas of need for professional learning and practice development.

12. *Implication 5: What examples exist of schools where teachers have evaluated the contribution of curriculum development to improving student learning in creative and relevant ways? Where such practice exists, how is being shared with other schools?*

Introduction

13.   This probe is the third in a series designed to examine and explain effective curriculum development in context. On this occasion, our focus is the continuing professional development (CPD) offer that schools make to support teachers undertaking curriculum development.

14.   For the purposes of this probe we are defining curriculum development as the specification, planning and realisation of learning experiences and outcomes in order to take account of evidence and information about effective learning processes and opportunities from elsewhere. Continuing professional development we are defining as reflective activity designed to improve an individual's attributes, knowledge, understanding and skills. It supports individual needs, improves professional practice, and promotes the development of the school.

15.   Our aim in this probe was to explain why CPD that seems to effectively support teachers undertaking curriculum development works. We set out to do this:
        (I) by referring to evidence from research literature, specifically the outcomes of four systematic literature reviews that specify the characteristics of effective CPD; and
        (II) by synthesising evidence from practice gathered from six curriculum development projects taking place in three secondary schools.

16.   The following report is in four sections. In section one a short description of each secondary school is followed by a detailed description of a sample of the curriculum development projects taking place there. Section two offers a discussion of the CPD processes at work in the projects. In section three we compare the CPD in the case study schools with findings and examples drawn from the research evidence on effective CPD and suggest some propositions and tentative implications for policy and for practice. Finally, section four describes our method and includes references.

Section 1: The Schools and their Curriculum Development Projects

Sharnbrook Upper School

Type of school	Comprehensive
School category	Foundation
Age range of pupils	13 to 18
Gender of pupils	Mixed
Number on roll (school)	1156
Number on roll (6th form)	600

17.   Sharnbrook is a large rural community school serving North Bedfordshire and beyond. It became a specialist Media Arts college in 1999 and a Vocational school in April 2006. It is also a Training school and runs its own Graduate Teacher Training programme. Around 75% of students are bussed in and out of the school each day. On Mondays and Thursdays, the teaching day is extended to accommodate the very broad sixth form programme. The school has a very large sixth form. The proportion of students eligible for free school meals

is lower than average. The proportion of students from minority ethnic backgrounds is below average. The school is an active member along with the local middle and lower schools of an Education Improvement Partnership. Sharnbrook has Artsmark Gold, Sportsmark and National Healthy School status.

18.   In June 2006, Ofsted inspectors concluded that Sharnbrook was an outstanding school.

19.   Two curriculum development projects were explored at Sharnbrook:

Modern Foreign Languages (MFL)

20.   It is a national target that all Key Stage 2 pupils should have access to MFL provision by 2010, however offering an appropriate MFL curriculum and specialist language teaching can be hard for small schools to resource by themselves.

21.   The MFL project was a major curriculum development project designed to enhance the language teaching skills of pupils across all phases of the North Bedfordshire Trust (18 middle and lower schools which feed into Sharnbrook). The programme created opportunities for subject specialists from the upper school and non-specialist primary teachers to work jointly together through group sessions and coaching to develop a common curriculum and to share expertise.

22.   Building the confidence of the non-specialist primary teachers was an explicit aim, and a project target was that all year 3 teachers should have some experience of teaching French, supported by a specialist to coach them and offer feedback.

23.   The subject specialists were themselves learning new approaches to teaching and learning from their lower school colleagues and through the experience of teaching in different phases, and brought different styles and techniques of language teaching back to Sharnbrook. The programme developed a pool of ideas about good practice for language teaching and captured some of this in a DVD, which includes 2 exemplary lessons, also used as a resource for others.

24.   The school received £20,000 from the Training and Development Agency for Schools' (TDA's) Effective Practices in CPD programme for this work, and has recently submitted an evaluation report to the TDA.

Geography Primary Leadership Project

25.   This project brought together groups of primary teachers, with some responsibility for teaching geography in their schools, to improve their subject leadership and to work together to offer a more creative geography curriculum with greater relevance, and therefore appeal, to students. Ofsted had identified geography as a weak subject area in the upper school where student numbers were declining.

26.   In the project, one teacher assumed responsibility for curriculum development and became the geography co-ordinator across a cluster of schools. Fifteen primary schools were represented in the programme, organised into 3 clusters. Each cluster included a middle school and 5 lower schools.

27.   Through the project, students benefited from a more creative, engaging and relevant geography curriculum. At the same time, aspiring leaders in primary and middle schools gained valuable leadership experience, and leadership capacity was grown in often very

small schools, which previously offered few opportunities for collaborative CPD or leadership development.

28. The project was the pilot for a broader bid to create a generic model of curriculum leadership training that could be developed and tested in the 19 schools across the Trust, and was funded by NCSL.

29. We also looked at CPD activity in the English department in Sharnbrook. This work was of interest because, although it didn't start out as a curriculum development project, through the activity and reflections of the participating teachers the outcome was the identification of curriculum development needs and an English Development plan was proposed and implemented. We were also interested in the way that teachers in the English project used video to support their development work and refer to both of these features later in the report.

