

# TEACHER SCHEME FOR EDUCATIONAL DIALOGUE ANALYSIS (T-SEDA):

## ADDITIONAL RESOURCES

[SECTION 3: Technical guidance for audio/video recording and transcribing](#)

[SECTION 4: Case studies](#) Illustrates teachers' coding and interpretation of dialogue in different contexts; includes teachers' findings and next steps.

[SECTION 5: Resources and activities:](#) Ideas to implement dialogue in your classroom, references to other research on dialogue and links to related resources

A further set of templates to accompany the pack is available online at <http://bit.ly/T-SEDA>





## SECTION 3: Technical guidance for recording and transcribing


### 1. Recording in the classroom

There are several possibilities for video and audio recording, depending on the inquiry focus and the classroom environment. The first principle is to use a system that is 'good enough' for the purpose, and not over-complicated. Existing equipment could be sufficient, including tablets and smartphones. Be warned, however, that recording equipment without an external microphone is likely not to capture good sound quality in a noisy environment so do test out your equipment beforehand.

#### *For video recording, consider:*

- tablet (with stand)
- phone (with stand)
- digital camera
- camcorder
- sports cameras
- Apps (it is worth trialling apps before investing, for instance Video Enhanced Observation (VEO) - free version allows 5 trial recordings)
- microphones (individual / table top)

#### *For audio recording, consider:*

- phone
- digital recorder/dictaphone
- tablet (some Apps offer facility to sync notes with audio recording timecode)
- [Interactive whiteboards \(or interactive display panels\)](#): see instructions for use of the Smartboard recorder facility in Part 3 below 
- microphones (individual / table top)

### ***Locating recording devices in the classroom***

It is largely a matter of trial and error to find the best location that:

- gives adequate video and audio quality
- is near a power source and/or accessible to review battery life
- does not interfere with other classroom activities
- captures the events that are most relevant to the inquiry focus (whole class dialogue, peer talk, etc.)

### ***Getting going***

Classroom recording is more common than in previous years, but there is still a need to consider the following:

- a trialling period, before embarking on the main investigation
- acclimatisation for students and staff

### ***Ethical considerations*** (see also [Part g](#) of the main T-SEDA pack for general ethical principles)

It is essential to check whether students and staff have given consent to be recorded and, perhaps, for the recordings to be shared beyond the classroom.

The following should be considered:

- Is there already a policy in place for video and audio recording? what exactly does it cover?
- Do individual students and staff have rights not to be recorded?
- Will any personal details need to be removed for future use of the video or audio?
- What procedures are in place for handling sensitive or otherwise difficult incidents or situations?
- How to ensure that recording does not interfere harmfully with learning and teaching?

## 2. Transcribing (if applicable)

The decision about whether or not to transcribe depends on the inquiry focus. Not all of the recorded material needs to be transcribed.

**Transcription time:** selecting or sampling what to transcribe according to the inquiry focus and the practicalities. For accuracy, you will need to slow down or rewind the recording. A detailed transcript from a lesson in a noisy environment could take up to 5 or 6 times the length of the recording!

If you are interested in meaning and function of language, for example analysing questioning or exploring how much students build on others' ideas, you can choose "intelligent verbatim". This includes the essence of the interaction, leaving out the unnecessaries (e.g. pauses, repetitions). This method inevitably involves a considerable degree of judgement and selection about what to include.

If your inquiry focus demands a very detailed and accurate record of exactly what was said, full verbatim would be more suitable. This includes more exact details of the actual spoken words and other sounds (e.g. laughter), pauses and other features of timing, sometimes with accompanying notes about tone of voice, gestures, and so on. This method still involves a degree of judgement and selection about what to include.

Any transcription, however detailed, can only be a representation of what actually occurred. Any recording can only be partial. Researchers often find it useful to make an initial transcription and then add to this, while listening again to the recording - often several times - in order to build up the best possible understanding of the conversation that occurred.

