



Camtree: the Cambridge Teacher Research Exchange

Dialogic Research Lesson Study **Handbook**

*for teacher-, school-, and system-
leaders.*

Peter Dudley

Sixth Edition 2025



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Previous editions of the Research Lesson Study Handbook were published by Lesson Study UK (<https://lessonstudy.co.uk/>), a group of education professionals who have extensive experience of promoting and developing Lesson Study in the UK.

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About the author

An education practitioner, leader, and researcher, Pete Dudley taught in London schools and abroad, and has since been responsible for improving school standards both locally, regionally and nationally. He later taught educational leadership at the University of Cambridge and was President of the World Association of Lesson Studies from 2016-21.

Pete introduced Lesson Study into the UK and Europe leading its development through Research Lesson Study (RLS). His RLS Handbook, first published in 2003, (here in its sixth edition), has been translated into eight languages. His book 'Lesson Study: professional learning for our time,' was published by Routledge in 2015. He is a visiting research fellow at the University of Nagoya, Japan.

In 2021, Pete co-founded Camtree, the Cambridge Teacher Research Exchange (<https://www.camtree.org/>) which exists to support, publish, and improve policy through, high quality teacher research.

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Acknowledgements

This handbook comprises and draws upon material written by the author for the National College for School Leadership (2003, 2005); the National Strategies (2008, 2010); the Teaching and Learning Research Programme (TLRP), and also extensive new material.

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I would also like to thank the many hundreds of teachers, head teachers, local authority and academy trust staff, academics, and policy makers in the UK and worldwide (also at the N.I.S. Center of Excellence, Kazakhstan, WALs - World Association of Lesson Studies and at Collaborative Lesson Research) who have enabled, led and contributed to our knowledge and understanding of Lesson Study and to its spread and adoption around the world.

Finally I would like to thank my Camtree Colleagues: Professor Patrick Carmichael, Professor Sara Hennessy, Dr Alison Twiner, Dr Ying Ji and Dr Gosia Marschall for their contributions through Camtree to making high-quality, dialogic, practitioner-research such as lesson studies, public, accessible, searchable and something every teacher, school and system worldwide should be doing and to thank the Presidents and Fellows of Hughes Hall, University of Cambridge for believing in Camtree's vision for the past five years and for creating the opportunity for Camtree to exist.

* * * * *

Every Lesson Study is a shared endeavour that adds to the knowledge of each child, professional, each setting and each culture. Lesson Study is founded on professional generosity; trust; rigour; systematic collective-agency and community, and a belief that every child can learn. Without these qualities and values, the magic and rewards that Lesson Study conjures-up and the gifts it gives to learning would simply not happen.

Foreword

This sixth edition of the Research Lesson Study handbook guides you in how to use and lead lesson study (LS) to research and improve learning, teaching, curriculum and school. It uses a close variant of Japanese LS continuously developed for 25 years with teachers in the UK and Europe called ‘Research Lesson Study’ (RLS).

Research Lesson study and Camtree – the world’s largest digital library collection of lesson studies

This sixth edition of the RLS Handbook is published by Camtree (the Cambridge Teacher Research Exchange). Camtree has developed the RLS teacher workbook (Dudley, 2003; Dudley 2013) into an interactive tool that can be used to keep and organise a lesson study group’s research notes and then used again to draft a research report of the lesson study (including a searchability-optimised structured abstract) for guided editing by the authors (following a Camtree peer review) and ultimately for potential publication in the Camtree library.

The Camtree library now houses the world’s largest electronic collection of hundreds of lesson study reports. It is a crucially important resource for teachers conducting lesson studies who are interested in knowing how others have approached similar improvement issues to those they confront.

What this handbook does

The RLS Handbook will take you through all the steps you need to take in order conduct a successful lesson study as well as, should you so wish, to access Camtree’s additional support and potentially even publish your lesson studies in the Camtree Library, Hughes Hall, University of Cambridge. An RLS report can be drafted and submitted in most major world languages.

The RLS workbook

The handbook is designed to be used in conjunction with the RLS Interactive Workbook which provides guided sections in which you record all the data that should be needed to generate a draft report of your lesson study that can then be edited and submitted for review with a view to publishing the report in the Camtree library for use by teachers worldwide.

What is Lesson Study?

Lesson Study (LS) is a highly specified form of collaborative, classroom, teacher action research focusing on the development of learning, teaching, curriculum and school. It has been in use in Japan since the 1870s.

The key features that distinguish **Research Lesson Study (RLS)** from Japanese Lesson Study (JLS) are:

- A dialogic focus: teachers (and pupils) use talk to think, learn and create knowledge together in research lessons¹
- The use of ‘case pupils’ that enable the RLS group to focus upon and ‘see’ key aspects of pupil learning

¹ This RLS handbook contains detailed guidance on how to optimise your professional RLS group talk to maximise your professional learning and a special section guiding on how to optimise your pupils’ learning through talk in your research lessons. (P. 28-32)

- The use of pupil interviews to help gain insights on the pupils' perspective on their learning in the research lessons
- Iteratively developing sequences of two or three research lessons so you can build on and test your findings
- Only the RLS group observe their research lessons, and they only share their discoveries after the research ends.

Two or three LS teachers subject usual practice under review searching-out and considering alternatives or innovations; studying their pupils' learning; and adjusting and honing newly emerging approaches. They form tight-knit teacher learning communities as they do so. Leading teachers to take part in collaborative classroom research into improving teaching and learning is the **single most impactful action a school leader can take to improve educational outcomes for pupil.** (Robinson et al 2009).

In Asia LS is in widespread use beyond Japan. In the West LS was used initially in the US. Research Lesson Study (RLS) has been used successfully in the UK to improve learning, teaching and curriculum in 1000s of primary and secondary schools and to develop broader pedagogic strategies such as Oracy and Assessment for Learning (AfL). Schoolwide implementation of RLS has been shown to improve learning outcomes and increase a school's capacity for improvement. It is the most evaluated at scale model of lesson study proving universally popular with teachers and leaders (Murphy et. al. 2017), impactful on student achievement and progress (Hadfield et. al. 2011; Dudley et al. 2019) and a powerful form of teacher-learning that directly affects student learning outcomes and teacher self-efficacy, (Vermunt, Vrikki, Dudley and Warwick 2023; Chichibu, 2023). The RLS model has now spread in use across Europe and Central Asia.

During a RLS cycle two or three teachers jointly:

- Use data they have gathered from day to day and summative assessments to agree an area for improvement and jointly review curriculum plans, materials and resources in-use to refine that focus
- Review approaches tried by others that have made a difference (for example in published Camtree teacher research reports, other published research or trustworthy high-quality information sources.
- Agree an RLS group 'talk protocol' that will optimise their joint creation of knowledge through the RLS deliberate process.
- Identify around three 'case pupils'. They could typify attainment groups in the class or alternatively each be a learner with a specific challenge (for example: a bilingual learner, a socio-economically disadvantaged learner or one with a learning disability or difficulty
- Jointly plan a 'research lesson' which both uses develops and closely studies the effects of this new approach –.and keeps in mind the three case pupils.
- Teach and jointly observe two or three research lessons focusing on the case pupils' learning and progress and adjust and refine teaching over several lessons on the basis of their analysis of each.
- Interview a selection of pupils at the end of each research lesson to gain their insights into the research lesson.
- Hold post-research lesson discussions analysing how the class fared but firstly *how each case pupil responded*, what progress they made, what evidence of learning or of difficulties with learning they displayed and what can be learned about the way the teaching or learning approach can be further developed next time.
- Agree and formally share with colleagues what they learned overall from the research lesson sequence and how they will change their teaching in future

- Submit to Camtree the notes they have taken over the course of lesson study process in their RLS workbook to generate a draft lesson study report which can be further edited and submitted for publication in the Camtree library to benefit others teachers around the world.

Guidance for each of these stages is unpacked in the sections of the handbook, drawing on what we know about how Lesson Study works in settings worldwide. It also provides school and system leaders with ideas for how they can:

- Get lesson study going and embedded in their schools
- Use embedded RLS as a self-sustaining, self-improving and professionally fulfilling replacement for traditional models performance management, professional development and school self-evaluation
- Use leading practitioners and lesson study coaching approaches to develop and share excellent practices across groups of schools and systems.

What the handbook does

The handbook provides you with a brief background to the close ties between Research Lesson Study, teacher professional learning and improved practice. It gives you information about what: (a) you as a teacher or leader, (b) your learners and (c) your school or setting - can expect to gain from using RLS.

The handbook will then lead you through each step of the oracy-RLS process. There are examples of how other people have successfully used the RLS process to develop oracy and links to online information that will tell you more about aspects of the process that you may wish to explore in more detail.

The RLS workbook

The handbook works in partnership with its accompanying RLS workbook in which you use to record the data you collect and also the notes you make of your conversations and meetings. When completed well, the information has proved sufficient for Camtree to generate you a draft report of your lesson study that can then be edited by you and submitted for review with a view to publishing the report in the Camtree library for use by teachers worldwide.

What is RLS?

As stated in the foreword, RLS is a 21st century UK adaptation of Japanese lesson study that has been in use since the 1870s. In RLS teachers study together how their learners are learning in classroom lessons in which the school's usual curriculum is being taught. These lessons are called 'research lessons' (RL) and are used to jointly develop an aspect of curriculum or pedagogy. RLS combines the key features of professional learning that most impact on learner's learning and school improvement (Vermunt, Vrieki, Dudley and Warwick, 2023).

RLS is a collaborative teacher-driven process, where 'ground rules for talk' create a space in which each RLS group-member feels safe and valued. Because each research lesson (RL) is jointly owned by its members and is designed for trying out something new in the classroom, there is neither judgement nor blame for any individual when things don't turn out quite as expected. In fact, professional knowledge can only advance when things surprise us and we are forced to take account of them in later teaching. So, the research lessons belongs to the whole group and because they are exploratory in nature, 'setbacks' are to be expected, welcomed and learned-from.

RLS, Dialogue and Oracy

In the same way that 'literacy' describes competence in using written language, oracy is the effective use of spoken language. When a group of people use 'exploratory talk' optimised by 'ground-rules-for-talk' to think together in order to solve problems, the group generally learns and achieves more than any one of its members could have done alone (Mercer, 2010).

Collaboratively and 'out-loud' the RLS pair/group make collective sense of the effects that their carefully-designed research lessons are having on their learners' learning. This often requires them to draw on a wide range of their combined teaching knowledge and experience (Dudley, 2013). In RLS teachers engage in 'meaning oriented teacher learning' (MOTL): a form of teachers' learning shown to have the greatest subsequent impact on the learning of their pupils (Vermunt, et al. 2019).

So, RLS uses deliberate oracy practices to optimise MOTL. Studies of how teachers create new practice-knowledge in RLS have revealed that they use ‘ground rules’ to optimise their discussions for learning. What they learn together through their exploratory talk, as they plan or discuss pupils’ learning in research lessons, helps them to develop new practices and also to integrate these into their subsequent teaching.