Finham Park School

Type of school	Secondary
School category	Community
Age range of pupils	11–18
Gender of pupils	Mixed
Number on roll (school)	1467
Number on roll (6th form)	302

30. Finham Park is a large community school with a large sixth form on the outskirts of Coventry. In 2003, the school became a specialist mathematics and computing college. It is also a training school. About one quarter of the students are from minority ethnic backgrounds which is higher than average with a large majority from an Indian heritage. The number for whom English is an additional language is also above average, but the number at an early stage of learning English is small. The proportion of students with learning difficulties and/or disabilities is below average as is the number eligible for free school meals.

31. In January 2008, Ofsted inspectors concluded that Finham Park was a good school with outstanding features.

32. Two curriculum development projects were explored at Finham Park:

Key Stage 3 Integrated Humanities Curriculum

33. The stimulus for developing an integrated curriculum came from a Royal Society of Arts (RSA) funded project called Opening Minds in which the school participated for the three years 2004-7. The project was based on five key competencies (CLIPS), which were threaded through humanities, technology and English in the year 7 curriculum. The competencies are:
    - **C -** citizenship
    - **L** - learning
    - **I** - information handling
    - **P -** (managing) people
    - **S -** (managing) situations

34. Teachers involved in the project noticed that students were heavily dependent on their teachers. Whilst students were willing to work and showed interest in what they were doing, they also tended to think in terms of 'What do you want us to do?' 'Is this the right

answer?' etc. Teachers also noticed that students sometimes struggled to transfer thinking and learning from one subject to another. For example, drawing graphs - a skill learned in mathematics - did not transfer well to geography. And skills learned in English to plan a piece of writing were not being well used in history.

35. On the basis of these findings, and in response to the introduction of the new secondary curriculum, Finham Park put a great deal of time and effort into developing a new curriculum for year 7 for 2008/9. The integrated curriculum brings together geography, history, RE, citizenship and one period of English into a single course with one teacher.

36. The integrated humanities team responsible for planning the new curriculum based their approach on the Personal, Learning and Thinking Skills agenda. This includes a number of elements such as teamwork, communicating effectively and reviewing learning, that are integrated with the new humanities curriculum. These skills are also supported through a VLE, which students (and parents) can access. The first module is of the new curriculum is called 'Who am I?' which is an exploration of personal identity.

Creative Partnerships

37. Finham Park is a lead school for Creative Partnerships. In this related curriculum development project, teachers in different departments were paired e.g. music with history and supported by a creative practitioner from another subject discipline.

38. The trios worked together to design creative approaches within their curriculum areas by developing lesson plans together. The main foci included the environment, design, pupil ownership and the developing of emotional intelligence in order to improve attitudes to learning. After joint planning meetings between the teachers and the creative practitioner, the teachers observed each other teaching a year 7 class. They then shared their observations and undertook further thinking and planning with the creative practitioner before teaching another lesson.

39. Each creativity cycle ran for eight weeks and at the end of that time teachers sought feedback from students and from colleagues. Altogether 13 teachers were involved. Creative activities and the student feedback sessions were filmed, and teachers produced a DVD to share their findings across the school.

The Sweyne Park School

Type of school	Secondary
School category	Community
Age range of pupils	11–16
Gender of pupils	Mixed
Number on roll	1303

40. The Sweyne Park School is an above average sized secondary school, serving the town of Rayleigh in Essex and the surrounding area. It is a specialist science school and a training school. The school includes a 24 place Resource Base for Hearing Impaired Pupils (RBHIP). The proportion of pupils entitled to free school meals is below the national average. Nearly all pupils are of White British ethnicity. Fewer than 3% of students are from minority ethnic groups and fewer than 2% have a first language that is not English. The proportion of students with learning difficulties or disabilities is close to the national average, as is the proportion with statements of special educational needs. The school has slightly more girls than boys, but there are variations in the gender balance from year to year. The older year

groups contain relatively few pupils who had high attainment at age 11, but there has been change in recent years. The school now attracts its fair share of high attaining pupils at age 11, so although attainment on entry overall is below average, it is improving.

41.   In October 2006, Ofsted inspectors concluded that Sweyne Park was a very good school with outstanding features. The inspection was conducted just a few months after the school's highly respected headteacher died after a long illness.

42.   Two curriculum development projects were explored at Sweyne Park.

History Curriculum at Key Stage 3

43.   Teachers in the history department at Sweyne Park have a long tradition of reading and researching their subject, sharing ideas, looking at history from the learners' points of view and developing the curriculum in the light of their findings. Teachers in history evaluated their curriculum offer both in terms of content and historical skills as part of a whole school mapping of the curriculum against approaches to teaching and against learning outcomes during 2007-8. After a careful analysis of data about pupils' performance, department discussion about teaching and learning and evidence from observation, the history teachers decided to focus on making explicit and mapping the skills necessary for learning history into the history curriculum.

44.   They produced a new curriculum in which skills were integrated with content. For example, in the mapping of the history curriculum in Key Stage 3, the skills of identifying causes and creating explanations was threaded into a topic about Henry II and Thomas a Beckett. History lessons in all year groups shared the same three explicit elements:
- factual content or knowing about the past;
- students' performance of skills exclusive to history and the more generic study skills that support all learning and communication; and
- pedagogy based on thinking approaches rather than transmission of knowledge - for example, students were taught to use a mnemonic to help them remember and make sense of data; they were helped to identify relevance, relative importance and to make judgements based on them; they were asked to review their work and reflect on how they tackled a problem.