### Tools for transcribing

There are some software tools that assist with transcribing, such as:

- Inqscribe - free software, useful to slow down recording; runs on Apple or Windows (<https://www.inqscribe.com/>); note that transcripts cannot be exported from the free version but they can be cut and pasted
- Easytranscript – free software, runs on Apple or Windows and allows the user to export files  
<http://www.e-werkzeug.eu/index.php/en/products/easytranscript>

You could also look for features that are built into the camera, computer or other recording device, such as the option to mark timecodes or 'bookmark' interesting sections that can be returned to later.

**Transcribing notation:** Researchers use some conventions to indicate significant nonverbal events and you may choose how much of this to include in your own records. On our ongoing project we use the following simple rules, adapted from Jefferson (1984).

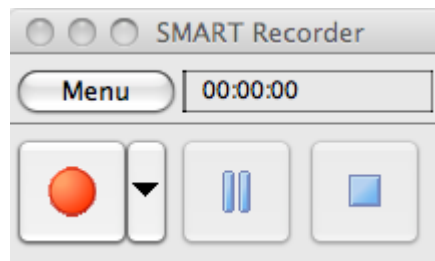
**Adapted Jefferson notation**<sup>1</sup> 

| Symbol                   | Name                        | Use  |
|--------------------------|-----------------------------|--|
| (3+)                     | Long Pause                  | A pause of at least 3 seconds.   |
| ( text )                 | Parentheses                 | Speech which is unclear or in doubt in the transcript.   |
| (( <i>italic text</i> )) | Italic + Double Parentheses | Annotation of non-verbal activity or indication of who the addressee is where this is otherwise unclear. |

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<sup>1</sup> Full Transcription Notation is described in G. Jefferson, "Transcription Notation," in J. Maxwell Atkinson and J. Heritage (eds), *Structures of Social Interaction*, New York: Cambridge University Press, 1984.

### 3. Using the Smart Recorder on the Smartboard<sup>2</sup>




**The Smart Recorder** is an interactive whiteboard facility that can be used to audio record teacher narration and/or activity located at or near the board, or a whole class discussion, and it can also capture everything that happens on the screen. It is accessible through the Smart Notebook application, and can be accessed independently of Notebook as well (check your Applications folder, or use the Spotlight Tool to search for "Recorder"). This means that it can be used to record anything you do on your computer. Once complete, you have an independent movie file that can be embedded in your class wiki or blog, or . . . yes, even a Notebook file. You can even upload your movie to YouTube or Teacher Tube, or any of the other video sites, so it is available for your students to view again and again if necessary. I really love having my students use this recorder to make movies showing how they solve math problems, for example. Not only do I get to watch what they do, I can hear their explanation, and save the video as an artefact for their portfolio, or for a parent conference.

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<sup>2</sup> Adapted from a document authored by Megan Bowe, Teacher at Norwich High School for Girls, Norwich, UK

## SECTION 4: Case studies

This section includes two worked examples of teachers' use of T-SEDA written by members of the development team. The first one is based on a small project in which elements of T-SEDA were used to investigate the extent to which student participation in small group dialogue could be seen as equitable. The second one, focusing on teacher and pupil participation in whole-class dialogue, is based on the Masters research project of a teacher who is part of the T-SEDA development team. Both examples include supporting notes (in the right-hand column) to show the key points and questions that underpinned each case 'story'. A blank form  is included in our online resources for developing your own worked examples. A concise worked example can also be a very effective way of sharing investigation findings with colleagues. These would also be very useful to add to the T-SEDA pack for others to read. (The examples are quite detailed and this is not always necessary.)