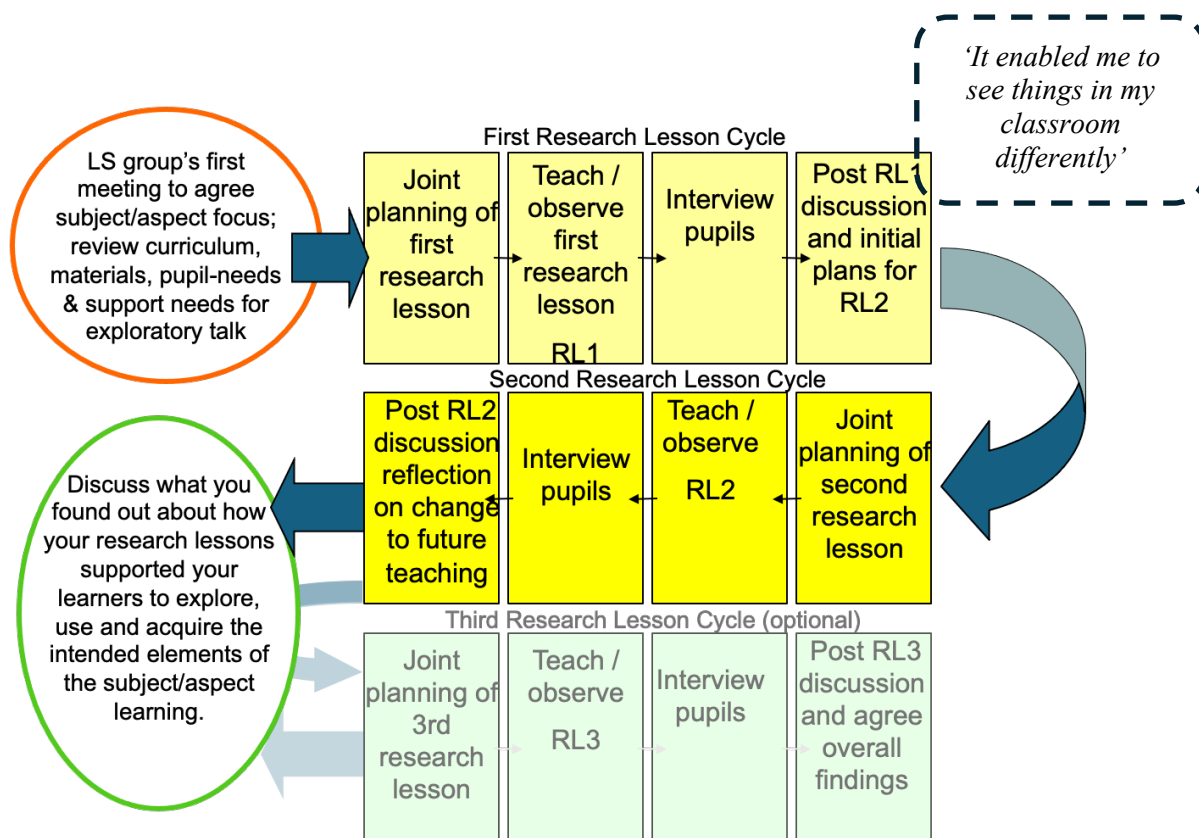


Figure 1: Two/Three Research Lesson Cycle RLS

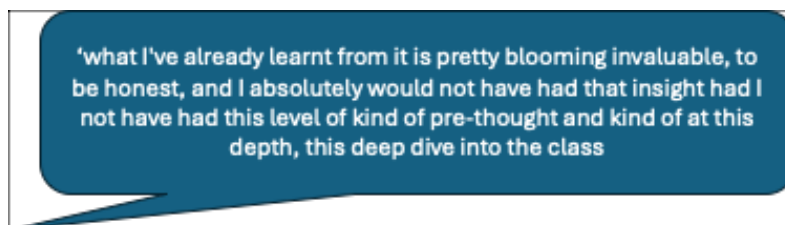
Adapted from Dudley, 2013

In the two RL cycles shown above there are eight opportunities for teachers to use exploratory talk to make sense of what they are planning and observing. In these recursive, deliberate RLS cycles teachers’ use ‘ground ruled’ exploratory talk to *interthink* as they firstly imagine and plan pupil learning and then observe and jointly analyse that learning in-action. Their discussions help them to innovate new practice-knowledge and importantly also to integrate what they discover into their curriculum and subsequent teaching in the most effective way so far discovered. RLS is the *only* form of lesson study that has been shown to do this (Vermunt, Vrikki, Dudley, & Warwick 2023).

RLS in England

RLS was first adapted from its Japanese antecedent in a large national schools pilot led by Peter Dudley and introduced into England by the National College of School Leadership (2005), the National Strategies (2008), Lesson Study UK in 2011 and the Teacher Development Trust in 2012.

Large-scale evaluation has identified RLS as popular² and the only cross-curricular teaching development approach with proven potential to close achievement gaps (Churches, 2012). It is estimated that one in six English and Welsh schools used RLS in 2025. It is also used by many initial teacher training providers.



RLS is also used by Oracy Cambridge as a key means of developing oracy curriculum in schools and is strongly promoted by Camtree (the Cambridge Teacher Research Exchange) which has now published hundreds of teachers' lesson studies in its library at <https://library.camtree.org/home>.

Publishing your Research Lesson Studies in the Camtree library

Camtree has developed the RLS teacher workbook (Dudley, 2003; Dudley 2013) into an interactive tool that can be used to keep and organise a lesson study group's research notes and data. But drawing on the language model of Camtree's teacher research collection, the workbook can also be used to automatically draft a research report of the lesson study (including a search-optimised abstract) for guided editing by the authors (following a Camtree peer review) and ultimately potential publication in the Camtree library.

This sixth edition of the RLS handbook and workbook will allow any lesson study group to access this support for writing and publication.

² A large-scale experimental trial (Murphy et.al.2017) revealed that RLS was highly valued by the schools testing RLS out. Certainly not as planned, RLS also proved popular with schools in the control group (who were *not* supposed to be using RLS). As a result, 45% of the control used RLS, meaning no valid comparison could be made between those using and those not using RLS.

Getting started with RLS: things to think through when first scoping your first RLS in school

This section gives you things to consider about where your RLS would be best located and how to ensure that the RLS fully aligns with and enhances your current school/setting improvement priorities whilst also helping to build your improvement capacity and expertise across-the-curriculum and organisation.

- **Choose an aspect of subject or curriculum that is already an improvement priority as the place for your first RLS.**

It makes sense to start your Lesson Study development in the areas that you are most focused on improving.

- **Try to blend teaching experience and expertise in the RLS pair/group (and avoid re-cycling inexperience).**

If your focus is improving upper KS2 science or KS3 mathematics, then try to involve your science coordinator or head of mathematics in the RLS group/pairing (and if this is not possible, try another option that blends experience and expertise). Decide which teacher will be the other member of the pair and in which one of these two's classes the research lessons will be taught in. If you can stretch to an RLS group of three, then you can add another teacher from the same department (secondary) or someone who is teaching another upper KS2 class (primary); who is the school's oracy leader; or who perhaps leads that subject in school. Page 11 contains detailed advice on who to choose to start RLS in your school and how to optimise its effectiveness.

...lesson study, it's pretty labour intensive and, and, I have to say, **utterly valuable** from my perspective. But you know, certainly now I'm in it, and we're doing it, and we're really talking about it in action now, **I can totally see the value of every single part of it.**

- **Adaptations small schools can make in order to get the most from RLS.**

Restricting the joint observation to specific lesson activities

Small schools can find it logistically difficult to have more than one teacher in a class at the same time. One way most small schools adapt for this is to find a way of limiting the time that two people are required to be in the research lesson classroom *at the same time* to that part of the research lesson in which the main innovative learning activities take place and, if possible, for any class plenary discussion that immediately follows. This can limit needed for the RLS pair or three to be together in the classroom to only 30-minutes or so, meaning the classes of the other teacher(s) involved require much less demanding 'cover'.

Getting started with Research Lesson Study step by step.

	Step	Est. Mins	Page
1.	Recording relevant contextual information about the setting	5	
2.	Identifying who will carry out the lesson study	-	
3.	The RLS group-‘talk protocol’ that optimises your learning using ‘ground rules for talk’	10	
4a, b & c	Finding Your Focus: reviewing your current practices and pupil assessments.	30	
4d	Using this information and your knowledge of this class’s curriculum this coming term to identify the most rewarding curriculum focus for this class’s Research Lesson Study and framing your RLS research question.	20	
5.	Making sure your RLS is safe, ethical and properly communicated.	15	
6.	Estimating which learners would probably have achieved, exceeded or still been struggling <i>had you taught the lesson-sequence as usual</i> , with no lesson study.	10	
7.	Identifying who should be your ‘case-pupils’.	5	
8.	(i) Planning Research Lesson 1 (RL1), (ii) predicting the learning of each case-pupil; (iii) teaching the research lesson; and (iv) observing the learning of the class as a whole, and case-pupils in particular.	30 (i) & (ii)	
9.	Interviewing a group of learners at the end of the lesson (or straight afterwards)	5	
10.	Carrying out your post-lesson discussion of each case-pupil’s learning, the learning of the class as a whole and noting what you need to do in the light of this knowledge when planning RL2.	<60	

11	(i) Planning Research Lesson 2 (RL2), (ii) predicting each case-pupil's learning; (iii) teaching the research lesson; and (iv) observing the learning of the class as a whole, and case-pupils in particular.	25	
12.	Interviewing a group of pupils at the end of the research lesson (or almost immediately afterwards)	5	
13	Carrying out your post-lesson discussion of each case-pupil's learning, the learning of the class as a whole and noting what you need to do in the light of this knowledge when planning from now on, or for RL3 if you do another.	45	
14	Jointly judge/assess which learners achieved the intended learning for this lesson sequence, which exceeded, which still require teaching or support to achieve.	15	
15.	Reflective summary - Agree the main things you as an RLS Inquiry group learned from the process and what aspects of subject teaching, pedagogy and support for learning that you will be changing in your practice or curriculum in future.	20	
	Total	4.30 hrs	

Step 1: Recording your school and contextual information in the RLS workbook

Who should do this.

Member(s) of the lesson study group/pair who will be carrying out this inquiry will need to keep records and notes of each stage in the RLS Workbook. If you have the information below to hand, this should only take 5 minutes.

What should be recorded.

Please respond to the following prompts in the RLS Workbook.

As the inquiry proceeds you may think it is relevant to include additional contextual information in any of the sections below.

The table below can be found in Section 1 of the Oracy RLS Inquiry workbook. You can use the prompts on the left and editable textboxes on the right to add your responses.

School/organisation contextual information	Add text below
Name and address of school/organisation	
Phone number (including national prefix)	
Age range of pupils	
Number of students on roll	
Number of different first languages spoken by students - some main examples	
Main language of instruction	
Proportion of pupils with specific learning difficulties or disabilities	
Details of the area and community the school serves (urban, rural, high-income area, average-income area, low-income area)	
State funded or privately funded.	
Other relevant contextual information you wish to share.	

Our fuel for teaching has been re-ignited!

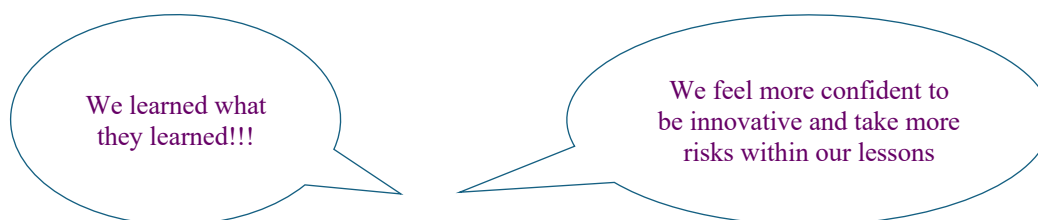
Step 2: Identifying who will carry out the Lesson Study (LS)

It is important that a senior leader oversees the whole process, ensuring that the people chosen to carry out the LS are interested and curious to engage in the process and confident enough to share together with colleagues what they discover.

Two people (or ideally three) should conduct the LS together in a class that one of them would normally teach the sequence of two or the three lessons that will become your Research Lessons (RLs): the focus of this inquiry.

If you ensure the RLS group members agree an Inquiry Talk Protocol (see step 3), you do not need to worry about whether people with different levels of authority and experience can collaborate well together. The talk protocol creates a safe space for any group of teachers to carry out this inquiry together successfully.

