Final report to Becta concerning the use of video-stimulated reflective dialogue for professional development in ICT

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# Executive summary

This report concerns one of the Becta Research Grants 2008-9, intended for self-contained research in the area of technology for learning, and in support of the [Harnessing Technology strategy](http://www.dfes.gov.uk/publications/e-strategy/). This project primarily addressed the strategy theme of Practitioner Workforce Development and Training. It particularly concerned how practitioners can become highly skilled in the use of technology to support learning and ways of sharing effective practice with their colleagues.

The work drew on substantial existing research concerning the use of ICT for teaching and learning and concerning professional development strategies. It also built on the project team’s successful experience in researching the effect of technology on practice in schools and enabled the team to widen the base of researchers skilled in analysing ICT in education. The team focussed on the question: *How can digital video be used in professional development to improve the use of ICT to supporting more dialogic teaching in mathematics and science?*

## Main findings

1. Teachers believed that it was important for learners to follow their own route to understanding key ideas, with careful intervention by the teacher to manage this learning.
2. In order to achieve this, teachers used strategies for engaging students in dialogue, giving students influence over the course of activity, generating thinking together by whole classes, expecting students to reflect on their knowledge and learning, encouraging discussion of mistakes, and challenging misconceptions.
3. Teachers developed or selected a wide variety of ICT and non-ICT resources to help implement these strategies, and the ICT resources were used to aid clarity of representation; demonstration; emphasis; movement; feedback and interaction with students; continuity and momentum of activity; development and improvement of ideas; collation of students’ contributions; accessing a wide range of material from remote sources; and structuring student activity.
4. Through use of digital video, teachers could identify those changes in practice which improved student engagement and learning, and could also identify better ways of using ICT to help.
5. Teachers found the process of reflective dialogue with external researchers and with their colleagues particularly valuable when it had a specific focus for coaching, as long as it was within a professional development process rather than an aspect of performance management.
6. Involving novice researchers as apprentices in this process contributed substantially to the building of research capacity in the field of ICT and education.

## Recommendations

1. Professional development concerning the use of ICT in dialogic teaching should be implemented by school leaders, and managed carefully to ensure that development objectives are constructed by staff themselves and supported by external expertise where appropriate.
2. Digital video should be used to help stimulate reflective dialogue as part of a peer-coaching process between trusted colleagues.
3. Clear roles and relationships should be established where classroom observation and video-recording is planned, with appropriate consent for its use being obtained from those taking part in video-recorded activity.
4. Adequate time should be made available for recorded lessons to be viewed, selected and discussed.
5. Reflective dialogue should have a clear development focus and should be based on positive features of practice.
6. School leaders should support the evaluation of changes made to practice, and should help to sustain and disseminate those which are successful.

A framework of advice for schools has been developed on the basis of these recommendations.

The warrant for the findings and recommendations is based on a rigorous project design; the involvement of teachers from primary and secondary schools, who were known to be effective practitioners; and careful, systematic analysis of video recordings, interviews and team discussions.

Further details are available in the full project report and from Steve Kennewell (steve.kennewell@smu.ac.uk)

# Background to the research

## Aims and objectives

The Becta Research Grants 2008-9 were intended for self-contained research in the area of technology for learning. Their aims were:

1. To support high-quality research in support of the Harnessing Technology strategy.

2. To build knowledge and understanding against key research questions relating to the Harnessing Technology Strategy.

3. To support the technology for learning research field by promoting development of models, methods, tools, modes of thought.

4. To develop research capacity by supporting the work of those new to the field.

This project primarily addressed the theme of Practitioner Workforce Development and Training. It particularly concerned how practitioners can become highly skilled in the use of technology to support learning and ways of sharing effective practice with their colleagues. The specific objectives were:

1. An evaluation of the efficacy of video-stimulated reflective dialogue (VSRD) as a school based professional development tool for improving pedagogy in the use of ICT to support dialogic teaching in mathematics and science classrooms.
2. A model for extending the effective use of ICT for dialogic teaching in schools; this will include questions and activities that provide practitioners with a framework for development.
3. Increased research capacity in ICT/Education in institutions that between them train 62% of teachers in Wales.