Key Stage 4 Science for the 21st Century

45.   The new science curriculum at Key Stage 4: Science for the 21st century presented the science department with a serious challenge. It represented a significant departure from what had gone before in that it:
- contained a greater proportion of applied science including agriculture and food, life care and forensic science;
- included a consideration of ethical issues about science in the modern world such as those involved in human genetics; and
- required students to become more familiar with alternative answers, data limitations, correlations, making choices and justifying them, and learning how scientists reach agreement. Many of these skills are not specific to science and would not have been included in a science course in the past.

46.   Many teachers and all the students were unfamiliar with the skills the new curriculum required. In order to prepare teachers and students for the introduction of KS4 Science, an advanced skills teacher (AST) worked with the head of science (HOD) to identify and explore the new skills teachers and students would need.

47. The AST and the HOD used time after KS3 Standard Attainment Tests (SATs) were completed to introduce year 9 students and their teachers to the new approaches. They worked with teachers to identify the distinctive features of the new curriculum, and then led and supported teachers in designing activities that linked students' scientific knowledge to particular aspects of how science works.

48. Group work and adopting a more open-ended approach to issues were key elements in which teachers needed support. The AST and head of science modelled these strategies and provided support to teachers who found them difficult to adopt, sometimes because they ran counter to their views of science education.

Section 2: Continuing professional development underpinning the curriculum development projects

49. In this section we explore the approaches that the schools have taken in each of the projects to look for common themes and activities.

Peer support

Collaborative group work

50. Collaboration in different configurations was a key feature of the way that project leaders elected to tackle curriculum development in all three schools. It was also a source of support for the professional learning that teachers needed to engage in to make their best contribution. So collaboration was, at the same time, the method for doing the work, for learning about how to do the work and for reflecting on the outcomes and implications of the work for future practice and learning.

51. In all three schools, teachers worked in small, formal groups to develop curricula and to plan lessons and resources in a variety of subject areas. Working in groups seemed to be an effective and efficient way for developing and agreeing a common approach that would ensure consistency in the new curriculum across the school and, in the case of the Sharnbrook example, across a group of schools.

52. The schools were also consistent in the approaches that they took to designing and leading learning in collaborative groups. Group size and make up was carefully considered and shaped to respond to the particular challenges of each project.

53. In Finham Park's integrated curriculum project, for example, a group of eight teachers drawn from different subjects in the humanities department worked successfully together. Sharnbrook's subject leadership project was designed to build capacity in three clusters of five schools in the trust, while the MFL project which needed quickly to introduce new approaches and to stretch specialist expertise as far as possible, involved 19 teachers meeting together to jointly develop ideas and resources. And in Sweyne Park, groups were determined and defined by their subject specialism to facilitate working in depth on complex challenges. History teachers worked together to integrate key concepts and processes into range and content and science teachers supported each other, and worked with students, to face the tensions and challenges in KS4 science in order to get to the

opportunities and benefits the new curriculum offered before the school year started in September.

54. Leaders of these curriculum development groups self-consciously modelled the approaches they expected teachers to use in designing curriculum opportunities for their students. The groups were engaged in problem identification, problem specification and problem solving through co-operation and dialogue. Collaborative enquiry and action research approaches featured in the geography project.

55. By bringing groups of teachers together the project leaders created professional learning communities in which teachers were mutually responsible for each other's learning and at the same time were able to calibrate their own contribution to make sure that they are 'holding their end up'.

56. There was also a degree of pragmatism at work. Working in groups like this was expensive of time, but it was efficient. Opportunities for monitoring, trouble shooting and quality assurance were created, which was important when trying to develop and implement new curricula at speed and in a 'live' environment.

57. Finally, resources and activities were developed and their potential to stimulate and support learning tested and refined by the groups so that teachers could use them with confidence in classrooms.

The role of coaching

58. The downside of being part of a community of professional learners is that the learning spaces can be very public, and not all teachers will be comfortable with experimenting and making mistakes, in thought or in practice, with colleagues from their own or other schools present in numbers. In any case, teachers in groups like these are necessarily removed from their own context in order to come together, and their ideas and examples can become abstracted and generalised through collaborative group activities. This means that when teachers come to apply their learning in back in school, there is still a lot of work to do to adapt and refine approaches so that they are appropriate for learners in their classroom. This kind of work is hard to do alone.

59. CPD and curriculum leaders in the three case study schools were very aware of this and in all cases found ways to complement group work with opportunities for teachers to take part in co-coaching or specialist coaching, or both. In Finham Park, the group of eight teachers developing an integrated year 7 humanities curriculum also worked in pairs e.g. a history teacher paired with a geography teacher to support each other in teaching areas of the curriculum outside their specialism.

60. Sweyne Park's history teachers worked in detail on aspects of their project in pairs too and the AST and HOD at the heart of the overhaul of science were in a productive co-coaching relationship in which they prepared each other to become specialist coaches to the science teachers when the time came for them to start introducing the new curriculum.