| Case Study 1: Inquiring about equity in student participation in dialogue  | Points and questions  |
|--|---|
| <p><b>Teacher: Michelle (Year 5)</b></p>   | <ul style="list-style-type: none"> <li>● <i>Name of teacher, age group</i></li> </ul>   |
| <p><b>Inquiry:</b> I wanted to find out about children's participation in reasoning in my science lessons. My students and I had previously established the ground rules for productive talk during groupwork, and my overall impression is that the children were responding well. My concern, however, was that I got the sense that some individual children were being marginalised or excluded from the group discussions, while others were talking a great deal without listening to other ideas. This is not what I intended and so I decided to find out whether the students participate equitably in the dialogue during science groupwork. I also wanted to see if there were any clear obstacles to the equitable participation, and any opportunities to intervene and enhance this.</p> <p>I decided to focus on just two aspects of dialogue to make things manageable. I selected RE (reasoning) because it was relevant to the science learning objectives; and BI (building on ideas) because I wanted to see how the children responded to each other and took account of different ideas in their discussion.</p> | <ul style="list-style-type: none"> <li>● <i>General investigative purpose</i></li> <li>● <i>Existing dialogic conditions, previous actions and general evaluation of the starting point</i></li> <li>● <i>Specific concerns and investigative focus, and inquiry question(s)</i></li> <li>● <i>Intended/hoped for outcomes</i></li> <li>● <i>Focusing and managing the investigation</i> <ul style="list-style-type: none"> <li>○ <i>Which aspects of dialogue and why?</i></li> <li>○ <i>Practical issues</i></li> </ul> </li> </ul> |



**Method:** I decided to use the T-SEDA time sampling tool. I did have some previous experience in systematic classroom observation, so I felt that using time sampling reasonably well was possible and I could take advantage of the more rigorous system to pick up more subtle aspects of talk that I could otherwise overlook. Because I had a student teacher assisting me in the classroom in two forthcoming science lessons, I knew I would have the chance to devote some of my own time to detailed 'live' observation.

The lessons focused on the anatomy of the flower, with associated group tasks. For instance, one task involved the children working together to label the parts of a flower. They dissected real flowers as well as working on the interactive whiteboard following a sequence of guided questioning.

I chose two 10-minute slots when I could be observing students during the lesson and I printed a copy of the time sampling scheme and set up a timer on my phone. During the chosen time-slots, I sat close to the student group at a separate table. Following the instructions, I used i.e. observation 'windows' of 1 minute and 40 seconds for close observation and simultaneous coding, followed by 20 seconds for resting. For each window I ticked the box when the identified student used Reasoning (R) or Build on ideas (B) in his/her contributions to the dialogue. I decided just to tick once in each window rather than tallying the number of contributions, since this would be practically manageable and sufficient to provide an initial overview of each child's participation. When I had completed the time-sampling, I used the T-SEDA checklist for individual students to rate each child's participation as 'high', 'medium' and 'low', judging this in relation to the general participation levels in this activity (i.e. not the typical or expected participation of individual students as judged from previous impressions I had about students).

- *Decision about observation approach (with reference to the T-SEDA tools)*
- *Previous experience and confidence to proceed*
- *Specific goals*
- *Practical considerations*
- *Focus of lesson and student activity*

- *Decisions about when and how much observation time*
- *Technical tools and physical arrangements*
- *Observation and recording details (following or adapted from relevant T-SEDA tool)*
- *Reasons for observation and recording decisions*
- *Stages of investigation (with reference to T-SEDA tools in use)*

**Findings:** my ratings showed clear differences between the children's participation in both lessons: One child was rated as consistently 'high' in (R) 'reasoning', but not (B) 'build on ideas', and one child was rated as consistently 'low' in both. Two other children gave me a more ambiguous impression, with mixed ratings that differed between the two lessons. One of the children who received mixed ratings had contributed a lot to reasoning in one lesson, but did very little to build on others' ideas. In the next lesson this child then did much less reasoning and generally contributed less. On reflection, I realised that this child's high level of reasoning in the first lesson occurred when the child was leading the written response on the IWB, while in the next lesson this child was watching others in this role. With regard to the child who was rated consistently low in both