## ICT and pedagogy

In recent years, there has been considerable investment in ICT resources in schools in the expectation that this would support pedagogic development and lead to improvements in learning. In particular, significant funding was available for projective technologies such as interactive whiteboards (IWBs) and data-projectors. Although the introduction of this technology might have been thought to support the development of interactive or dialogic teaching approaches, research indicates that the impact of ICT on pedagogy and on learning has been, at best, variable (Becta, 2003; Smith et al, 2005; Smith et al, 2006; Moss et al, 2007; Somekh, 2007). However, there are a number of properties of ICT which appear to have potential for supporting more dialogic teaching, including the clear display which can easily be seen by the whole class; the immediate feedback on learners’ ideas, and the ability to try out and quickly change ideas (see, for example, Kennewell & Beauchamp, 2007).

Mathematics and Science are seen as particularly appropriate for the exploitation of the features of ICT. However, ICT-based pedagogies have struggled to gain acceptance alongside established classical approaches which have semi-official status (Smith et al., 2006).

## Dialogic teaching and ICT

There is growing evidence that the use of ICT to support the traditional format for classroom interaction (initiation, response and evaluation/feedback) is ineffective in improving learning and attainment. Alexander (2004) suggests that the basic repertoire of classroom talk is unlikely to offer the types of challenge required to extend students’ thinking. In contrast, he characterizes an approach he describes as dialogic teaching which is collective, reciprocal, supportive, cumulative and purposeful. However, these types of interaction are less frequently encountered in classrooms (Mroz et al., 2000).

Dialogic classroom interactions involve more than superficial participation by students. They are characterised by the teacher’s uptake of student ideas, authentic questions, and the opportunity for students to change or modify the course of the activity (Nystrand et al., 2003). Teachers relinquish some measure of control of the lesson as pupils are offered a degree of collaborative influence over their learning. Tanner et al. (2005) suggested a loose hierarchy of interaction in whole class teaching episodes in terms of the control of the course of the activity (see Table 1).

|  |  |  |
| --- | --- | --- |
| Episode | Nature of Interaction | Control of course of activity |
| Lecture | *No interactivity only intra-activity* | Low pupil influence, authoritative |
| Low level funnelling | *Rigid scaffolding/surface interactivity* | ↑ |
| Probing questions | *Loose scaffolding deeper interactivity* | ‌‌‌‌‌ |
| Focusing dialogue | *Dynamic scaffolding deep interactivity* | ↓ |
| Collective reflection | *Reflective scaffolding / discourse* | High pupil influence, dialogic |

Table 1: Interactivity in whole class teaching (based on Tanner et al., 2005)

The ESRC/TLRP-funded Interactive Teaching and ICT (ITICT) project (Kennewell et al, 2007) explored the effects of using ICT to support interactive teaching. Although it found no significant differences in attainment between pupils taught with and without ICT, there was a pattern of higher attainment for those classes taught by teachers whose approach was more dialogic. Classroom observation, together with teacher and pupil interviews, confirmed that expecting learners to play a more active role and display greater autonomy and control over the course of activity was likely to produce improvements in learning.

The ITICT project also highlighted the tendency for learners to focus on product rather than learning during tasks, suggesting that the teacher needs to know how to intervene in ICT activities, particularly to stimulate reflection, in order to ensure learner engagement with the key ideas. The findings suggest that the development of teachers’ expertise in using ICT should focus on how ICT can support more dialogic approaches. This involves practitioners being able to select and develop ICT resources to stimulate dialogue, to help manage tasks, to represent individual and collective knowledge, and to develop sustained, contingent interaction with and between learners. This process has been characterised as ‘orchestrating’ the features of the classroom (Kennewell et al., 2008)

There is growing evidence of the value of deeper interactivity and greater learner control in developing concepts and higher-order skills (Adey et al., 2007), but also that this is difficult to achieve (Smith et al., 2005). However, the work of Mercer and Wegerif indicates that technology can play an important role in supporting more challenging thinking in schools (e.g. Mercer et al. 2004).