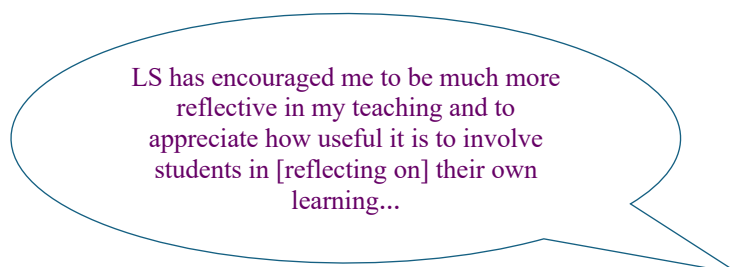
The RLS members should have an interest in developing learning in the subject and it is often fruitful if the subject leaders can be a group member. One should be the person who usually teaches that class. Another could be a teacher of the same subject and year groups.



If you can involve three teachers³, then the third could be the coordinator of the subject being taught or if your focus is on the learning of specific groups of pupils (for example those who are likely to struggle or to underachieve – pupils from disadvantaged households for example) then it is useful for the person responsible for inclusion or supporting children learning through an additional language, or for disadvantaged pupils, is a member of the RLS group/pair.

It is vital to ensure that the members of the LS group/pair can be in the room when the research lesson takes place. It is not possible for the class teacher to be additionally responsible for making all the observation and doing all the note-taking needed.

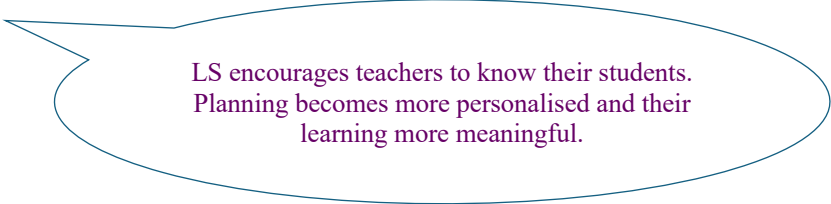
If for some reason on the day itself it is not possible for the inquiry group members to observe the research lessons, please make sure key aspects of the lessons are captured on video for discussion by the group in the post-lesson meeting.



³ When three people are involved in a lesson study you treble the experience and know-how brought to bear, you treble what they can notice, and because, unlike working in a pair, it is not always your turn to speak next, to create many more opportunities for teachers to develop glimmers of important ideas into contributions to the discussion where in a pair situation they would be likely to remain momentary glimmers that probably get forgotten. So with three people you can get nine times the value.

Please allow the LS group sufficient time for the meetings, all of which are key components of this deliberate process. In these meetings the teachers themselves learn through exploratory talk which cannot be rushed. (Guide times are given in the table of contents in this handbook).

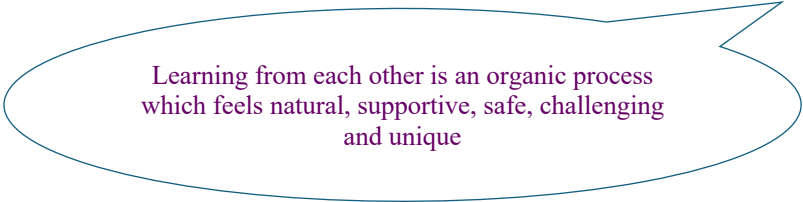
Someone in the pair/group should take responsibility for maintaining the records of the discussions and meetings in the RLS Workbook. Please sense-check what has been recorded before you submit it to Camtree.



LS encourages teachers to know their students.
Planning becomes more personalised and their
learning more meaningful.

Give the LS group opportunities to share what they have gained and learned from the process with colleagues and to explain how their teaching and oracy support have benefited. This is best done after the end of RLS in a staff meeting or CPD meeting.

Please support and encourage the inquiry group/pair to publish their research in the Camtree digital library at Hughes Hall, Cambridge, where it will sit in good company of similar studies, and help to inspire other educators and settings seeking to inform and improve their practice.



Learning from each other is an organic process
which feels natural, supportive, safe, challenging
and unique

Step 3: Optimising your knowledge-creating potential – the RLS group-talk protocol

Why it is vital to agree an RLS Inquiry group/pair ‘ground rule for talk’ protocol

This is important because between the members of the inquiry pair or group, it creates:

- Trust and reciprocity between the inquirers
- A sense of joint purpose and shared endeavour
- A professionally-safe space to take the necessary risks needed to achieve the desired improvements in learning.

The most important thing each individual member needs to get from these ground rules is a sense of safety: each individual must feel that their contributions will be respected and valued by the other(s) (although, of course, not necessarily agreed-with).

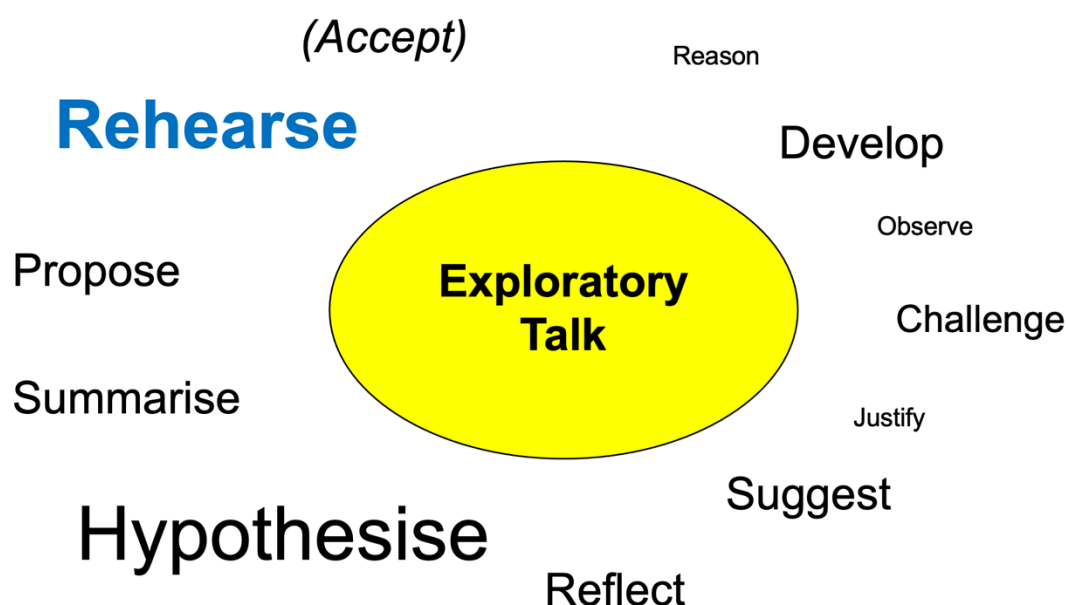
The most important thing the group members need to get from the agreement is:

- a mutual trust and expectation that everyone will contribute
- an understanding that everyone is motivated by the same goal – to help understand and improve pupil learning
- collective belief that the knowledge needed to do this rests in the group or pair, and not in one individual – so collaborating and sharing ideas will lead to better outcomes than could have been achieved by the most capable or experienced member of the group alone.

Make sure the rules you set are ones that all group members feel comfortable with, and that they are worded in ways that you yourselves would write or tell others about. Key criteria to agree and physically sign-up-to are included in the list below.

Example elements of an RLS group talk protocol

1. In our Oracy RLS pair/group **everyone is equal as a learner**, and knows they can contribute to the learning of the group and can benefit from the contribution of others, whatever the differences in experience or job-roles between us.
2. To help achieve this, **in our RLS group, we remove our usual job ‘hats’ leaving behind the titles and positions we hold in the school** – whether we be the Principal or a new, early career teacher.
3. To ensure confidence in the group’s integrity and commitment to these ground rules is maintained, **we adopt ‘Chatham House rules’** meaning that **whatever is said while we are working as an RLS Group, remains within the group UNLESS all members of the group agree that something needs to be shared** outside the group (which will always include your findings).
4. We understand that RLS is a deliberate process that has been carefully evolved by fellow professionals, and because of this **we also commit to undertaking each step to the best of our abilities.**
5. **We also commit to sharing with our colleagues** what we learn about:
 - a. our teaching and our oracy support for learning,
 - b. our learners as learners, listeners, speakers and thinkers,



Source: Dudley, P (2013)

Figure 2: Aspects of Exploratory Talk

Two key functions that are associated with discoveries and development of new practice and subject teaching knowledge in RLS are:

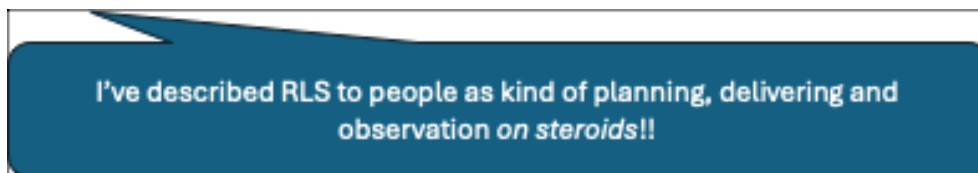
- **Hypothesising:** So when planning try to explore hypothetical ideas e.g. ‘I wonder if we tried lying the thermometer *horizontally*, so it looks more like a number-line, the learners will be able to make the connection with the positive and negative numbers and above and below zero temperatures?’ (The same can work in a post-lesson discussion ‘I wonder if we had said X instead of Y, this group of learners might have understood more clearly what to do?’)
- **Rehearsing:** At moments like these, you often feel tempted to imagine the learners in front of you, go into your ‘teacher voice’ and speak *as if the class were there*. It is important to do this! By doing this you draw upon your tacit knowledge of teaching gained and internalised over the many hours, months or years you have spent doing it. Tacit practice-knowledge comes to you when you need it, but is otherwise invisible and not consciously retrievable. (Think of how often when teaching, words come out in ways that are fit for purpose without you consciously composing them, or how, when riding a bicycle, the process comes back to you – but is disrupted if you try to consciously work out how you are staying upright!) When a member of the RLS group ‘rehearses’ teacher talk in this way, the whole group imagines the learners’ responses – so while it may feel rather absurd and silly, it is vital to do this. And it is vital that the group members feel the trust and safety to do it.

What do I do if we were not able to observe the research lesson together?

Try to get someone who is there to video the research lesson such as examples of the pupils’ discussions so these can be reviewed and discussed together at a later point. (Ensure this is done in line with your school’s video and image policy and you have described how you will do

this in your ethical considerations (see Step 5). Meet together *as soon as possible*⁴ after the lesson with the person/people you are planning it with: the RLS Inquiry pair or group.

Then follow the advice in Step 9 (below).



Step 4: Finding Your Focus (FYF): what aspects of your curriculum and assessments reveal about learning and who seems to do well - who less well.

Meet together as the RLS pair/group. Allow about 25 – minutes for the five FYF discussions needed in this step (about five minutes each).

Finding your Focus 1: Curriculum / Learning Audit (“kyozaikenkyu” in Japanese)

You may already have agreed the subject of the curriculum in which you would like to develop this learning through talk. (This could be determined by existing school improvement priorities – or it could be a matter of choice). Even so it is important to review your existing practice in relation to the curriculum and subject, assessment approaches used in the subject (compared with more widely in the curriculum), and the needs of different learner groups in your setting and class. Try to make sure these discussions focus on the learning in the curriculum/aspect area subject itself.

Having decided on your subject area, have in front of you:

- your Scheme of Learning for the subject you are focusing your lesson study in and other related subject/curriculum plans for the spring term 2026
- a sample of the work in this subject of three or four learners’ (from last year/autumn term).
- The main subject text-books and teaching materials that are being or have been used in the autumn term of 2025 term and will be being used in the spring term of 2026
- Any ongoing record keeping (such as reading records).