- *Broad findings in relation to inquiry question(s)*
- *Sample observations relevant to the inquiry, particularly potentially calling for further investigation*
- *Reflective comment drawing on teacher's wider knowledge of the children and classroom*

|   |  |
|---|--|
| <p>lessons, I was concerned to note at the bottom of the time sample record that none of the others responded to any of his suggestions; they just seemed to talk over him and continuing their own conversation.</p>   | <ul style="list-style-type: none"> <li>● <i>Identification of potentially serious concerns not previously evident (learning; social; etc)</i></li> </ul>   |
| <p><b>Evaluation:</b> I found this to be a manageable short inquiry. Through these 10-minute observations I could confirm and extended my understanding of the children’s participation in science groupwork. For once, I confirmed that indeed not all students were participating equally in the group. I also noticed aspects of the children’s interactions and activity that I had missed before. On reflection, I think that when referring just to the actual amount of contributions from each child, there was not equitable participation in dialogue. However, the children did seem to share different elements of the task between them, so were they taking collective responsibility for ‘dividing the labour’ and completing the task as group? This made me think about what I understood and expected of the children’s participation in groupwork and what I tell the children is expected of them. Maybe we could refine this, particularly in terms of how individual contributions to talk, activity and social relations might vary over time.</p> | <ul style="list-style-type: none"> <li>● <i>Overall evaluation of findings and manageability</i></li> <li>● <i>Specific points noticed</i></li> <li>● <i>Reflective summary and conclusions relating to the inquiry question(s)</i></li> <li>● <i>Wider critical reflections on classroom dialogue and learning</i></li> </ul>   |
| <p><b>Where Next?</b> Having now tuned in to the question of equitable participation in groupwork, I decided to continue my investigation in two ways: (1) as a priority, observing the child who was consistently rated ‘low’ (using an open narrative style), and also to talk to him individually about his feelings about learning in the class; (2) to find further opportunities to observe groups systematically to develop my ability to capture children’s interactions, to ensure that I’m not relying too much on my assumptions about the children. To do this, what I intend to do is using Part B of the T-SEDA scheme, adapting the format to create a tally chart for the whole of each observation period. This could help me tackle my new goals without having to repeat the intensive time-sampling from Part A. Ultimately, I still intend to identify obstacles to the participation of students in groups, so that I can support them and enhance the children’s inclusion in classroom dialogue and learning.</p>                                 | <ul style="list-style-type: none"> <li>● <i>Identifying next steps in the investigation</i></li> <li>● <i>Priorities (e.g. in relation to any serious concerns emerging) and general development</i></li> <li>● <i>Potential use of other investigative tools (e.g. interviews)</i></li> <li>● <i>Further use of T-SEDA tools (including rationale for any adaptations)</i></li> <li>● <i>Ultimate aims in relation to educational values and priorities for the students</i></li> </ul> |

| Case study 2: Inquiry into the level and nature of teacher and pupil participation in whole class dialogue  | Details to include   |
|---|--|
| <p><b>Teacher:</b> Lisa (Year 5)</p>  | <ul style="list-style-type: none"> <li>● <i>Teacher name (or pseudonym), year group</i></li> </ul>   |
| <p><b>Inquiry:</b> I was teaching a single lesson on photosynthesis and wanted to find out how much guiding I might do during an initial discussion, and how much the students would be able to express their ideas from prior learning. I decided to focus on G (Guide direction of dialogue or activity) in relation to my own role, and E (Express or invite ideas) in relation to the students.</p>   | <ul style="list-style-type: none"> <li>● <i>What is the lesson subject and focus?</i></li> <li>● <i>What is the reason for the investigation?</i></li> <li>● <i>Is there any prior learning which is relevant?</i></li> <li>● <i>What will the dialogic focus be? (chosen codes)</i></li> </ul>  |
| <p><b>Method:</b> I decided to use part D (whole class overview) of the T-SEDA. This was in part because I did not have any other adults to call upon during the lesson. I wanted to conduct a whole class dialogue in which I would be involved, therefore observing and coding dialogue 'live' would not be possible, so I decided to audio record the introductory discussion of the lesson and listen to it later. With this method, I could reflect on the dialogue after the lesson in order to identify occurrences of G and E. The nature of the discussion was to elicit and draw upon the students' prior knowledge of photosynthesis and to guide their discussion to a fuller understanding of the processes involved in plants synthesising glucose.</p>   | <ul style="list-style-type: none"> <li>● <i>How will the T-SEDA be used?</i></li> <li>● <i>Why will T-SEDA be used in this way?</i></li> <li>● <i>Will any equipment be used to aid the use of T-SEDA, and why?</i></li> <li>● <i>What is the nature of the dialogue to be coded?</i></li> </ul> |
| <p><b>Findings:</b> when listening to the audio I noticed that I seemed to make more contributions during the discussion than my students did. This was not what I expected so I decided to count how many contributions I made, and how many were made by the class. I found that during the discussion she made 95 contributions, whilst the students made 46 contributions. Having counted the total number of contributions made, I decided to calculate the percentage incidence of G and E contributions made during the discussion and use these to assess the level of contributions as defined by the T-SEDA. The percentage of teacher's contributions coded as G was 54% of the total, a rating of 3, whilst the percentage incidence of students' contributions coded as E was 70% of the total, a rating of 4.</p> | <ul style="list-style-type: none"> <li>● <i>What was noticed during the dialogue?</i></li> <li>● <i>Were any actions taken as a result of these observations?</i></li> </ul>   |