## Digital VSRD as a research tool

Gaining insight into how teachers plan and operationalize pupils’ participation in richer learning discourses is far from straightforward. Video Stimulated Reflective Dialogue (VSRD) was a key aspect of the ITICT project and proved to be an effective tool for researchers wishing to gain insight into both the current state of teachers’ explicit pedagogic thinking, and their reflections on directions for future development.

Digital video technology afforded review, selection and extraction of key lesson episodes for subsequent discussion. In addition to VSRD’s intended use to facilitate analysis of teachers’ pedagogical practices, the teachers concerned commented on its potential value as a tool for their own professional development and that it helped them to reflect more effectively on their own practice (Kennewell et al, 2007). However, exploration of this potential was beyond the scope of that project.

VSRD is distinct from video stimulated recall or video stimulated reflection (VSR) through its use of dialogue as a key aspect of the process. The video provides a stimulus for a ‘collective exchange ... intended to result in a synergetic pooling of information which extends the concepts involved’ (Moyles, et al., 2002: 465). Following Wegerif (2008), we distinguish between discourse moves which are dialectic and those which are dialogic in character. We would regard scaffolded discourse moves that lead the teacher towards an established model of good practice as dialectic – technical coaching. On the other hand, we would regard discourse moves that lead to the co-construction of knowledge and deep understanding about the process of teaching and learning as dialogic – cognitive coaching (Gallacher, 1997).

Although VSRD appears to have potential, its use has not yet been thoroughly investigated as a sustainable tool for practitioner development in the field of ICT and dialogical pedagogy. In particular, the nature of the discourse in the VSRD process may well be different when the aim is CPD rather than research.

## Professional development for embedding ICT

The General Teaching Council for England (GTCE, 2007) make the following points:

* Sustained interactions and interventions give more breadth and depth than short or one-off courses.
* The more influence teachers have over their professional development – and especially in tailoring CPD to meet their needs – the more likely they are to find it effective. More generally, the research lends support to the importance of designing CPD that holds teachers’ professionalism and individual expertise as a central value.
* Effective CPD maintains a clear focus on pupils’ learning. It is grounded in what is known about effective adult learning. This includes:
* sustained access to coaching and mentoring, for getting support with knowledge and/or skills;
* opportunities to see good practice in action, both in classrooms and in adult learning environments;
* a range of opportunities for observation and feedback as part of collaborative and collegial working practices; and
* sustained, structured and cumulative opportunities for practising and evaluating what has been learnt.
* Effective professional development should make full use of input and support from external sources of expertise. Generally, these will include teacher educators in higher education institutions and also professional staff in subject and specialist associations.

Supervision, mentoring and coaching are terms that are used commonly in the literature to describe the complex processes that are involved in discussions based on the observation of professional practice. They share foundations whose purposes, elements and competencies overlap (Gallacher, 1997). For the purposes of this paper we shall refer to processes involved during the VSRD episodes as coaching.

Many models of coaching exist in the literature to describe a range of staff development practices. These can be considered to vary along several dimensions, such as: the relationship between the observer and observed (manager versus peer), the relative expertise assumed (expert versus novice) the primary objective of the observation (evaluation, research or development), the focus of the observation (eg: technical coaching - refining a skill, versus cognitive coaching - analysing the teaching and learning process) and the control of the focus of the dialogue (course of dialogue controlled by observer or observed) (Garmston, 1987; Joyce & Showers, 1996; Gallacher, 1997; Moyles et al, 2002; Lyle, 2003).

It is often assumed that a coaching relationship is hierarchical and that the observer is the coach. This is not necessarily the case. The National Framework for Mentoring and Coaching (CUREE, 2005) distinguishes mentoring (a structured, sustained process for supporting professional learners through significant career transitions), coaching (a structured, sustained process for enabling the development of a specific aspect of a professional learner’s practice) and collaborative coaching (a structured, sustained process between two or more professional learners to enable them to embed new knowledge and skills from specialist sources in day-to-day practice). The collaborative coaching approach makes it possible for both the teacher and the observer to regard themselves as learners.