Discuss these together for about 15 minutes, making notes as you go about what your review suggests are strengths in supporting learning and areas that you consider less strong, or where such learning opportunities are not evident in the sample (for example, opportunities for collaborative learning). Record these in the workbook ‘Finding Your Focus 1.’

⁴ It is vital to meet up before members of the RLS group teaches another session (which can ‘wipe’ a lot of the short term memory of the swiftly flowing, complex lesson you have just been part of. Best results are obtained when the research lesson is still ‘ringing in your ears’. If you leave it even to the next day to have your post lesson meeting, your abilities to recall key moments of the lesson will have diminished.

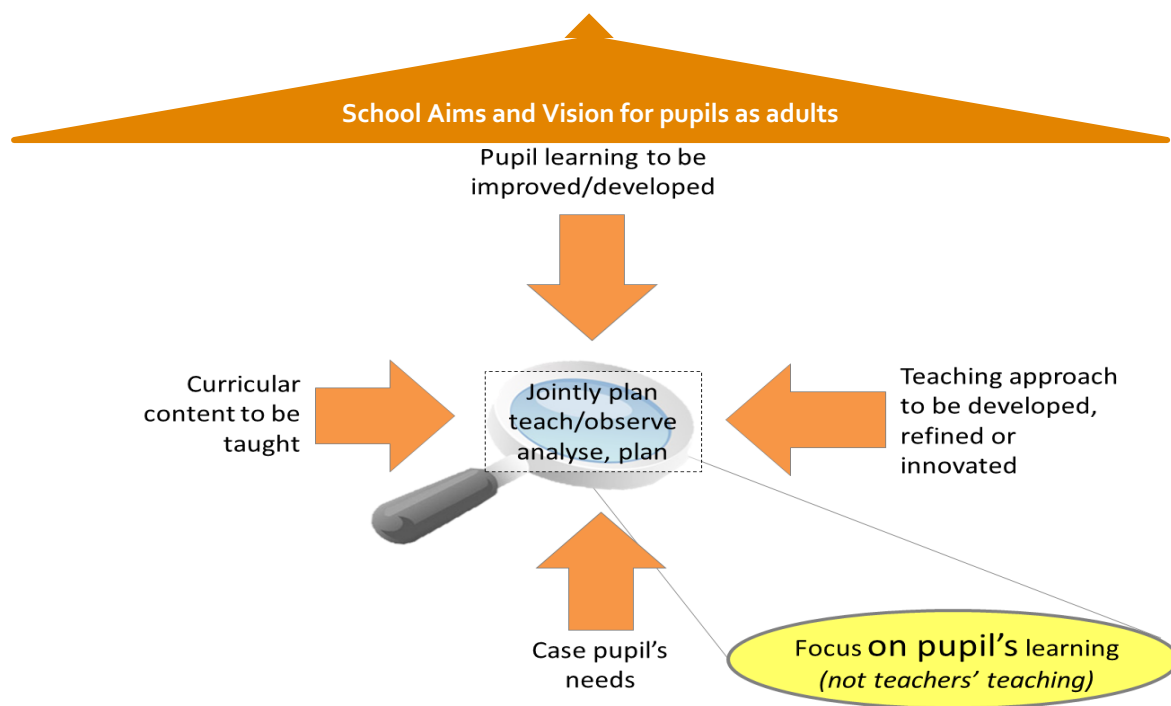


Figure 3: Finding your RLS focus

Step 4: Finding Your Focus 1 (FYF): What do aspects of your curriculum and assessments reveal about learning and who seems to do well - who less well?

Add you text below

Finding Your Focus 2: Assessment

If you have mark books, teacher assessments (or other progress records), bring them together for the year so far (and last year if it is early in the academic year and you can access them). These could be from the subject or beyond. Also refer to the notes you have just made about the opportunities you identified in the 4a discussion in relation to the subject of the lesson study, for learners to learn through extended discussions, to solve problems together and/or to apply their recently-gained curricular knowledge in a practical, collaborative, discursive task. Note where such tasks are already used to make formative (or summative) assessments and where further opportunities to do so exist. Then complete FYF-2 in the RLS workbook.

FYF 2: Assessment approaches

To what extent are teacher assessments made from: written work in exercise or course books with constructive comments that the learner can use to improve; observations of learners working on collaborative tasks using group discussion to think together; tests and exams.

Insert your comments below

Finding your Focus 3: Differences between groups and between subjects

Finally, review any teacher assessments, cohort test data and last years' reports to parents if appropriate, to see if any patterns about strengths and weaknesses in different learner groups emerge, especially in the subject area of the lesson study. Different learner groups could be as simple as male and female, they could be pupils learning through an additional language, students from low income households or students at risk of discrimination such as racism. They may also be students with specific learning difficulties or sensory or communication disorders.

FYF 3. What does your pupil assessment, progress and other data reveal about the learning of different pupil groups?

Enter your comments below

Finding your Focus 4: Summarising (i) your subject learning aims, and (ii) pedagogical or curricular innovations or support that you aim to use to optimise learner participation and learning.

Use 'Finding your Focus' page 4 in the workbook to do this.

FYF 4. Summarising your subject/aspect learning aims and the pedagogical or curricular innovations or support will employ to optimise learning

Insert your text below.

The subject/aspect learning aims

--

Curricular innovation(s) or support being tried-out

--

Finding your Focus 5: Nailing down your lesson study research question

In a research lesson study, the research question is always focused on improving learning, so it is easy to nail it down using the sentence frame below:

How can we help [age, class] learners to learn [insert subject knowledge/skill] in [aspect of subject] more effectively?

Or

How can we help [age, class] to use [explain approach or technique you have decided to try out] to learn [state intended subject knowledge/skill to be developed/learned]

Simply recreate the question above using the relevant information from your planned lesson study in FYF-5 in the RLS workbook and note very briefly what you expect the broad learning outcomes for a typical learner will be (you will go into more detail about supporting these with groups and individuals in the steps to come).

Inquiry research question: use the wording below as a frame to identify with whom, and in what curricular and skill area you will focus your Lesson study. Being explicit on this will help to plan exactly what you are going to do, when and where, and what you need to gather 'evidence' of to make claims for change

How can we help [age, class] pupils to use [explain approach or technique you have decided to try out] to develop [insert subject knowledge/skill] in [name of subject/aspect]?

Research Lesson 1
Date/time Intended learning outcome of RL1 is ...
Research Lesson 2 (Not to be completed when you plan RL2)
Date/time Intended learning outcome of RL1 is ...
Research Lesson 3 (Not to be completed until you plan (optional) RL3)
Date/time Intended learning outcome of RL1 is ...

Step 5: Making sure your RLS is safe, ethical and well-communicated.

Ethical considerations

Read through the ethical consideration prompts in the electronic workbook (Section 4, page 1 illustrated below) and jointly record your reflections and actions. This should take about 10 - 15 minutes.

Ethical considerations	
<p>Other than being in a position of authority and care - because you have responsibility for the conduct, safety and learning of your learner- group - are there any other issues of power or equality that you need to be conscious of?</p> <p>What other ethical issues do you need to consider and how will you address them? (e.g. consent to participate, consent to collect data, anonymity of data, clarifying what is regular school practice - that people are expected to engage with; and what is research into practice - over which people have choice whether to engage or not)</p>	
<p>Are there any issues relating to your professional role and relationship with participants? E.g. power imbalances and hierarchy, expectations.</p>	

Communication

Please make sure relevant parents and others are aware:

- that the RLS inquiry is taking place,
- that during two or three lessons more than one teacher will be in the classroom to observe learning,
- that all learners will be discussing their learning and some will be interviewed (anonymously) at the end of the research lessons,
- that the learners will be learning exactly what they would have been, but with the overall aim of improving their learning still further by using oracy approaches,
- that learners maintain the right to 'opt out' of the non-lesson elements – i.e. the interviews – if they wish,
- and that the professional learning from this inquiry will be shared to support other educators and learners. If you might like to include direct quotes of what learners say during the research lessons, which can be a really rich way to convey the interaction and change in practice, permission for this should be checked in advance.

This is a message learners need to hear as well.

If you are intending to use video during the process you will need to reassure learners and where appropriate parents that the video will be used for analysis only by the teachers involved; that the video is securely stored; and for how long the video files will be kept before deletion. Learners should know if recordings are being made, by being told at the time. Any learner who does not want to be recorded, should not be recorded.

Step 6: Estimating which learners would probably have achieved, exceeded or still been struggling had you taught the lesson-sequence as usual, with no oracy or inquiry.

This activity should take no more than 10 minutes.

It is designed to capture the class teacher's best estimate of what learners would have been likely to learn had the sequence of learning that is the focus of the inquiry been taught in the usual way, with no additional oracy support for learning and no inquiry process. This gives you a valid benchmark against which to help you judge the outcomes of your inquiry when it is over.

When we are planning a unit of work, a topic or a sequence of lessons in a subject we tend always to have a subconscious 'feel' for how the class will learn – which learners should achieve the intended learning from the planned teaching without too much trouble; which might exceed the overall expectations and even need some additional stretching; and which are likely to need support and even require some further teaching or support after the unit is over.

Please complete the activity on pages 1 and 2 of Section 5 in the Workbook. It will be useful to have a class list to hand. Try not to 'over think' this – just use the judgement that would inform your usual thinking as you planned under normal (no inquiry) circumstances.

Thinking about the planned curricular focus and group of learners you've identified (in find your focus 4), this is where you predict how you think they would have done **if you had just taught or operated as you normally would (without the oracy focus)** ^{base this on the whole group of students}. Making these predictions now will give you a comparable reference point at the end of the inquiry, as to **whether the explicit focus on oracy has had an impact and for whom**. The detailed observations in the research lessons and for specific 'case students' will then give you evidence as to **how the impact has occurred**.

(a) still be struggling and need more teaching or support to achieve the intended learning - (record as 'FS' for further teaching / support);
(b) have broadly achieved the main, intended learning – (Record as A for achieve);
(c) have exceeded the main intended learning – (Record as E for exceed).

Rough predictions table

[illegible]

Step 7: Identifying your ‘case learners’ for this Oracy RLS and predicting how they will learn Inquiry.

Take five to ten minutes to identify these learners.

What are case learners?

In this RLS inquiry you will be teaching the whole class as usual. It is important during the research lessons to judge how the class progresses as one usually would, but it is also vitally important to capture (by focusing on) the learning of a sample of (usually three) learners in greater depth.

‘Focusing down on the case pupils has enabled a number of really important things to be revealed.’

These are your ‘case learners’: because you will study the three of them over the course of the two research lessons, imagining what they will find easy or challenging during the lessons, how they will engage with the subject learning and ‘learning through talk’ activities and anticipating how each of them is likely to respond.

At certain points in a lesson, we always find ourselves asking ‘Is it okay to move on to the next part of the lesson?’ scanning around the classroom as we ask it. Most teachers develop ‘reference learners’ each of whom acts as an indicator of the learning of a subset of the learners in the class. So we might check one reference learner and unconsciously decide that ‘if she seems okay at this point then the other learners she typifies are probably okay to move on as well’.

This is normal. Classrooms are too busy, fast moving and unpredictable for us to be able to take-in more than a fraction of what actually happens. And we cannot ‘see’ learners’ brains changing – we have to go on proxy indicators: such as what they say but also what they might have written, drawn, made (depending on the activity).

That is usually enough to get by. But in a research lesson we try to choose ‘case learners’ who, between them, will represent the range of learners in the class one way or another. **Try to have a mix of genders, learners who are likely to find these lessons easier than most, learners likely to find them more challenging than most, and some in the middle – who we would expect usually to ‘get’ the intended learning without too much trouble.** These are the criteria we would like you to use when selecting the three case learners for this RLS Inquiry. But it is as well to pick one reserve case learner in addition, just in case one of the three is absent on the day of one of the research lessons.