**Evaluation:** I was really surprised that the number of contributions I made (95) during the discussion was relatively high compared to the number made by the class (46). My thinking is that this may indicate that the students' prior knowledge of the subject of photosynthesis was less clear than I had anticipated. However, since 70% of those 46 contributions were coded as E, this indicates that the students did have ideas to express on the subject, even if in the moment I thought they needed quite a lot of guidance to structure those ideas and reach conclusions.

- *Where there any unexpected observations during the dialogue?*
- *What conclusions can be drawn from the observations about the nature of the dialogue?*
- *What conclusions can be drawn about the learning scenario?*

**Next Steps:** I found that I made a relatively high number of contributions during the discussion, which I did not intend. Thus, I think that when approaching a subject for the first time with the year group, even when they had met the subject in previous years, it could be useful to present a refresher of their prior learning before asking them to hold a discussion and share their knowledge. That way, they would be more prepared to take part in the discussion. I also wonder if whole class dialogue could be structured in such a way that my own input could be reduced, and so I decided to investigate this with further inquiry.

- *What reflections can be made about teaching practice from this evaluation?*
- *What reflections can be made about children's participation in dialogue from this evaluation?*
- *What might be done differently in a similar situation in the future?*

## SECTION 5: Ideas to implement dialogue in your classroom, references to other research on dialogue and links to related resources and activities.

### Ideas to implement dialogue in your classroom

As well as the catch all 'groupwork', a number of pedagogical tools are available to encourage productive dialogue. Many teachers will already be familiar with some of these.

- Talking Points
- Talking Partners
- Think, Pair, Share
- Circle Time
- Student Presentations with Q&A - sometimes known as 'Hotseating'

There are also deeper pedagogical practices that facilitate high quality educational dialogue.

- Thinking Together
- Philosophy for Children
- Dialogic Literary Gatherings - [https://www.schooleducationgateway.eu/files/esl/downloads/21\\_INCLUD-ED\\_Dialogic\\_Gatherings.pdf](https://www.schooleducationgateway.eu/files/esl/downloads/21_INCLUD-ED_Dialogic_Gatherings.pdf)
- Dialogic Halaqah - <http://isf.education/curriculum/holistic-curriculum/school-halaqah>

Finally, Lesson Study can be used by teachers working together to develop dialogic practice by developing pupils' learning.

## Links to related research-informed resources for practitioners

The following resources were all produced by academics at the University of Cambridge and their collaborators:

*Thinking Together* – a novel programme produced by Lyn Dawes and Neil Mercer and colleagues to support the co-construction of talk rules and the use of ‘exploratory talk’ in which partners engage critically but constructively with each other's ideas. Proposals may be challenged and counter-challenged via argumentation. The programme had positive effects on primary children's logical problem solving, as well as in mathematics and science. Extensive resources available for teachers are listed at <http://www.thinking-together.org.uk/>

*OER4Schools* – an extensive set of open, multimedia professional learning resources for primary teachers in sub-Saharan Africa which contains units on whole class dialogue and groupwork, drawing on Thinking Together and a range of other relevant resources, and illustrated with video clips. [www.oer4schools.org](http://www.oer4schools.org)

A school-based *professional development workshop programme to promote dialogic teaching with interactive technologies*. Trials showed that (primary, middle and secondary) teachers developed their understandings of classroom dialogue and devised new approaches to support it.