## Developing research capacity concerning technology-enhanced learning

The ESRC-funded Welsh Educational Research Network provided initial support for the research team to develop further research capacity in the area of ICT and pedagogy, based on the success of the ITICT project. Science and mathematics were chosen for this work as they contain significant conceptual elements, and because the use of ICT to provoke discussion and model concepts is underdeveloped in schools. Five novice researchers from three Higher Education institutions in Wales were inducted into the team and mentored by more experienced colleagues. Prior to the project, the novices were trained in lesson observation and the use of VSRD as a research tool. This project was designed to further develop their research expertise with mentoring from project colleagues at all stages.

# Research design and process

The projectaimed to evaluate the efficacy of VSRD as a school-based professional development tool for improving pedagogy in the use of ICT to support dialogic teaching in mathematics and science classrooms. Our research question was refined to: *How can video-stimulated reflective dialogue be used to improve pedagogy with ICT through supporting dialogic approaches?* We intended to explore a model of coaching in which the aim was to stimulate teachers’ thinking about the judgements they were making in relation to their use of ICT and the extent to which it supported the process of dialogic teaching.

The research used a mixed-methods design with teachers and researchers working to develop and evaluate effective dialogic teaching strategies involving ICT in science and mathematics lessons at Key Stages 2 and 3.

## Sample

Teachers who were known to the researchers as being interested in developing their use of ICT to support dialogic teaching were invited to participate in the project. Eight teachers from four schools were involved

|  |  |  |
| --- | --- | --- |
| **Subject** | **KS2** | **KS3** |
| Mathematics | 2 teachers | 2 teachers |
| Science | 2 teachers | 2 teachers |

## Data collection and analysis

Baseline data was collected concerning teachers’ pedagogical approaches and their use of ICT. An initial workshop for teachers and researchers was held to discuss dialogic teaching and the role of ICT in supporting it. This discussion served two purposes, first to begin to develop a shared understanding across the team and, second, to gather baseline data about the teachers’ perceptions of their pedagogical approaches and use of ICT. Two cycles of action research then followed. At the start of each cycle, teachers identified an aspect of dialogic teaching which they wished to develop and nominated a lesson for observation. To meet the research capacity building aims of the project, these lessons were observed by two researchers (one less and one more experienced) and contemporaneous field notes were taken using the ATLAS framework (Kennewell et al, 2008). Each lesson was digitally video-recorded and the DVD given to the teachers. Our experiences in the ITICT project had highlighted the importance of teachers having an uninterrupted period of time to review and reflect on their DVDs. In this project therefore, supply cover was paid for the teachers to come to the HE institution to watch their DVDs and to select episodes which exemplified dialogic teaching involving ICT before the VSRD took place.

Although the general focus of the observations was ICT and dialogic teaching, the teacher controlled the precise focus of the observations by selecting the initial clips of video to be discussed. The direction and pace of the post-observation dialogue was then largely controlled by the teachers.

During the VSRD, the observations and dialogues were facilitated by the less experienced researchers with support from the more experienced colleague when necessary. A simple framework of prompts was used as a basis for the VSRD, rather than a more detailed set of possible questions which might be too extensive for researchers to select from during the natural course of dialogue (Moyles et al., 2003):

* The teacher’s reasons for selecting the lesson clips
* Approaches/strategies used in the lesson and their reasons for choosing them
* Approaches considered but not used and the reasons why
* Value of ICT in the lesson or reasons why ICT was not appropriate
* Impact on pupils’ learning
* Impact on the teacher’s views of the role of dialogic teaching and ICT

The main role of the experienced researcher was to observe the VSRD process, and to audio and video-record it for later analysis as part of the project data. The VSRD concluded with the teacher identifying a focus for further exploration or development during the second action research cycle.