You keep the same case learners over both (or all three) research lessons, and as you will see below, you will refer to them in detail when planning, observing and discussing their learning in the research lessons.

But we also need to keep an eye on all the other learners as we normally do when we are teaching. So, as well as zooming in on one learner or another from time to time, we also need to ‘pan out’ and view the class as a whole.

In the electronic workbook, agree and write a 50-75 word pen portrait of each of your case learners in the ‘Case learners’ table in page 3 of Section 5.

Case Pupils

Once you have agreed 1) in which class you will conduct your inquiry; 2) the desired outcomes both in school engagement or curriculum, and oracy focus (finding your focus); and 3) made your predictions about the students (above), next think about some key learners to observe in detail. These will be 'case students', and will help to focus your evidence gathering.

Identify three case students who might (a) typify different groups of learner – e.g. those who are making good, average or below average progress or (b) those who are not learning or engaging as well you would have hoped in the area of focus.

Write a short 'portrait' of each of the three case students (without explicitly identifying them), in terms of their prior learning or engagement, their behaviours in different learning situations (for example, when facing a new challenge, or working in a group), and their predicted learning or engagement in relation to the area of focus for this inquiry.

Case Pupil A

Case Pupil B

Case Pupil C

To find out more about how case learners give you 'x-ray eyes' to see your learners' learning read:

Dudley, P. and Lang, J. (2021) How case learners, learner interviews and sequenced research lessons can strengthen teacher insights into how to improve learning for *all* learners. In *Stepping up lesson study: an educator's guide to deeper learning*, Aki Murata and Christine Lee, Eds. London. Routledge.

Special guidance section: Optimising exploratory talk in the research lesson. (Allow < 45 minutes for (i) and (ii))

This section is advisory. We strongly recommend you optimise exploratory learner talk at points in your research lessons as this allows them to think together and so achieve more. It also allows you to *hear* what each learner is thinking and thus enables you to understand their learning (and mis-learning) very effectively.

Whatever subject you are teaching, at some point in each of your research lessons, you will create an activity where the learners are working together in groups of three or four, ‘thinking together’ at length. If it is a mathematics or science lesson they may be trying to answer an open-ended question connected with their current focus in that subject. The task should be structured so that the learners *need to discuss and think together* so that they can, at the end, all agree on what they are going to say, do or write (even if what they agree to say or write is that they have different opinions on the task or issue and why).

Be clear what subject learning you want them to demonstrate while they are engaging in the discussion activity. For example, the Year 4 learners referred to in the example RLS workbook reproduced below (with actual observation notes shaded out for now) were thinking together using talk to explore decimal fractions orally (through their discussion) and also visually - and then to explain it in order to co-create a visual representation. Through their talk they revealed the degree to which they understood that *one tenth* is a larger part of a *whole* than one hundredth, and the same for one thousandth and one hundredth.

Accountable outcomes/success criteria that were set for these learners

- To be able to show and explain how $1/10$, $1/100$, and $1/1000$, can be made from a given unit (base 10 cube).
- To make visual representations of given decimal fractions in order to compare the size and hence the value of each part.
- To understand that one tenth is a larger part of the whole than one hundredth and that one hundredth is a larger part than one.

Accountable learning intentions and success criteria To be able to show and explain how $1/10$, $1/100$ and $1/1000$ can be made from a given unit (base 10 cube) To make visual representations of given decimal fractions in order to compare the size and hence the value of each part. To understand that one tenth is a larger part of the whole than one hundredth and that one hundredth is a larger part than one thousandth.	Case pupil A: Maryam Success criterion for this lesson		Case pupil B: Samiah Success criterion for this lesson		Case pupil C: Riaz Success criterion for this lesson	
	How you hope case pupil A will respond	How they are observed to respond	How you hope case pupil B will respond	How they are observed to respond	How you hope case pupil C will respond	How they are observed to respond
Stage of lesson sequence Describe key elements in the stages of your RL plan.						
Opening activity We wanted the children to use 'Exploratory talk' whilst using the base 10 equipment to be able to demonstrate their understanding of the whole, tenths, hundredths (and later, thousandths) (9.25am)	We hoped she would be able to use a partner to help clarify her understanding of how decimal fractions are made from a whole. We hoped that she would not be too confused by the fact that the whole was the grid made up of 100 equal parts (individual cubes)		We hoped to see the true level of Samiha's conceptual understanding as she is someone who is normally very shy. We also hoped that the partner talk used in the first lesson study and more regularly in class would enable S to articulate what she knew.		We wanted to see if Riaz would engage in explaining his understanding of decimal fractions by using the objects and a talk partner	
Activity 2 Presented with a new whole (base ten large cube) could the children extend their understanding of decimal fractions in relation to this new whole and work out that the small cubes would be thousandths	We hoped the initial warm up work would help Mariam to break the large cube into tenths and to see that breaking the whole into 100 rods would give $1/100$ and that finally, each tiny cube would represent $1/1000$. We wanted her to then see the relative sizes of each part.		We hoped that Samiha would take a more confident lead in this second activity and that she would quickly establish the decimal parts of the new whole.		We hoped Riaz would also use the previous activity to help him explain how the new whole could be divided into tenths, hundredths and thousandths and see the relative value of each.	
On the sugar paper grid, U. t h th could children build various decimal fractions using the base 10 objects and use the visual as a way of determining which had the greatest value (by comparing the size of the decimal parts)	We hoped that Maryam would confidently show that $3/10$ was greater than $5/100$ by representing the fraction with the apparatus or by using a diagram to show which was greater.		We hoped that Samiha would only need a quick sketch to help her compare two decimal fractions that had a different number of decimal places.		We wanted riaz to be able to use the objects or a quick sketch to show that he knew why one decimal fraction was smaller or larger than another.	

Figure 4: Extract from oracy for mathematics workbook (*observations shaded out at this point*)

It is usual to introduce this kind of extended task either at the very beginning of a sequence of lessons, when the learners are exploring a new topic – such as ‘Why does the moon change shape?’ or later in the sequence when they have learned quite a lot about the lunar cycle and should be able to use and apply that knowledge perhaps by preparing a poster or a brief video ‘vox pop’ to be used by the learners learning this same topic next year. So plan a couple of occasions in the sequence when it will be of most use to the pupils’ learning to engage in such extended discussions.

Supporting learning through talk

Remind your learners about the class ‘ground rules’ for a good discussion.

You can support your learners’ talk by creating ‘ground rules for talk’ as well as using oracy tools and scaffolds.

These could include: talk tokens (to encourage more than one contribution), or talk roles (such as someone whose role it is to build on to things others have said; someone whose role is to summarise where the discussion has got-to in relation to the task; someone else whose job is to ensure everyone gets asked to elaborate on something they have just said at least once.) More information about these can be found at <https://oracycambridge.org> and in the Camtree-Twinkl learning through talk resources.

Analysing language demands of exploratory / problem-solving discussion tasks

You will need to analyse what words or phrases your learners will need to say or respond-to in contributing to a discussion that succeeds in achieving its aims. For example, if they are exploring the question ‘Why does the moon change shape?’ they will need to explore, question and develop astronomic ideas and reason aloud.

Look at the model discussion below between three learners – and in particular the words in italics that they use to reason, to suggest, to clarify, to hypothesise, to probe or counter-argue, and to propose an explanation.

Learner A: I don’t think the moon makes its own light like the sun does. ***Do you think*** the light we see from the moon ***could*** really ***be*** light from the sun that has shone on the moon and bounced off? (Raising a suggestion through a question)

Learner B: ***So, what you’re really saying/suggesting*** is that moonlight is actually: reflected-sunlight coming to earth from the moon? (Making/requesting a clarification)

Learner A: Yes! I think that makes sense. And ***if that’s right, then maybe*** the only part of the moon we can actually see on earth, is the part that the sun is directly shining on. ***Maybe sometimes*** the earth gets in the way of the sun’s light and stops light getting to the moon ***and so*** the earth makes a shadow on the moon’s surface where there’s no sunlight getting there ***because*** the earth has stopped it. (Making a hypothesis.)

‘Learner C: ... and that part in the shadow ***could be*** so dark that we can’t see it at all ***because*** it looks as dark as the rest of the night sky.’ (Supports an argument with additional reasoning or evidence.)

Learner A: ***But if that’s true, why would*** the line between the black shadow and the sunlit part of the moon be straight when it’s right in the middle of the moon, but be banana shaped when it’s near the outside of the moon’s face? (Challenges a hypothesis with a counter argument)

Learner C: But we know the moon is round like a ball [meaning spherical]. So its face is not flat. ***Think of*** looking at a peeled orange. The segment-edges at each side of the orange curve in banana shapes as the edge of the orange curves away from view – but the segment-edge right in the middle of the orange looks like a straight line from top to bottom doesn’t it. ***I think that explains why*** the light looks curved when only one thin segment of the moon moves out of the earth’s shadow and into the sun’s light. ***And it also explains why*** the line in-between shadow and sunlight appears straight when it falls exactly across the middle of the moon.

(Source, ‘Analysing spoken language demands of tasks’, Dudley, 2025, Oracy Cambridge)

It is vital for you to think together and imagine what the learners will need to be saying to each other in their discussion in order to create the intended knowledge together - as these three have. Phrases such as ‘reflected sunlight’ and ‘earth’s shadow’ are key astronomic concepts that they need to apply to the problem they are trying to solve. You can support the precision of their discussion by giving them ‘key idea’ cards containing a select few of these key phrases or vocabulary items to act as prompts in the group discussion. (If the learners in the example discussion also had a torch, a large ball and a table tennis ball, they could even experiment together as they develop their thinking and test their ideas out during the discussion).

Giving each discussion group cards with starter sentences or ‘sentence stems’ that provide them with some of the phrases that help create suggestions, hypotheses, qualifications or reasoning – (the words in *italics* in the dialogue in the panel above) – can also help learners to express their arguments in the discussion more precisely and fluently. Often a learner may get a flash of an important idea in the midst of a discussion, but does not have the functional language needed to express it, at the tip of their tongue (e.g. suggesting, hypothesising, counter-arguing, qualifying). However, hearing themselves begin a suggestion, or a hypothesis or a qualification (using a sentence stem) can help an idea to emerge cohesively and seamlessly into the discussion. And when this happens, the way they have expressed it is often immediately internalised for future use.

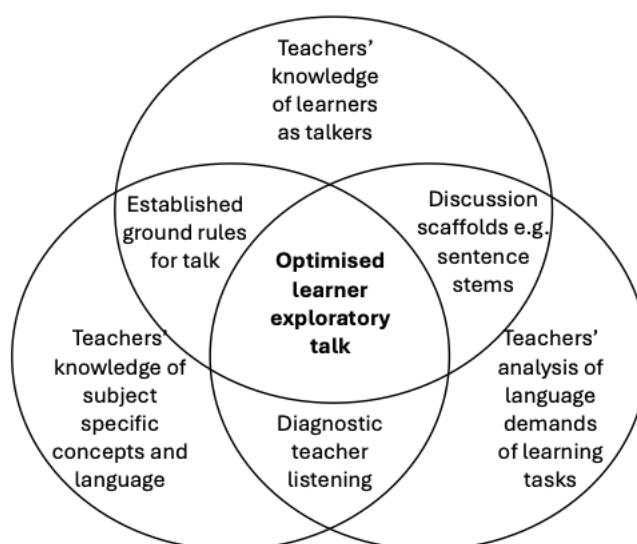


Figure 5: Teacher Knowledge and Pedagogic Resources
optimising learning through exploratory talk (adapted from Dudley, P. (2012))

This analysis of the language demands of your discussion task will also help you and your partner(s) to think of which learners will need additional support and also think of visual, manipulable or diagrammatic ways in which the concept, skill or idea you are hoping they will develop through the discussion, can be supported in other ways

You can use the table headings below to guide your joint analysis of the language demands of your task.