61. In the MFL project in Sharnbrook, languages specialists from the upper school worked as specialist coaches to lower school teachers in between sessions. This kind of close work enabled lower school teachers to adapt and refine approaches introduced in the groups in ways that took into account their very different starting points and contexts.

62. The practical details of the approaches to coaching; number of sessions, elapsed time between sessions, pairing arrangements etc. differed from project to project and school to school, but the learning processes at the heart of the coaching remained consistent. All relied on a joint planning – observation - debriefing or feedback model. Experimentation with the new approaches was an important ingredient in this mix too. Teachers were expected to try out new lesson plans and resources on behalf of the group and to reflect on the outcomes for student learning and for their practice. This kind of activity formed the principle focus for observations a part of coaching.

63. In projects where specialist coaching was used, the coach was the observer and the teacher the professional learner. Where co-coaching was used, teachers were both professional learners and they supported each other by changing roles within the co-coaching arrangement. Whereas the reciprocity, the opportunity for both to learn from each other was explicit in the co-coaching examples, specialist coaches also noticed that they were learning from the opportunity to work with and to observe the teachers undertaking curriculum development.

> *"The Sharnbrook language teachers had no experience of teaching primary phase when they first started on this programme. They had to rethink and adapt their styles and learning about how young children learn and they have done this through discussions with their lower school colleagues and sharing lesson plans. They have loved it. They delight in the different approaches they can bring back to the sixth form – such as getting students to tell stories simply in French using puppets and props. Sixth form lessons at Sharnbrook have certainly improved and students are more engaged."*
>
> *CPD Leader, Sharnbrook Upper School*

64. In three of the projects, teachers used video to enhance their opportunities for observation. In Finham Park, A training classroom with video and observation facilities provided teachers the chance to share learning with each other. Video was central to the English improvement project at Sharnbrook, in which teachers filmed their own teaching and chose specific areas to focus on in a shared observation and feedback session with a colleague. It was also used in the MFL project, which involved 16 schools, with all the attendant difficulties of timetabling planning, observation and feedback sessions.

65. There were two key features that contributed to the usefulness of video for this purpose. First was the simple fact that the video captured could be viewed in full or in part, by as many people as needed to see it, at different times and in different locations. This made video a very efficient and flexible method for teachers observing each others' practice; it created time in a context where time is very short indeed. Second, it created a sense of ownership and control for the teachers in the videos and gave them choices about when, how and by whom their practice would be observed

Internal and External Expertise

66. All of the projects mobilised specialist curriculum expertise to support teachers undertaking curriculum development. In some projects there were clearly designated roles for identified external specialists. External expertise came from more than one source and included: creative arts practitioners (Finham Park); student voice and CPD consultants (Sweyne Park); local authority KS2 advisers and the Royal Geographical Society (Sharnbrook). Attendance at conferences and external CPD also occasionally featured to complement in-school approaches.

67.   However it was the identification and deployment of internal specialist curriculum expertise that particularly characterised these projects. There was an interesting separation in the relationship between the projects and the schools that meant that colleagues who were internal to the overall organisation of the school could look and behave like – and indeed were - external experts in relation to the projects. Every project had an example of this. ASTs and HODs offering specialist curriculum expertise, as in the Sweyne Park science project was, perhaps, a straightforward extension of their core function in school. But in Finham Park, calling in the ICT specialist to advise the integrated curriculum group on the use of a VLE for developing and sharing resources was almost certainly not. Also in this project, subject specialists across the humanities faculty coached non specialists in teaching and learning approaches that would work in disciplines that were not their own.

68.   The learning opportunity that this represented for the coaches as well as the professional learners was echoed in the Sharnbrook MFL and Geography examples, where curriculum specialists were coaching colleagues cross phase, stretching their own knowledge and understanding of pedagogy at the same time as contributing their curriculum expertise. CPD and project leaders both recognised and supported this learning either by creating teams of specialists who jointly planned and debriefed their group sessions (Sharnbrook, Finham Park) or through co-coaching (Sweyne Park).

69.   The capacity building opportunity that identifying and deploying curriculum expertise in this way represents for a school is significant. By noticing and supporting the professional learning of the internal specialists as well as the teachers undertaking curriculum development, project and CPD leaders were able to maximise the learning potential of each of the projects.

70.   It is also the case that this kind of approach requires as well as builds capacity. All three schools are large secondaries, on the whole well resourced, and without significant staff shortages due to recruitment or retention issues. They also share a serious commitment to CPD as core to their improvement strategies and to varying degrees have, or are developing, a sophisticated infrastructure to promote and support professional development and to integrate it into the daily working lives of teachers. However the same might not be said of all the schools taking part in these curriculum development projects and the Sharnbrook model is of interest in this respect.

71.   In the North Bedfordshire Trust, Sharnbrook is only one of 19 schools. By grouping together in a network, the small primaries (the smallest of which has 2.6 FTE teachers) in effect 'borrow' capacity from one another and from the secondary school. The curriculum development projects attracted external funding (from TDA and NCSL) to facilitate operational details such as arranging meetings, admin support, supply, repro, resource development etc. More interestingly, being part of a network expanded the range of possible approaches, foci and relationships that were available to professional learners from the primary schools, who might otherwise have struggled to find opportunities for collaborative learning in their own school. Even more interestingly, this was true for the secondary school coaches too.