Observation 1

Collective reflection

VSRD 2

Observation 2

VSRD 1

Initial briefing

At the end of the second cycle, teachers and researchers met as a group to evaluate VSRD as a tool for staff development and to develop a set of activities for use with colleagues in their schools which would support the sharing and development of effective practice. Data from lesson observations, discussions during the meetings and the transcripts of VSRD were used to identify and analyse:

1. ICT and dialogic teaching
2. Change in practice
3. Effect of the overall process

# Results

## Dialogic teaching and ICT

The focus was on teaching mathematics and science, subjects that have a substantial body of knowledge that pupils should learn. However, the project teachers all believed that this was best achieved by keeping open many different ideas as long as necessary so that pupils could establish the viability of each idea themselves and come to their own understanding of which one best fitted the scenario they were investigating or the problem they were trying to solve. They would, of course, carefully intervene to help persuade pupils that any idiosyncratic ideas which worked in particular cases were not generally valid.

The teacher’s orchestration of the classroom activity was crucial, therefore. We found that there were particular strategies and supporting resources that were commonly used to help facilitate this dialogic approach, and we identified a number of effects ascribed to ICT in particular in supporting these strategies.

In relation to dialogic teaching, there were strategies for:

1. Engaging pupils in dialogue, including think-pair-share; teaching pupils listening/speaking rules and cumulative-exploratory talk; feedback from groups; explaining strategies rather than giving the answer; playing devil’s advocate; peer teaching with mixed ability pairings; developing appropriate vocabulary; trying to get pupils to explain things to each other rather than telling them what they should know/do.
2. Giving pupils influence over the course of activity, including pupils coming up to board to explain their answer; one pupil at the board whilst another explains to them what to do; not giving too much information; contingent orchestration rather than planned structure.
3. generating collective reflection - setting problem and keeping it open while several pupils explained solutions – even if some of those are wrong and some pupils clearly know the correct answer; concept mapping; encouraging them to use other pupils’ ideas to generate their own idea

Metacognition was also prompted with questions such as ‘how confident are you about this?’ and ‘what have you learned in this lesson?’, and pupils writing their own notes they were taught how to do this with keywords put on the board for the less able to refer to and then the teacher checking they are correct afterwards. Conceptual change was stimulated by asking pupils to choose a point of view before activity/discussion, encouraging them to make mistakes, and discussing their naïve ideas before doing an experiment. Teachers knew what pupils knew, and used this knowledge to orchestrate the development of their thinking. They involved the least able, using alternative ways to access the key ideas and applying a ‘no hands up’ rule and requesting responses from around the room so that pupils could not ‘hide’.

A wide variety of resources were developed, adapted or selected in order to support these strategies:

* scenarios to discuss which gave purpose to activity and generated problems to solve;
* dictionaries for pupils to use to find vocabulary for themselves;
* games, in which the rules corresponded to the scientific or mathematical relationships to be taught and learned;
* small laminated boards and dry-wipe pens (mini-whiteboards) – blank ones and prepared templates;
* the ordinary whiteboard, often used to keep objectives/keywords on display whilst other activities happened on the IWB or at tables; also used for the manipulation of magnetic shapes;
* a cordless mouse passed around the room for manipulating material projected onto the wall;
* cards for sorting/matching activities.

The effects of ICT on the activities could be seen in terms of:

1. Clarity: a clear projected display for all to see which engaged pupils’ attention and acted as focal point for whole class
2. Modelling and emphasis: the teacher could show what was required in the pupils’ work and use colour to code different contributions or attributes, annotations, recorded sound to clarify and emphasise key points
3. Showing movement: video and animations
4. Feedback/interaction: allowing pupils to explore, make mistakes, reflect on them and try alternative ideas
5. Development and editing: ideas could be added at any stage and when ideas changed, the displayed representation could be changed
6. Collating ideas and presenting pupils’ work, linking with prior activity/learning, revisiting at a later stage
7. Drawing on a wide variety of material obtained from the web or developed over several years
8. Organising ‘games’/quizzes, where ICT operates the rules allowing pupils to focus on strategy and concepts
9. Structuring activity: writing frames and word banks supporting poor writers/spellers/typers