*A printed resource book* co-authored with participating teachers and including their own case stories of developing dialogic practice is also available:

Hennessy, S., Warwick, P., Brown, L., Rawlins, D., & Neale, C. (Eds.). (2014). *Developing Interactive Teaching and Learning Using the Interactive Whiteboard: A Resource for Teachers*. Maidenhead: Open University Press.

An *outline of face-to-face workshop activities* guiding teachers through the professional development process is downloadable at <http://dialogueiwb.educ.cam.ac.uk/evaluate/>.

*Online resources including an open digital resource bank* of annotated screenshots, links to video clips of dialogic classroom practice and interactive whiteboard flipchart templates for creating activities, are at <http://dialogueiwb.educ.cam.ac.uk/resources/>.

*Online resources also include teachers' own classroom materials* developed to support dialogue in contexts using digital technology – in UK and Mexico. A set of downloadable resources for Primary/Middle/Secondary schools – including interactive whiteboard flip charts that can be re-used or modified – cover a range of subject areas and teaching aims. <http://dialogueiwb.educ.cam.ac.uk/evaluate/teachersmaterials/>.

Downloadable *video clips of dialogic teaching* in UK (primary, middle and secondary) classrooms deriving from several research projects are available at <http://sms.cam.ac.uk/collection/1085164>. Critique and discussion of other teachers' practices can offer a powerful stimulus for trying out new approaches oneself. (Prompts for such discussion are included with hyperlinks to clips in the co-authored book and the OER4Schools resource.)

If you use digital technology in your classroom, you may be interested in our technology-specific coding scheme (Tech-SEDA), which is currently under development. This offers concrete examples of how specialised technology tools can offer significant 'added value' in exploring ideas, supporting reasoning and drawing attention to particular features of a process.

There are many resources to support reflective teaching in general, including this comprehensive one produced by Andrew Pollard and colleagues: <http://reflectiveteaching.co.uk/>

### **Further ideas for classroom activities which facilitate dialogue**

This website has a number of suggestions for structuring and focusing small-group activities:

<https://uwaterloo.ca/centre-for-teaching-excellence/teaching-resources/teaching-tips/developing-assignments/group-work/group-work-classroom-small-group-tasks>

**Accountable Talk** - [http://iflpartner.pitt.edu/index.php/educator\\_resources/accountable\\_talk](http://iflpartner.pitt.edu/index.php/educator_resources/accountable_talk)

Developed in the US, this website offers suggestions for classroom activities that promote dialogue, as well as a series of free podcasts about dialogue, particularly in maths teaching.

**Dialogic Literary Gatherings** - [https://www.schooleducationgateway.eu/files/esl/downloads/21\\_INCLUD-ED\\_Dialogic\\_Gatherings.pdf](https://www.schooleducationgateway.eu/files/esl/downloads/21_INCLUD-ED_Dialogic_Gatherings.pdf)

**Dialogic Halaqah** - <http://isf.education/curriculum/holistic-curriculum/school-halaqah>

### **Philosophy for Children**

This approach facilitates dialogue as students discuss age-appropriate philosophical questions. The focus is not on 'learning philosophy' but rather the process of inquiry – formulating and expressing ideas, and building on or challenging other's point of view to advance understanding

The following offer a selection of philosophy for children links and resources:

The Philosophy Man - [www.thephilosophyman.com](http://www.thephilosophyman.com)

Teachers can sign up for free weekly emails which have a stimulus story and questions, as well as ideas for thinking games.