Analysis of discussion-task language demands: Exploring why the moon ‘changes shape’.		
Functions	Key ideas	What they might need to say
Suggesting	Reflected sunlight.. Earth's shadow on.. Spherical (not flat) surface of the moon Earth moves in-between sun and moon Earth moves away from being in-between sun and moon	Do you think / Could it be / Maybe...
Qualifying		What I really mean is... What you're really suggesting is....
Hypothesising		If it is true that then.....
Challenging with reasons		But how can that be true if.....

A blank copy of this table can be found in Appendix 1 of this handbook.

These two oracy leaders both explain how vital this process is in their work developing oracy practice in different subjects.

(Rose – Hub School Oracy Leader) ‘When teachers are planning (with me as an Oracy leader), I am mentally going through a process of trying to **anticipate** some of the **sentence structures** the children **might need to use** in order to formulate the mathematics’

(GL – an Oracy Leader who has been coached by Rose) ‘An idea I got from Rose was **to anticipate** – by thinking – what are the children going to need to be able to say, for example, to clarify something. So I have to think, “**Well what do I say when I am making a clarification?**”. **And then, I have to engineer that talk into the lesson.** It’s brilliant!!

Step 8: (i) Planning Research Lesson 1 (RL1), (ii) predicting each case learner's learning; (iii) teaching the research lesson; and (iv) observing the learning of the class as a whole, and case pupils in-particular.

Step eight gives you all the information you need to plan, conduct and analyse the first of your two (or three) research lessons.

There is an initial summary of the key points in planning followed by a section on how to optimise your pupils' exploratory talk in the lesson which:

optimises their learning

optimises how well members of the RLS group can hear and understand the thinking and learning of their pupils.

(i) Planning Research Lesson 1 (RL1)

What Works Well

Agree which class you will conduct the first research lesson in and then identify three pupils who might (a) typify different groups of learner in the class – pupils who are making good, average or below average progress in the curricular area of focus of the lesson study or in a cross curricular skill such as academic writing, or (b) pupils who are not learning or engaging as well you would have hoped in the curricular area of focus or who have specific needs or challenges.

Agree the level at which each pupil is operating in the focus area of the research lesson – below expectations, at expectations, exceeding expectations (sometimes referred to as 'at greater depth').

Review and modify your teaching materials carefully as you plan –.

Write out in full *exactly* what you want each pupil to be able to do with their new knowledge by the end of the research lesson. (You can use the planner on page 10).

Plan each stage of the lesson with particular attention to the sequence where you use the specific approach you are trialling or refining. Agree and note down on your research lesson planner exactly what you predict each case pupil will have written, said, drawn etc at this point that suggests s/he is ready to progress to the next stage of the lesson.

Identify as carefully as you can: what resources will be used and how, what you will write on the board, where and when and indicate timings for the lesson stages.

Agree who will focus their observations on which case pupil(s). (It helps to have some rules to ensure you don't all gather data about two pupils and miss the third). Have a reserve case pupil in case one is absent on the day of the research lesson.

A Research Lesson plan summary is provided in the workbook (See Plan Observe Reflect panel below). Each Lesson Study group member should have a copy of the key lesson stages and the predicted learning of the case pupils during the lesson because they also serve as an observation annotation sheet and the basis for the post lesson discussion.

Recording your main lesson plan elements in your workbook

Record your main lesson plan elements in the electronic workbook (top of page 1, Section 6) in the subject knowledge column and list the kinds of support you will be providing in the right-hand column.

Research Lesson 1 planning, evidence-gathering and discussion sheet		
Outline below the key lesson activities and supports		
	<i>key elements of the lesson to learn the subject knowledge</i>	<i>Forms of support and innovation you are trialling</i>
1		
2		
3		
4		
5		

Agree what it is you want your learners to learn in relation to the subject knowledge they are learning in the lesson and record that in the 'Accountable outcomes and success criteria'. (The 'Extract from an oracy for mathematics workbook' above has these in italics for a mathematics lesson). Complete this at the bottom of page 1, Section 6 of the workbook.

Predictions
Accountable outcomes and success criteria Describe what you want the class or group to be able to do by the end of the activity and what that will look like.
<div style="height: 100px;"></div>

Step 8 (ii) predicting each case learner's learning

In this step you will predict how your case learners will reveal that they are learning what you intended them to learn in the research lesson. This has been shown to be a vital step in the RLS deliberate practice.

As a pair/group, imagine the lesson has gone well for your three case learners and think about what it is you hope each of your case learners will have said, written, drawn etc. – (but mainly *said*) – that will give you evidence that they are grasping the intended subject learning. Agree, as a pair/group what this will be for each case learner and record them in the **PREDICT** row in the table on page 2, section 6 of the Workbook (your observations will then go underneath).

<i>You may want to print out your predictions for each case student as an aide memoire to use for your notes of what you actually observe in the inquiry lesson.</i>			
Predictions			
Accountable outcomes and success criteria Describe what you want the class or group to be able to do by the end of the activity and what that will look like.			
	Case Student A	Case Student B	Case Student C
Curriculum Learning or School Practice Outcome -For each case student, state what you PREDICT they will have said, written, drawn, that demonstrates they have or have not engaged with the focus.			

Step 8 (iii) Teaching the research lesson

Teaching

It is usual for the class teacher to teach most of the first research lesson, while the learners get used to there being more than one teacher in the room and to being observed.

It is good to share out some of the teaching a little as well. It gives the usual class teacher a rare opportunity to closely and uninterruptedly observe their learners.

What Works Well

Use the research lesson planner on the following page, or better still the RLS Workbook to plan the research lesson. (It works best blown up to A3). It also acts as the observation sheet (if copied and provided to the observers in the research lesson) and it is the key point of reference for the post lesson discussion.

Explain to your pupils that you are trying to improve the way you help them to learn and that is why there are three teachers observing, making notes and talking to some people after the lesson. Explain that you will share with them what you are finding out and get their views.

Take real care over the joint assessment of the stages which the three case pupils are working at. You can make reference to the Assessing Pupil Progress materials. It is really important that the group clearly writes what they want each pupil to be able to do in the focus strand by the end of the lesson and what they will be looking for as evidence of this.

Because the research lesson is jointly planned, it is jointly *owned* by the group. This means the focus for the observers is less on the teacher and more on the learners – especially on the case pupils. Observers should alternate, spending some time as if ‘zoomed-in’ on a case pupil but then also ‘pan-out’ to allow a bigger group or the whole class to come into their observation frame at other times.

Observers should try to capture the case pupils’ responses at different points in the lesson – and how these match or differ from what the RLS group predicted at that stage. Note also any critical incidents. If there is a common pattern (e.g. all case pupils misunderstand something in the same way) note this down for discussion in the post lesson discussion.

Note the time against each annotation/note you make if you can remember.

At the conclusion of the research lesson, look for the evidence of progress for each case pupil against what was predicted and the extent to which they are achieved.

- What are key points for the next lesson for the case pupils, their groups or the class?
- What might you want to ask them in their post lesson interview?
- Jot down ‘initial points, thoughts’ or questions to raise in the post lesson discussion.

A summary of these can be recorded in the workbook *Initial reflections* section (See below).

Step 8 (iv) Observing the learning of the class as a whole, and case pupils in-particular.

Keep moving between watching the whole class and zooming in on individuals. Keep an eye on your three case learners and make notes about how each is using talk in the discussion and how each is developing their understanding of the learning. Note also how well the group sustains exploratory talk, how effective (or not) the oracy tools proved to be in supporting this.

Try to get down to learner level as much as you can. It is a good way of getting a 'learner's eye view' of a lesson – which as adults we seldom get.

Remember that the focus is only on the learners' learning – you are not recording or commenting on the teacher or the teaching.

Recording your observations of the learners' learning

Each have a copy of the lesson plan and the predictions you made for the case learners (as per the screenshot above) which you can annotate in a different colour during the research lesson.

Try to write down verbatim quotations from the learners that indicate problems or success – and whenever possible, do the same for the case learners.

Finally, as the activity draws to a close, check what each case learner has said, done, written, drawn etc. in relation to the intended learning. Record this in the REFLECT row underneath the predictions you made for this when planning (as far as possible using verbatim reporting of speech – see screenshot below for the final page in Section 6 of the workbook). You can also take photos of work with a school camera (if your school's protocol allows). The differences between the predicted and observed learning will form the first discussion item for your post-lesson discussion.

Observations. NOTE: Your observations are your evidence of change! Think about what would convince you that something had made a difference, related to what is happening in the focal interaction			
For each case student, state what you OBSERVED as to what they actually did, that demonstrates they have or have not engaged with the intended curricular and oracy outcomes.	Case Student A	Case Student B	Case Student C
Curriculum or Subject Learning Outcome - reflect on how the oracy support has or has not enhanced their articulation of or ability to develop subject understanding			
Initial reflections (individually for case students, or more broadly)			
Did anything surprise or disappoint you?			
What might you change going forward, based on what you observed?			

The example below shows what the teachers in the oracy-supported mathematics research lesson recorded when they conducted the research lesson. The outcomes that they predicted are in the white boxes and the actual observed outcomes agreed *and only recorded at the end of the post lesson discussion* (See step 10) are in the shaded boxes.

Accountable learning intentions and success criteria To be able to show and explain how 1/10,1/100 and 1/1000 can be made from a given unit (base 10 cube) To make visual representations of given decimal fractions in order to compare the size and hence the value of each part. To understand that one tenth is a larger part of the whole than one hundredth and that one hundredth is a larger part than one thousandth.	Case pupil A: Maryam Success criterion for this lesson		Case pupil B: Samiah Success criterion for this lesson		Case pupil C : Riaz Success criterion for this lesson	
Stage of lesson sequence Describe key elements in the stages of your RL plan.	How you hope case pupil A will respond	How they are observed to respond	How you hope case pupil B will respond	How they are observed to respond	How you hope case pupil C will respond	How they are observed to respond
Opening activity We wanted the children to use ‘Exploratory talk’ whilst using the base 10 equipment to be able to demonstrate their understanding of the whole, tenths, hundredths (and later, thousandths) (9.25am)	We hoped she would be able to use a partner to help clarify her understanding of how decimal fractions are made from a whole. We hoped that she would not be too confused by the fact that the whole was the grid made up of 100 equal parts (individual cubes)	She was very vocal and eager to participate in the partner talk but was confused by what 1/100 was and what 1/10 was. Abdullah her partner was able to show her why one cube was one 100 th of the whole grid.	We hoped to see the true level of Samiha’s conceptual understanding as she is someone who is normally very shy. We also hoped that the partner talk used in the first lesson study and more regularly in class would enable S to articulate what she knew.	She took a while to warm up, initially letting baneen take the lead but she was encouraged by confirmation of her own understanding and grew in confidence as a result. She showed quite a good level of understanding of how decimal fractions are made.	We wanted to see if Riaz would engage in explaining his understanding of decimal fractions by using the objects and a talk partner	He struggled initially to engage in the talk as he didn’t seem to have a starting point and couldn’t find one without a prompt from an adult. There was still some confusion around showing what 1/100 was but Tasnim was able to help with an
Activity 2 Presented with a new whole (base ten large cube) could the children extend their understanding of decimal fractions in relation to this new whole and work out that the small cubes would be thousandths	We hoped the initial warm up work would help Mariam to break the large cube into tenths and to see that breaking the whole into 100 rods would give 1/100 and that finally, each tiny cube would represent 1/1000. We wanted her to then see the relative sizes of each part.	The new whole confused Maryam and at first she thought the rods were tenths as they had previously been. Through lots of questioning and unpicking, she was able to show that she could see why each part was what it was.	We hoped that Samiha would take a more confident lead in this second activity and that she would quickly establish the decimal parts of the new whole.	Initially confused by the new whole but used her partner well to clarify her thinking. She was then able to demonstrate a good understanding of how each of the parts were derived from the whole.	We hoped Riaz would also use the previous activity to help him explain how the new whole could be divided into tenths, hundredths and thousandths and see the relative value of each.	Again, the talk did not flow automatically but questioning from an adult and help from Tasnim saw him demonstrate how each of the parts of the whole were made.
On the sugar paper grid, U t h could children build various decimal fractions using the base 10 objects and use the visual as a way of determining which had the greatest value (by comparing the size of the decimal parts)	We hoped that Maryam would confidently show that 3/10 was greater than 5/100 by representing the fraction with the apparatus or by using a diagram to show which was greater.	She was very good at demonstrating this.	We hoped that Samiha would only need a quick sketch to help her compare two decimal fractions that had a different number of decimal places.	Samiha didn’t need to actually use the objects anymore - a quick sketch was fine. She benefitted from having her partner to check in with and was able to show how 13/100 was the same as 1/10 and 3/100	We wanted riaz to be able to use the objects or a quick sketch to show that he knew why one decimal fraction was smaller or larger than another.	He left the objects after a while and once shown, was able to draw a quick sketch to confirm his thinking.
What were they able to do? (What progress have they made and how do you know?)	By the end of the lesson, the children had a picture in their heads of the relative sizes of the decimal fraction parts they were asked to compare. This helped them to see which had the greatest value. Befor the lesson, they were not sure why for example 1/10 was greater than 3/100. Now, they felt confident enough to explain this to us.					
Initial thoughts, ideas, reflections	By having this image in their heads, we hope to move them on to comparing a range of decimal numbers with more confidence and accuracy by understanding the most ‘significant’ digit and why it is actually the most ‘Significant’					