Teacher used both slides and flipcharts, many recognizing the limitations of basic slide presentations and developing the extra skills required for interactive software. There were obstacles, however. Teachers did not try always things in class if they were not confident in the skills required and there were physical restrictions such as pupils who could not reach the top of the board. Generally, pupils needed to step away from board to reflect on the contents, but this was not often seen in practice. Furthermore, the speed of ICT aided continuity and momentum in a lesson but sometimes processes occurred too quickly for some learners to keep up.

The uses of ICT were both:

* Incidental (to enable/enhance effective dialogue and learning)
* Significant (to provoke and support interaction, but there are instances when it significantly inhibits interaction through technical failure or lack of skills)

Some of the manual activities could easily be carried out using ICT, and is some cases this may be more effective – for instance, manipulating shapes on the wall using a cordless mouse rather than coming up to a magnetic board.

## Changes in teachers’ practice and the role of ICT

Although we did not intend to try to identify changes by analytical comparison of the two lessons observed, it was possible to identify actual and intended changes from the teachers’ reflections.

Teachers saw potential for deepening interactions, realizing when they had been leading pupils with closed questions. They looked for opportunities to challenge pupils’ ideas, try different pupil grouping strategies, and give pupils a chance to show how they solved the problem in different ways. Some teachers identified pacing problems – either trying to do too much or not giving pupils enough time to think - that they resolved to address by spreading the work over more lessons.

They saw great value in observing pupil activity/interaction and identifying what they could have done to improve aspects of organisation or intervention, such as listening into discussions and assessing learning (understanding of ideas and use of terminology). They developed more awareness of their own role – setting up, standing back, identifying need for intervention – and that of teaching assistants. They were able to identify their own shortcomings, and planned to take action to address these, for instance

* reduce teacher talk and stand back more
* increase the variety of teaching strategies
* use the IWB actively rather than merely as a prompt
* realise where a response to a pupil has misfired and decide how to handle it next time
* give more time to girls

They were aware of better ICT resources and ways of using them, such as:

* colour and animation of Powerpoint to emphasis difference and change, and look for Flash applications
* dynamic geometry software to explore what happens in different situations
* virtual experiment software after the practical to produce graphs and aid discussion of relationships
* wireless laptops for pupils
* software to produce graphs from tabulated data in order to reveal patterns
* Logo or Roamer to try out giving instructions

## The effectiveness of digital VSRD

Teachers found the process quite challenging, as it combined an unfamiliar person in the classroom, a camera often pointing at them, the need to watch themselves and the realisation that some aspects of the classroom were different from what they had thought. They enjoyed talking about their teaching and their pupils, however, and found the video valuable in aiding this discussion. Watching ICT through the video allowed teachers to look at it through another ‘lens’: that of the pupil. They were all initially uncomfortable about watching themselves on video, and some teachers were uncomfortable with someone else there observing. One suggested just leaving the camera to run with no observer, but it was generally felt that this would lose the ability of observer to point camera at important features/events in the classroom. Some pupils were also uncomfortable initially, being afraid of being seen to ‘get it wrong’. All these factors reduced for the second observation. There was particular value in being able to observe pupils/groups that had not been noticed in the classroom, particularly those doing better than expected. However, for this to be really effective, it needed better sound than general classroom camera could provide.

Teachers raised the question of who is the video for – self or school management? It was considered important to have teacher ownership of the recordings, to carry out reciprocal observation, and to have a supportive not judgmental relationship based on mutual trust, with both colleagues learning from each other. Teachers appreciated having the opportunity to justify why ICT was used. When they saw each others’ lessons on video, they were able to pick up ideas that they planned to use. There was felt to be great value in teachers selecting clips for use in school staff development sessions to give colleagues a feel for the effect of the pupils of what you do rather than just telling them. Clips could be selected with a specific focus like improving questioning or using ICT. Furthermore, some thought that the video would be valuable to show parents – current and prospective – and primary pupils what lessons were like.