Structures and sustainability

72.   Schools approached sustainability from two angles in the curriculum development projects. First they were concerned that the projects should sustain long enough to deliver their objectives. Second they were concerned that the learning and any improvements made should sustain and grow to influence and improve practice for participating teachers

beyond the scope of the project, and beyond the participants, to the wider community of the school. Structures and processes offered solutions to both problems and were key to the practical success of these projects.

73. To keep the projects going, project leaders convened regular opportunities for groups to come together. These varied from termly, discrete, project meetings to more frequent meetings organised to fit with existing arrangements e.g. departmental meetings or programmed INSET sessions. In addition, schools were able to set aside time within school for teachers to meet in pairs or smaller groups for planning and coaching. In Sweyne Park, there is a 'bid system' for time for professional learning for which the history teachers successfully applied. Under the system, protected time during school hours is exchanged for voluntary time, which is contributed by the teacher after hours. ICT was used in two projects to provide a forum for discussion and in particular to facilitate sharing of resources.

74. Wider issues of sustainability were addressed through CPD and school development structures and processes. In all the projects, teachers and project leaders related their professional learning and practice development to performance management and wider school development goals. In four of the six projects data collected through school evaluation and inspection processes had identified the need for improvement in key curriculum areas and participation in the project was explicitly designed to address that need. So teachers taking part in for example the integrated curriculum project in Finham Park, did so self consciously to improve students' independent learning and skills transfer that they themselves had identified. Interestingly the English project in Sharnbrook did not start out to address specific or urgent issues, but through the project, areas for improvement were revealed and formed the basis for a formal English Improvement Plan.

75. Support for the projects was also offered through established systems and processes. For example in Sweyne Park and in Sharnbrook, ASTs are organised into teams with an explicit school improvement remit. They provide workshops and resources for colleagues as well as demonstration and coaching. Finham Park has similarly established a register of internal specialists, which includes newly qualified teachers. The deployment of specialists in the curriculum development projects was made possible, straightforward even, by the fact that project leaders had such teams, and their expertise and capacity, at their disposal.

76. Processes at work within the curriculum development projects, in particular peer observation as part of co-coaching, were reflections of well-rehearsed processes that formed part of the overall approach to CPD in the schools. In Sharnbrook there exists a written protocol to underpin peer observation and an expectation that all teachers will take part. So for teachers involved in the curriculum development projects there was both a method and a mandate to follow. The evidence gathered in observations undertaken as part of this process belonged to the teachers and they could decide to offer it as evidence for their professional portfolio, which forms the evidence base for performance management. By leaving the option to connect curriculum development work with accountability processes in the hands of the teacher, project and school leaders encouraged teachers to sustain and transfer their learning and make connections into their wider professional lives at the same time as protecting them from the kind of 'on the spot accountability' that can stifle experimentation and risk taking.

The Use of Data and Evidence

77. Evidence played three important roles in the curriculum development projects and the approaches to CPD that project leaders have adopted.

78. First evidence enabled project leaders to identify and analyse the need for a curriculum development project. Using a combination of attainment data and evidence gathered through enquiry processes and as part of school improvement activities, issues and challenges for student learning were identified in each school to which changes to the curriculum appeared to offer solutions.

79. The richness of the evidence that the schools gather is interesting. In particular all three schools take student perception data very seriously indeed and have highly organised approaches to student involvement and student voice. They also all have structures, and processes to support teacher enquiry and action research and are encourage teachers to gain either recognition through the General Teaching Council's Teacher Learning Academy (GTC TLA) or accreditation through HEI led master's programmes.

80. Second, evidence is core to coaching. Coaches work with professional learners to use their evidence to identify their individual starting points and learning needs. And observation plays such a central role in coaching because it creates an opportunity to gather evidence from practice that then forms the basis for coaching discussions, ensuring that professional learning is directly linked to student learning.

81. Student voice plays an important part here too, as teachers are very interested in students' responses to the changes in their practice and gather their views through a variety of methods including questionnaires, interviews and informal group feedback sessions.

82. The third role for evidence is for evaluation purposes. Evaluation of learning is always complex and in the curriculum development projects there are two separate but related strands of evaluation required. One is the evaluation of the impact of changes to the curriculum for student learning and the other is the impact of the CPD that supported the curriculum development for the professional learner.

83. Whereas the collection of data and evidence for needs analysis and to fuel coaching conversations were clearly articulated and often the outcome of discrete processes in the school, evaluation of impact of the specific curriculum intervention seems to be harder for project leaders and teachers to hold separate from other evaluation processes. In particular there seems to have been no investment so far made in evaluating impact in terms of improved student learning outcomes, including attainment, despite the fact that this was in four out of six cases the original stimulus for the curriculum development.

84. But this apparent lack of energy in relation to evaluation is deceiving and an explanation lies in the extent to which the structures and processes of the projects are integrated with the professional development and accountability structures that pre-existed within the schools.