Figure 6: Example from a Workbook developing exploratory talk in mathematics with predictions and observations

Step 9: Interviewing a group of learners at the end of the research lesson (or straight afterwards)

(3 – 15 minutes)

...they [pupils] begin to take ownership of the whole learning process. They take responsibility for it and also they're helped. It's amazing because ... they're engaging with us, in helping us to help them to learn. Incredible stuff. Really incredible!!

At the end of every research lesson you will consult a group of roughly 8 to 10 learners about what they gained from the lesson, which aspects seemed to help them learn the most, which aspects were the hardest to understand. (A full list of prompts is provided in Section 7 of the workbook, illustrated below).

The interview provides an opportunity to find out from the learners themselves why they had said or done specific things during the research lesson that had been difficult to understand. Studies on what is gained from these interviews suggest that as well as providing an opportunity to test our ideas about the lesson with the learners directly, it also provides another opportunity for the lesson study inquiry group members to experience the lesson from the learner perspectives and perceptions (Warwick et. al. 2009).

Selecting learners to interview

There are no hard and fast rules about this. You may wish to include some or all your case pupils in the group to be interviewed. This can shed light on things you have heard them say or seen them do in the lesson. Equally, it is useful to get the views of other learners as well – those who have not been so much in focus. Again, try to choose a mix of genders and other different groups of learners in the class. Learners should know this discussion is optional, however, and not part of their regular, expected or assessed learning.

The interview should last no more than five minutes. It can be done in the classroom if there is a break immediately after the research lesson or in the corridor near to the classroom. Most people end the formal teaching five minutes early and have a finishing off session while the other member(s) of the lesson study group conduct the interview as a focus group – with all the learners together. However, in some schools the learners are taken out of the subsequent lesson to be interviewed. All of these have their advantages and disadvantages and you will have to decide on what will work best. The main guide we can give is to interview the learners as soon as possible after the lesson so the memory is fresh. (Even having one lesson in between the research lesson and the interview can wipe a lot of the immediate memories away.)

Keep notes and record/summarise the pupils' responses in the editable textboxes of section 7 of the electronic Inquiry Workbook: Post-lesson interview with learners (See below). The recorded responses should be agreed by the group.

Post-Lesson Interview with Students

After the activity, have a discussion with the case students to reflect with them on the activity and their engagement

Date	Time	Case Students (tick)				No. of Other Students	
		A		B		C	
What did you enjoy most about the lesson or activity?							
What did you learn? - What can you do or understand now that you could not do? - What can you do better? - How is it better? <i>Focus on both the oracy development and the curriculum learning or school engagement.</i>							
What aspect of the activity or support worked best for you?							
If we were teaching this lesson to a similar group of children tomorrow, what would you change to make it better? Why would you change that?							

Step 10: Carrying out your post research lesson discussion of each case learner's learning, the learning of the class as a whole and noting what you need to do in the light of this knowledge when planning RL2.

Allow 50 minutes to one hour.

'....it's amazing how much you learn by explicating your ideas, so in challenging me, I have to justify why I think we should do this in this particular way and through that it really strengthens your own knowledge and gets you to a place you could not get on your own.'

The key thing to remember when you are engaging in your post-lesson discussion is to focus on discussing the pupils' learning.

Ground rules for your post-lesson discussion.

An important ground-rule for talk is the post lesson discussion sequence (Below) - that help the knowledge you have gained to surface in ways that build a picture from your different perspectives and from what you each saw and noticed.

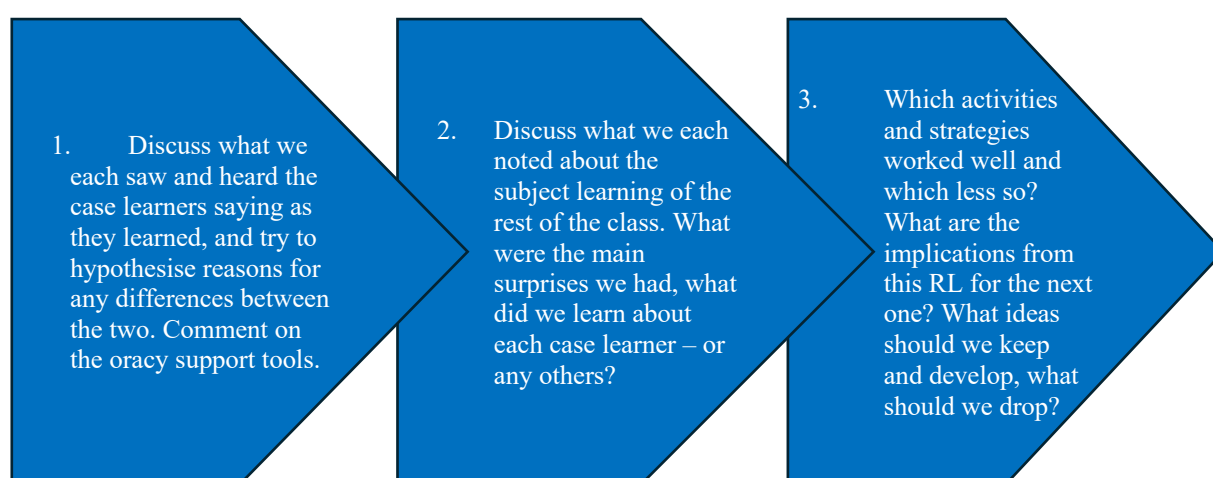


Figure 7: The post research lesson discussion

Remember to optimise your own exploratory talk in this discussion in order to draw upon your tacit knowledge. You can also refer to any of the pupils' work from the lesson and to any video footage or still photos that you may have taken in the research lesson.

Use the electronic workbook to record the notes of this discussion. There is a useful template with prompts to guide your discussion in *Section 8. Post Lesson Discussion amongst staff team.* (See below).

To remind yourself of what the exemplar lesson study group predicted and then recorded in their post lesson discussion refer to the case pupil predicted learning in your workbook.

You will also think of many key ideas you will want to address in Research Lesson (RL) 2 – note them all down. It will save time and improve the quality of your second RL.

Post-Lesson Discussion amongst staff team			
As SOON AS POSSIBLE after the research lesson, have a discussion amongst the inquiry team about key points and next steps. You may want to record this discussion to refer back to.			
Before focusing on specific case students, what are your reflections on how the whole class engaged?			
	Case Student A <i>In relation to the main learning aims and the way the child used oracy support strategies to participate</i>	Case Student B <i>In relation to the main learning aims and the way the child used oracy support strategies to participate</i>	Case Student C <i>In relation to the main learning aims and the way the child used oracy support strategies to participate</i>
How did what we observed compare with what we had predicted? What might be the reasons for any difference between the two? How did the activity help or hinder learning or engagement? (Maybe a bit of both?)			
What surprises were there?			
Did we find out anything of note about the way each pupil was learning or engaging?			
What aspect(s) of our teaching or support should be adjusted or changed next time to improve the progress or engagement of our focal and wider students?			
So what are the main things we need to try in the next research lesson?			

In the example workbook below you can see the predictions and now also the recorded, agreed actual observations of what the case learners did, noted (in the shaded panels) next to the predictions the group had agreed before the research lesson (in the white panels) and below these and overall agreement summary.

Stage of lesson sequence Describe key elements in the stages of your RL plan.	How you hope case pupil A will respond	How they are observed to respond	How you hope case pupil B will respond	How they are observed to respond	How you hope case pupil C will respond	How they are observed to respond
Opening activity We wanted the children to use 'Exploratory talk' whilst using the base 10 equipment to be able to demonstrate their understanding of the whole, tenths, hundredths (and later, thousandths) (9.25am)	We hoped she would be able to use a partner to help clarify her understanding of how decimal fractions are made from a whole. We hoped that she would not be too confused by the fact that the whole was the grid made up of 100 equal parts (individual cubes)	She was very vocal and eager to participate in the partner talk but was confused by what $1/100$ was and what $1/10$ was. Abdullah her partner was able to show her why one cube was one 100^{th} of the whole grid.	We hoped to see the true level of Samiha's conceptual understanding as she is someone who is normally very shy. We also hoped that the partner talk used in the first lesson study and more regularly in class would enable S to articulate what she knew.	She took a while to warm up, initially letting Baneen take the lead but she was encouraged by confirmation of her own understanding and grew in confidence as a result. She showed quite a good level of understanding of how decimal fractions are made.	We wanted to see if Riaz would engage in explaining his understanding of decimal fractions by using objects and a talk partner.	He struggled initially to engage in the talk as he didn't seem to have a starting point and couldn't find one without a prompt from an adult. There was still some confusion around showing what $1/100$ was by Tasnim was able to help with an explanation and demonstration.

Activity 2 Presented with a new whole (base ten large cube) could the children extend their understanding of decimal fractions in relation to this new whole and work out that the small cubes would be thousandths	We hoped the initial warm up work would help Maryam to break the large ice cube into tenths and to see that breaking the whole into 100 rods would give $1/100$ and that finally, each tiny cube would represent $1/1000$. We wanted her to then see the relative sizes of each part.	The new whole confused Maryam and at first she thought the rods were tenths as they previously had been. Through lots of questioning and unpicking, she was able to show that she could see why each part was what it was.	We hoped that Samiha would take a more confident lead in this second activity and that she would quickly establish the decimal parts of the new whole.	Initially confused by the new whole but used her partner well to clarify her thinking. She was then able to demonstrate a good understanding of how each of the parts were derived from the whole.	We hoped Riaz would also use the previous activity to help him explain how the new whole could be divided into tenths, hundredths and thousandths and see the relative value of each.	Again, the talk did not flow automatically by questioning from an adult and help from Tasnim saw him demonstrate how each of the parts of the whole were made.
On the sugar paper grid, o,t,h,t could children build various decimal fractions using the base 10 objects and use the visual as a way of determining which had the greatest value (by comparing the size of the decimal parts)	We hoped that Maryam would confidently show that $3/10$ was greater than $5/100$ by representing the fraction with the apparatus or by using a diagram to show which was greater.	She was very good at demonstrating this.	We hoped that Samiha would only need a quick sketch to help her compare two decimal fractions that had a different number of decimal places.	Samiha didn't need to actually use the objects anymore - a quick sketch was fine. She benefitted from having her partner to check in with and was able to show how $13/100$ was the same as $1/10$ and $3/100$	We wanted Riaz to be able to use the objects or a quick sketch to show that he knew why one decimal fraction was smaller or larger than another.	He left the objects after a while and once shown, was able to draw a quick sketch to confirm his thinking.