A number of recommendations were made by the teachers, including the need to set aside enough time to watch thoroughly before a VRSD, to focus on good aspects in order to raise self-esteem, to conduct a dialogue, not an interview and to provide prompts/questions beforehand.

## Research capacity building in ICT and Education

The project adopted ‘apprenticeship’ model, whereby the HE staff who were new to funded research participated in all aspects of the work alongside their more experienced colleagues and had a voice in all decisions. The planning process had emphasised to the novice researchers the need for to be non-judgemental (in contrast to their usual work as ITT tutors). In the ITICT project we had distinguished between interviews, in which the researcher adopts a neutral stance, and dialogues, in which the researcher is encouraged to respond as a partner with comments and suggestions. In the VSRD project, however, we were using only dialogues, and whilst the experienced researchers were clear about this distinction, the novice researchers initially felt obliged to remain passive and neutral in their contributions. Teachers made it clear subsequently that they particularly valued the researchers’ suggestions for alternatives, and would certainly want this as part of the professional development process. The process of reflection on the project with the participating teachers was particularly helpful in developing novice researchers’ understanding of their dual role as researcher and coach.

# Conclusions and recommendations

There is no ‘recipe’ for developing dialogic teaching, or for the effective use of ICT, and the professional development process itself needs to be dialogic. Whether carried out across the whole school, or within a single teaching team such as a subject department, pairs of teachers should be formed who can work in a trusting relationship.

The process has a number of stages:

1. In order to establish a common understanding of the process, first use some video material from a lesson where the teacher is unknown or has a neutral status for the teachers watching. Choose clips and discuss the positive features of the lesson with respect to dialogic teaching, the use of ICT, and any other relevant professional development focus.
2. Within each pair, one partner teaches a lesson with the other observing/videoing. The teaching partner chooses episodes which represent dialogic teaching, use of ICT, etc which are then discussed as a VSRD using an agreed structure agreed in advance. The roles within each pair are reversed for a second lesson.
3. Stage 2 is then repeated, but with both partners choosing episodes which they feel will be valuable for discussion
4. (optional) The wider teaching team reflect together, with teachers showing clips of their practice where appropriate, on what they have learned from the process.

Time scales between stages will vary according to local circumstances, typically one term for the whole process.

There are a number of key recommendations for schools adopting this approach:

* Management issues

A subject or phase specialist from HE, LA or another school may be valuable as coach or mentor initially to provide external expertise to department or whole staff. The process must be seen as peer observation for professional development rather than accountability to SMT – professional development should be separated from judgement of competence. It may be valuable to use self-videoing rather than taking up someone’s valuable time sitting in the lesson, although some of the context is lost. Issues concerning video recording children should be considered and pupils/parents should be briefed about the process well in advance, either specifically for each lesson or as part of a general school policy on using video in the classroom for professional development.

* Ground rules and relationships

The role of ‘partner in dialogue’ rather than coach or mentor should be adopted for the symmetrical relationship between the pair as there will be benefits for both partners as co-learners. If there is a difference in status between them, this should not be exploited by the senior partner or inhibit the junior partner from taking risks. They should use an approach of ‘knowing what you want to achieve but not what the right answer is’, being careful over language and not implying judgement/criticism – ‘why do you think that?’ ‘what would you do differently?’. They should aim to share good practice and build areas which are less strong. The video should be the property of the person videoed. The owner should decide whether to show the video to other staff and should not show it to audiences outside the school staff without gaining further permission from the pupils/parents.

* Pairings

The partner in dialogue does not need to be more expert in the area of focus but they need to be ‘trusted’. For the teacher who is inexperienced in the use of ICT, mere reflection on their practice may not be enough for them to appreciate how ICT might be exploited better. If one of the pair has greater skills in ICT, or other particular aspect of the focus selected for development, then they should offer advice on the basis of this expertise.