85. Student learning is evaluated frequently and publicly in secondary schools first in KS3 SATs then in GCSEs, AS and A Level examinations. The degree of scrutiny to which departmental attainment data are subjected, coupled with the additional exposure through discussion in the group sessions and observation through the coaching element in these projects meant that evaluation of student learning was in fact pervasive within the projects. Better still it was formative; evidence was gathered and examined in ways that were designed to inform further learning and development, rather than to hold the project to account at a notional 'end'.

86. Similarly, teachers might evaluate their learning very effectively as part of TLA presentations or offer up a peer or specialist observation for inclusion in their performance management portfolios.

87. Such integrated approaches are efficient and, as discussed earlier, developmental and capacity building for the school as a whole. They do also however distribute the evidence across a broad range of destinations. Reassembling and collating this evidence to evaluate the specific effects of the curriculum development projects for student and teacher learning has not so far been a priority for the schools.

88. Such discrete evaluations as there were of the effects of the individual curriculum develop projects for student learning were informal and characterised by teacher perceptions based on changes to students' reactions and comments in class. In Sweyne Park, whilst history teachers have yet to evaluate fully the most recent changes they have made, they are confident that the result will be a 'coherent, exciting and meaningful history experience'. The AST in charge of developing the new Key Stage 4 science syllabus at Sweyne Park commented that the approaches they piloted at the end of year 9 were helping to make students 'more independent, more analytical.'

89. Finham Park teachers involved in the Creative Partnerships projects felt that 'the power and traditional roles in the classroom were shifting. Students were able to take a greater lead.' Elements of the new integrated humanities that had been tried in classrooms at Finham Park had worked well, although the full programme has yet to be formally evaluated.

90. There were three notable exceptions; the three curriculum development projects that were supported by external agencies: Creative Partnerships at Finham Park and NCSL and TDA at Sharnbrook. In the MFL project, an evaluation was conducted for TDA by the coordinator of teacher research using interviews with programme leaders and participants and video footage of group sessions and classroom practice and students' work, schemes of work, attainment data and student feedback were used to evaluate to Geography Leadership project for NCSL. Whilst evaluation processes for the Creative Partnership projects at Finham was more informal there was a feedback session at the end of each project at which students and teachers could offer their reflections.

Section 3: Research Evidence about effective CPD and what it can tell us about why these approaches work

91. The evidence base for this probe was four systematic reviews of existing research evidence about the impact of CPD on teachers and pupils. The reviews scanned and filtered over 20,000 research studies for the best evidence, key worded and mapped over 230 studies, and brought together data from the 70 studies offering the most relevant and high-quality data.

92. The key messages from the four reviews were consistent and cumulative. CPD that resulted in learning gains for teachers and for their pupils usually involved:

- **peer support** (in pairs or small groups) to encourage, extend and structure professional learning, dialogue and experimentation – *in combination with*
- **specialist support**, including modelling, workshops, observation, feedback, coaching, introducing a menu of research-based strategies for enhancing learning
- planned meetings for **structured discussion** – including exploring evidence from the teachers' classrooms about their experiments with new approaches and of their beliefs about teaching, the subjects being explored and their learners
- **processes for sustaining the CPD** over time to enable teachers to embed the practices in their own classroom settings – including informal day-to-day discussions and observations between teachers, and using work they would have to do anyway (such as lesson planning and designing schemes of work or curriculum development) in workshops
- **recognition and analysis of teachers' individual starting points** and building on what they know and can do already
- **developing teachers' ownership** of their learning, by offering them scope to identify or refine their own learning focus (within a menu set by the programme or the school), and to take on a degree of leadership in their CPD, and
- **a focus on pupil learning and pupil outcomes**, often explicitly as a way to analyse starting points, structure development discussions and evaluate progress, both formatively and summatively.

93. There was considerable agreement between these characteristics of effective CPD as identified in the research literature and the characteristics of the CPD that was supporting curriculum development in the case study schools. Extensive use of peer support was combined with specialist expertise from inside and outside the schools to use evidence, especially from observation, to structure professional dialogue in all the curriculum development projects.

94. The emphasis on planned meetings to facilitate discussion of practice and the processes for sustaining and embedding practice through class based and informal work between formal sessions is clearly recognisable in the termly and departmental meetings and the variety of in-school support from ASTs, subject specialists and co-coaching partners that we found in the projects.

95. The schools were not as strong on identifying teachers' starting points, although there were opportunities for personalisation and adaptation through coaching, enquiry and action research processes in some cases. And although there are some indications of teacher ownership, for example in the option to share or to withhold video and other evidence, choices about the focus and approach were made on the whole by project leaders in response to departmental development priorities. However a strong identification with subject specialism may account for the enthusiasm for the focus and the close relationship between the CPD processes in these and other school development activities would mean that the processes would be familiar and make sense to practitioners too.

96. But we think that the key to explaining why the choices that project leaders made in designing the CPD to support their colleagues so closely track the characteristics of effective CPD may lie in the final feature; the focus on pupil learning and pupil learning outcomes.

97. Developing the curriculum necessarily involves teachers coming together to evaluate starting points for students, make connections between curriculum content and pedagogic approaches, assess their suitability for use with specific groups of children and develop resources to support learning. In other words, these teachers are engaged in deep, professional, evidence based conversations about learning, over time and in a range of configurations and contexts.