The Playground of Ideas – [www.playgroundofideas.co.uk](http://www.playgroundofideas.co.uk)

A discussion framework that promotes dialogue for children in Key Stage 1

### **Talking Points**

The talking point resources were developed by the Thinking Together team

Reflecting on group work - [http://thinkingtogether.educ.cam.ac.uk/resources/Talking\\_points\\_about\\_group\\_talk.pdf](http://thinkingtogether.educ.cam.ac.uk/resources/Talking_points_about_group_talk.pdf)

This links to a number of statements which can be used to start a discussion about classroom talk and group work with students.

Curriculum-linked talking points: [https://thinkingtogether.educ.cam.ac.uk/resources/Example\\_Talking\\_Points\\_activities.pdf](https://thinkingtogether.educ.cam.ac.uk/resources/Example_Talking_Points_activities.pdf)

This has ideas for talking points related to a number of specific curriculum areas, and give an idea of how they could be adapted for any curriculum topic, subject or age group.

### **Other activity designs and contexts that can support engagement in authentic dialogue**

- assigning students talking partners to discuss ideas with;
- giving students time to work in small groups to rehearse expressing and discussing their ideas, which might be a less threatening environment than a whole-class discussion;
- giving small groups the responsibility for ensuring that all members participate and are listened to;
- giving small groups the responsibility for ensuring that all members come to an understanding of the topic;
- designing more open tasks or questions that stimulate thinking and do not have one right answer (talking points are an example).



## Lesson Study and Developing Student Learning Through Dialogue

This section introduces you to Lesson Study (LS): a practice tool originating in Japan and now used successfully in over 75 countries. One of its possible applications classroom-based, practitioner-led study of dialogic practice that iteratively develops pupils' learning. LS is also used to promote the development of teacher practice-knowledge, pedagogical knowledge related to specific subject content, and developing learning communities.

**Teacher Practice Knowledge:** LS involves groups of teachers **identifying an improvement focus** for their pupils by studying their curriculum, progress expectations and current teaching materials and researching alternatives that might help improve learning. Group members may be peers or it may include one member with expertise in the area of study. They then collaboratively plan a 'research lesson' (RL) that introduces the innovation they decide to try out or develop. One member of the group teaches while the others observe the pupils' learning (NOT the teacher's teaching). After the RL they reflect together on what they have observed and on the pupils' work and they decide on adjustments and improvements to the next RL. Teachers from other schools might even come along to observe when a refined RL is then taught, and the cycle continues.

**For a step-by-step guide to how to conduct and lead a research lesson study, download the free handbook from [www.lessonstudy.co.uk/handbook](http://www.lessonstudy.co.uk/handbook).**

**Learning Communities:** Teachers developing LS in England 15 years ago found the LS group to be a dynamic and liberating departure from formal performance management or inspection-focused observation. They learned many new things about their pupils. They also found the LS group to be a vibrant, motivated pupil-learning focused teacher community where normal professional 'guards' were dropped in order to accelerate practice development and where novices as well as experts learned from each other as well as from the pupils.

For teachers developing learning through dialogue as a pedagogical approach, a lesson study can provide an excellent 'theatre' for collaborative teacher learning about the effect of the classroom intervention on pupil learning and how that might be improved further (Dudley et al., 2018). Moreover, LS has been recommended in support of Assessment for Learning and assessment of learning difficulties (Norwich, Dudley and Ylonen, 2014), as well as oracy development, see Dudley's September 2018 blog at <https://oracycambridge.org/blog/>.

### References

Dudley, P., Warwick, P., Vrikki, M., Vermunt, J., van Halem, N & Karlsen, A. (2018) Implementing a new mathematics curriculum in England: district Research Lesson Study as a driver for student learning, teacher learning and professional dialogue in *Theory and practices of Lesson Study in mathematics, an international perspective*, Springer, New York.

Norwich, B., Dudley, P. & Ylonen, A. (2014) Using lesson studies to assess students' learning. *International Journal of Lesson and Learning Studies*, 3(3) 192-207.

## References and further reading

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- Hennessy, S., Mercer, N., & Warwick, P. (2011). A dialogic inquiry approach to working with teachers in developing classroom dialogue. *Teachers College Record*, 113(9), 1906–1959. [A journal article describing the process and issues involved in academics working with teachers as co-researchers of dialogic practices]
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