* Focuses

The discussion will work best if the focus is on trying something new or perhaps recognised as not confident with, e.g. using new piece of technology, new topic. In the case of ICT, it is valuable to see someone else using a resource, particularly if they have good reason for using package or use it in different way as sharing good practice, particularly with ICT where showing how used in classroom cannot be replaced by mere demonstration of software or describing what happened.

* Technical and operational

Test the equipment first away from the classroom to gain familiarity with the features and ensure that the classroom recording works. Use a hard drive camera and decide the best recording format, to play with software that allows random access and shows timings either on any laptop or to play on DVD player. Use a tripod to hold the camera steady when it is stationary. It will be helpful if the recording is in a format which makes it easy to select sections and store them separately, using standard movie editing software.

* Classroom procedures

Before the lesson, the teaching partner should brief the observing partner concerning the topic, objectives and nature of the class. They should consider the layout of the room and discuss the position of camera, aiming to capture as much of the significant action as possible from a stationary position so that the observer can make notes most of the time and only move the camera in order to capture significant action that would otherwise be out of view. The camera should not be placed in a position where particular children may feel that it is focusing specifically on them. The position of the observer, and the extent of their movement and participation in the lesson, should also be agreed. It may be best to agree that the observer may intervene with individual pupils and groups in order to aid learning unless specifically requested not to do so, but the observer should not address the class or admonish pupils unless requested to do so. The observer’s notes should focus on describing aspects of episodes which may not be captured on camera, or which seem particularly fruitful to discuss, but should not dwell on negative aspects and should not be judgmental. A brief discussion after the less is valuable, so that the teacher can give immediate impressions of how well their objectives were achieved and comment immediately on any significant events prior to more reflective consideration.

* Selection of clips

Both partners need time to reflect after the lesson, with time to view uninterrupted and write notes with times. Clips need to show good things in order to raise esteem, and also what could be improved upon in order to stimulate development. Watch the video and select the clips just before the scheduled VSRD, so that issues are fresh in partners’ minds, but if possible watch it before this as well.

* Reflective dialogue

We suggest the following structure for the dialogue which is agreed in advance in order to avoid focusing on superficial performance issues. Each partner should identify particular aspects of the selected clips that they want to discuss: first, examples of good practice and second, aspects needing improvement. They should formulate questions for each other about the episodes and outcomes observed. The aim is to maintain a dialogue not interview, with each partner asking questions, making suggestions for alternatives, responding to the other’s ideas and contributing to a cumulative process of joint knowledge construction.

* The teacher’s reasons for selecting the lesson clips
* Approaches/strategies used in the lesson and their reasons for choosing them
* Approaches considered but not used and the reasons why
* Value of ICT in the lesson or reasons why ICT was not appropriate
* Impact on pupils’ learning
* Impact on the teacher’s views of the role of dialogic teaching and ICT
* Reflecting together as a wider team

When a group of teachers – whether it is the whole staff in a small primary school, a group of staff teaching a similar age in a larger primary school or a subject department in a secondary school – have all completed their paired VSRD, it will be valuable to reflect together on what has been achieved. This could start with individuals explaining what they had learned, and showing clips to demonstrate good practice or highlight remaining concerns. These can then be discussed by the group with the aim of agreeing a way forward for the team.

* Monitoring and evaluating the development of practice

If the development is to be sustained, the group should agree on some follow-up activity to monitor progress in spreading improved practices across classes/subjects and evaluate the impact on learning and attainment. This could be a regular agenda item for meetings, or a specific meeting devoted to further reflection on practices and outcomes.

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# Appendix

## Outline of the advice for schools on using digital VSRD in school-based professional development for dialogic teaching with ICT

* What is dialogic teaching?
* Why develop more dialogic teaching?
* Why use ICT to help?
* What is video-stimulated reflective dialogue?
* Why use VSRD in professional development?
* Planning and preparing for the process
* Working in pairs
* Reflecting together
* Follow-up and evaluation

The detail will be provided in a separate document.