98. Further the practitioners leading the curriculum development projects are likely to be, by definition, specialists in curriculum design, with all that that implies for balancing key concepts and key processes with range and content to create the optimum curriculum opportunities for learners. In deploying and modelling these skills, that they have developed and honed in the leadership of student learning, as part of their leadership of the curriculum development projects, the experts also succeeded in creating the conditions for effective professional learning for their colleagues.

99. It is important to notice here the extent to which the projects fitted into the overall culture and professional life of the school, which were already highly developed professional learning communities.

100. The projects were also clearly and explicitly aligned to the existing priorities that teachers recognised and felt responsible for. Curriculum – interpreting and developing it, supporting learners to engage with it and assessing their understanding of it - is the job of schools. In common with all learners, teachers learn best when they are motivated and engaged, and learning that self evidently helps them to do their job better, without additional or wasted effort, is likely to be both motivating and engaging.

Conclusions and some possible implications for policy and practice

101. Five conclusions and implications for further reflection and testing are suggested by the findings of this small scale, and therefore unrepresentative, case study.

102. When teachers engage in curriculum development work in ways that are properly planned, resourced and supported, the development work they do can itself be an important and effective form of CPD. By structuring curriculum development for learning and/or by using curriculum development as a vehicle or site for CPD, school leaders create opportunities that do double duty thus increasing efficiency and effectiveness. Structuring CPD and curriculum development this way can also make professional learning and practice development around the curriculum feel like an intrinsic part of the teacher's 'day job' rather than an additional burden. If the support provided includes collaborative experiments, engagement with evidence from classrooms and shared questioning and reflection on that evidence the activities may well also increase participants' metacognitive control over their learning.

103. *Implication 1: Are school leaders and those who support them in national, regional and local organisations making strategic use of the opportunities for CPD that curriculum development presents? Are they also capitalising on the way in which curriculum development can provide a fertile environment for CPD?*

104. When curriculum development work is closely and explicitly aligned both with school development priorities and with CPD and accountability processes, the value of such development work to the individual teacher, as well as to students and to the school, is made clear. Valuing curriculum development work in this way is motivating and engaging

and helps to create a sense of ownership for participating teachers. It also makes it more likely that the approaches and resources they develop will be adapted and applied to other areas of their practice.

105. *Implication 2: Could QCA offer CPD and school leaders illustrative examples of how curriculum development work fits with existing accountability frameworks such as the Professional Standards for Teachers and performance management?*

106. When curriculum development work is undertaken by teachers in groups, the range and diversity of professional perspectives increases, enriching both the learning experience and the quality of the outcomes beyond what one teacher, however expert, could achieve on their own. In small schools or schools with limited capacity for other reasons, working in groups may be difficult. In these cases facilitating a network, cluster or family of schools to bring together one or more representative from each school will create new opportunities for curriculum development and for professional learning.

107. *Implication 3: How might tools and protocols, such as those being developed in the action research scheme in 2007-2008, support leaders of curriculum development groups to work with teachers in facilitated groups in order to access these benefits?*

108. Schools are likely to contain several specialists in curriculum development whose skills and experience may be being overlooked. Identifying and deploying internal expertise builds capacity in a school. In secondary schools this might mean looking at how development approaches in one curriculum area could be tested and applied in another. In primary schools it might mean subject specialists from within the primary or from a secondary school supporting non-specialist colleague to develop curriculum for their class or year group. This approach also usefully promotes integrated approaches to the curriculum. Specialist coaching supported by co coaching is well suited to supporting this kind of activity.

109. *Implication 4: How are leaders of curriculum development making strategic use of internal capacity and expertise? To what extent are school and CPD leaders promoting the use of specialist and co coaching to support curriculum development? How can CPD leaders connect colleagues engaged in curriculum development with other colleagues developing coaching capacity?*

110. Schools with established professional learning communities and with clear and well-rehearsed frameworks for accountability are likely to be in a good position effectively to support curriculum development and to recognise and evaluate its contribution to improving student learning through existing structures and processes. Schools without this kind of infrastructure may struggle to evaluate the impact of curriculum development and therefore to prioritise it over other perceived areas of need for professional learning and practice development.

111. *Implication 5: What examples exist of schools where teachers have evaluated the contribution of curriculum development to improving student learning in creative and relevant ways? Where such practice exists, how is being shared with other schools?*

Section 4: Method and references

Scoping – case study schools

112. In choosing schools as case studies we looked for sites where both curriculum development and CPD were rich and varied. With only three schools involved, we needed to be confident of diversity and security of practice in both aspects of the research.

113. The schools we approached were ones where we had quite detailed knowledge of their CPD structures and processes. We decided to select a long list for CPD first and then choose our top three schools on the basis of the interest of the curriculum development work. This was done on the basis that it was easier to enquire into and to evaluate curriculum development activity over the phone than it was the quality of CPD provision. Schools were also scoped for diversity of context (the sample includes one urban, one suburban and one rural school) and inspection reports and attainment data, especially CVA scores, were scanned to make sure there were no serious issues either with curriculum or with CPD that we should take into account.

Scoping- literature

114. The cumulative findings of four EPPI systematic reviews of the CPD evaluation literature internationally, highlight key factors important in providing effective support to teachers developing the curriculum and in helping them to adapt their practice.

115. EPPI -The Evidence for Policy and Practice Information and Co-ordinating Centre is part of the Social Science Research Unit at the Institute of Education, University of London. Since 1993, they have been at the forefront of carrying out research syntheses and developing review methods in social science and public policy.

116. To date, CUREE has led four systematic reviews of research into the impact of CPD on teachers and their pupils. The four reviews involved:
    - searching the available evidence base for studies that could help to address the questions for the review;
    - filtering over 20,000 titles and abstracts against an initial set of inclusion criteria;
    - reapplying the inclusion criteria to over 700 full studies;
    - key wording over 200 studies and filtering them against a second, narrower set of inclusion criteria, and
    - extracting the data and synthesising the evidence from 70 studies.

117. The EPPI systematic review process is designed to be explicit and transparent about the methods used, to be accountable, replicable and updatable, and involve relevant and useful information. It follows a standard set of stages. The findings from the research are synthesised to make the key findings easy to locate and to reduce bias in the reporting. Reviewers have to filter studies against known criteria, and two separate reviewers work independently and compare notes.

118. This 'double blind' approach is also applied to extracting data from studies for analysis. Each stage of the review is carefully synthesised by the Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI Centre), and final reports are examined by a range of reviewers who have no knowledge of who was in the research team.

119. To test the extent to which the characteristics of effective CPD would be relevant for researching support schools were offering teachers engaged in curriculum development and changing their practice in response to their development work, we sampled four high or medium weight of evidence studies from the 17 that were included in the first systematic review. In sampling, we were looking for CPD evaluations where the context for the professional learning involved teachers engaging in curriculum development.

120. The following 4 vignettes summarise the examples and begin to illustrate the dynamic relationship we found between CPD and curriculum development:

    1. In one study teachers wrote new science-technology-society units for their students (Cho, 2002). Teachers in the study worked together, taught the new units in their classrooms, reflected upon their teaching using videotapes and evaluated their students' performance. Students from the three classes improved their ability to write about key concepts after the unit was finished. They also showed improved skills in creating questions for exploration, explaining and predicting.

    2. In a study from New Zealand (Brown, 1992) an external specialist worked with teachers over a sustained period to support them in developing practical and effective teaching strategies, with mutual support, across a number of subjects. The specialist outlined a number of options teachers could follow and worked with them in developing these options, including co-operative learning, using advance organisers, constructing mind maps. There was a positive impact on students' assessment performance and their attitudes to learning.

    3. A US study (Parke and Coble, 1997) explored collaborative curriculum design in science as professional development focused on linking theory and practice. Students were observed to participate more actively in both practical activities and lesson discussions. These students covered less of the curriculum, but achieved the same results as those in the control schools.

    4. Another US study (Wilkins, 1997) evaluated the impact of new mathematics curriculum units designed by maths teachers who had been mentored by an external mathematics specialist. These teachers then acted as internal specialists in their own schools and were able to support colleagues in developing more units and using them in their classrooms. All schools demonstrated improved scores from first to second year in the project.

Developing research instruments

121. We used the outcomes of our analysis of the characteristics of effective CPD, as exemplified in the four vignettes, to create a framework for developing tools and instruments to support research in the three case study schools.

122. The framework formed the basis of a simple spreadsheet for accumulating and coding evidence from a range of sources, enabling us to read across to find patterns and gaps in the data. The sources of evidence we included were:
    - documentation in school relating to CPD policy and practice;
    - interviews with school, CPD and curriculum development project leaders; and
    - interviews with participating teachers.

123. Interview schedules were developed using the framework so that we were able to maintain a clear focus on the relationship between curriculum development and CPD.

124. The glossary of terms developed by the Building the Evidence Base team at CUREE and University of Wolverhampton also informed the development of these instruments. This will ensure that evidence generated through this probe will be compatible with the overall project data set.

Case Study Visits

125. Extended telephone calls between researchers and CPD and project leaders identified suitable curriculum development projects that might form the basis of observations and interviews. The CPD leaders arranged up to six interviews from amongst the following list of colleagues:
    - School leader with responsibility for curriculum
    - School leader with responsibility for CPD
    - Curriculum development project leader
    - CPD leader
    - Teacher taking part in curriculum development project

126. Documentary and other evidence relating to the curriculum development projects and the schools' structures and frameworks for CPD were also collected. These included:
    - DVD and other resources generated through the curriculum development projects;
    - tools and protocols to support CPD processes e.g. peer observation
    - communications relating to project management e.g. notices, agenda and minutes of meetings; and
    - evaluation reports.

127. Visits took place over a maximum of two days during July 2008. The outcomes of the visits were written up in the form of three standardised case studies, which were validated by the schools.

Analysis

128. Evidence from interviews, observations and from school documentation was coded using the analytic framework developed using the characteristics of effective CPD.

129. Data were entered into a simple spreadsheet database. Common practices, issues and themes were then read across the data set to generate a set of findings. These were then referred back to the research evidence to look for possible correlations and explanations of how and why things worked, which form the basis of the conclusions of this report.

130. A series of possible implications for policy and practice were inferred from the conclusions. These have yet to be tested with policy or practitioner groups.

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