What were they able to do? (What progress have they made and how do you know?)	By the end of the lesson, the children had a picture in their heads of the relative sizes of the decimal fraction parts they were asked to compare. This helped them to see which had the greatest value. Before the lesson, they were not sure why for example $1/10$ was greater than $3/100$. Now, they felt confident enough to explain this to us.
Initial thoughts, ideas, reflections	By having this image in their heads, we hope to move them on to comparing a range of decimal numbers with more confidence and accuracy by understanding the most 'significant' digit and why it is actually the most 'significant'

Steps 11, 12 and 13.

11	(i) Planning Research Lesson 2 (RL2), (ii) predicting each case learner's learning; (iii) teaching the research lesson; and (iv) observing the learning of the class as a whole, and case learners in particular.	
12.	Interviewing a group of learners at the end of the lesson (or straight afterwards)	
13	Carrying out your post lesson discussion of each case learners' learning, the learning of the class as a whole and noting what you need to do in the light of this knowledge when planning from now on, or for RL3 if you do another.	

These three steps largely repeat the process you have followed in the previous three steps. However, there are some guiding points worth knowing.

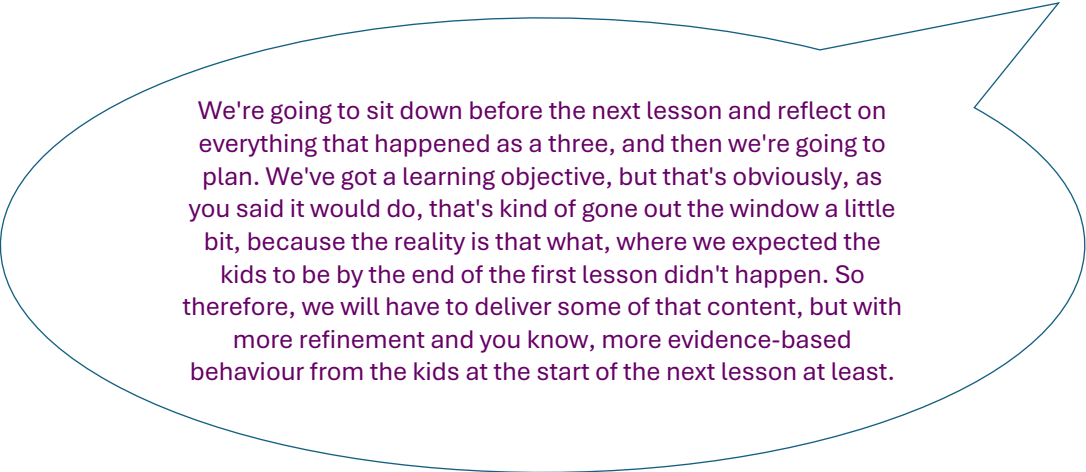
Planning research lesson 2

You are in a very different place starting to plan RL2 from the one you were in when planning RL1.

First of all, you have got a sense of what a research lesson is like, how fast-moving it is ('like a swiftly flowing river', is a Japanese simile). You have probably got to know your RLS partner or team members in a new way as well, having collaboratively built so much knowledge together. RL2 usually takes less time to plan than RL1 – around 25 minutes.

But a common feeling after the first research lesson is that it was like a reconnaissance exercise. You feel you have a much better understanding of the demands of the lesson, the learners and that you will approach RL2 differently.

Most people find that in planning RL1 they had misjudged the learning of at least one of the case pupils – sometimes all three. So some of the aspects of RL2 are going to depend on whether you need to recalibrate your expectations of any of the pupils up or down. After only one research lesson teachers frequently discover new qualities in learners they have taught for years.



We're going to sit down before the next lesson and reflect on everything that happened as a three, and then we're going to plan. We've got a learning objective, but that's obviously, as you said it would do, that's kind of gone out the window a little bit, because the reality is that what, where we expected the kids to be by the end of the first lesson didn't happen. So therefore, we will have to deliver some of that content, but with more refinement and you know, more evidence-based behaviour from the kids at the start of the next lesson at least.

Another thing that can happen in RL1 is that one of the strategies you tried may have seemed to work very well – but you nevertheless feel you need retry it to see whether it works for a second time in a different lesson.

There will be aspects of RL1 that didn't work as well as you had expected; BUT during your analysis of the learners' learning in the post lesson discussion, you perhaps hypothesised some reasons why and devised some possibly better ways of approaching this. So these are definitely things that you will want to test-out in the second research lesson. So have your RL1 post lesson discussion notes to hand.

Teachers frequently draw on ideas suggested or inspired by the learners themselves in the interview and build these into the second (and third if you are doing three) research lesson. It is perhaps unsurprising how often they have ideas we cannot have. They are expert consumers of our teaching and are worth paying attention to.

A possible third research lesson

A third research lesson is often used when teachers want to re-test encouraging approaches used in the first or second RL. But another reason for a third lesson is to test out ideas for supporting children whose barriers were only properly understood by the group during the discussion after the second research lesson. These can be significant discoveries for those children and the opportunity to try such discoveries out with them in a third lesson could lead to significant changes to the way they are taught in future. Such knowledge can also be invaluable for others who also teach them.

And of course, by this stage the RLS group or pair are well versed in collaborating together in this way. The focus is much tighter than it was for RL1 and RL2 because the group/pair's knowledge of the pupils *as learners* is so much more detailed and granular. And of course it can provide confirmation that the new approaches you seemed to have developed work a second or third time.

So do not underestimate the value of a third research lesson. Given the investment you made in doing the first two, the third provides a very good return for significantly less energy.

Step 14: Jointly assess which learners achieved the intended learning for this RLS sequence, which exceeded, which still require further teaching or support to achieve.

It is now time to take out the class list again and make a decision about which learners you jointly consider have broadly learned what you intended them to learn from the two-lesson sequence, to a point from which you feel **reasonably confident** that they can move on to the next stage of the term's learning in this subject/aspect of the curriculum **without too much difficulty**. You may also want to refer to the pupils' work and to your lesson study observation notes. Indicate also those pupils that you consider have exceeded the objectives, and those who you feel still need some more support.

This is not a detailed assessment and no-one is going to be held to account for it. As stated above, this is a moment to record those learners who, on the basis of your joint experience over the two (or three lessons), you feel are ready to move on without too much difficulty. As such, this is the kind of judgement we make all the time as teachers.

So there is no need to set a test. What is called for here is a formative assessment that a learner is ready for the next steps in the term's learning.

The activity should take about 10 – 15 minutes to complete in the RLS Workbook.

Please record these assessment judgements in the Learner Assessment Section 9 in the electronic Workbook. (See below). Please also record your collective view about the extent to which your oracy support tools and approaches helped the learners to think together using exploratory talk as envisaged by selecting either that they helped ‘Yes - a lot; Yes - quite a bit; or ‘No - did not help’ in the second column.

[illegible]

Step 15: Reflective whole RLS summary discussion - RLS Pair/team

Take 20 minutes to agree and record the main things you as an RLS Inquiry group learned from the process and what aspects of subject teaching and oracy support for learning through talk (and anything else that came up) that you will be adopting or changing in your practice and/or curriculum in future.

Agree also the things you will share with your colleagues because you believe their practice could also benefit from this knowledge and note also the things you will incorporate into your subject scheme of learning, or learning and teaching policy.

Please make full notes of all this in Section 10 of the electronic Lesson Study Workbook (See below).

You can get a sense of what such a summary is like from the example given below from the sample workbook we have presented throughout this handbook.

Example of a RLS reflective summary – from the ‘Learning through talk in mathematics Y4 workbook’ seen in earlier sections [note, the teachers were using an earlier version of the workbook template].

1. What were the main things you discovered about how the learners learned mathematics with a greater emphasis on talk?

We discovered that when learners are actively involved in the learning process, true learning takes place. During the first lesson, we gave the learners the opportunity to explore on their own, with manipulatives first, instead of telling them exactly what to do and when to do it. This allowed them to first try a few things themselves. We (the teachers) acted as guides through this stage of learning, rather than the disseminators of information. This approach allowed the learners to use the manipulatives as ‘thinker toys’ rather than just ‘answer-getting’ devices.

The use of **exploratory partner talk** to explain existing and to uncover new understanding about decimal fractions focused the learners’ attention and motivated them to learn with a problem solving approach, using something they could touch (base ten blocks); this eliminated their frustrations and motivated the learners to discuss mathematical ideas about decimal fractions and verbalise their mathematical thinking.

In what ways will this change your teaching in the future?

We will ensure that learners are directly involved in the learning (experiencing it themselves), rather than being mere spectators, so that they learn and retain what is taught.

2. What were the main things you learned about the learners that you did not know so clearly before?

Some learners, especially the case learners, have learnt 'correct' mathematical procedures without really understanding how they work. One major drawback is that if a learner is able to perform a certain mathematical procedure well, the learner may resist going back and developing the concept later (evident, initially, with one of the case learners). We discovered that some learners were not able to apply the procedures to situations other than the context in which the procedure was learnt. The procedural knowledge (without contextual understanding) led to errors. Learners' responses when trying to compare decimal fractions revealed a number of misconceptions. However, when prompted to use the visual representations on the board, as well the base ten blocks, the children were able to make connections with the symbolic representations of the fractions.

In what ways will this inform your future practice?

We will ensure that conceptual understanding is secure before procedures are introduced.

3. What other things have you learned about teaching or learning not captured in 1 or 2?

Although manipulatives can be wonderful tools for teaching and learning mathematical concepts, we discovered the need to be careful with how they are implemented. If used improperly, they can cause problems. We are aware that the manipulatives themselves are not the mathematics; they are the tools to be used to understand the mathematics. Furthermore, manipulatives by themselves do not teach. The learners still need to be guided to make the connection from the manipulatives to formal mathematical knowledge illustrated. We learnt that through careful observation of the learners, as they are working, we can gain an understanding of where the learners' levels of understanding are and can adjust guidance and teaching from there. We also discovered the need to be aware of the developmental levels of the learners and choose manipulatives that are developmentally appropriate.

How will this change your teaching in future?

We intend ensuring that learners use manipulatives for as long as necessary to reach a clear understanding of the conceptual knowledge. This process may take longer for some learners than for others. Having manipulatives out and accessible for any learner to use, as needed, may help them gain the confidence necessary to move to the next step in the understanding process. From there, the learners can switch to using drawings or pictures to represent what is happening mathematically, before making connections with the symbolic notation using numerals and operation symbols.

Record your joint responses in the RLS Workbook (See below)

RLS Group/Pair Reflective Summary

By this point, you'll have done a lot of work on your inquiry, gathered a lot of evidence and made lots of notes. The prompt questions below are intended to bring all of this together and to identify implications. If you would rather respond to these in an audio or video recording as you discuss them as a group, rather than writing, please do.

1. What were the main things you discovered about how the students progressed in their curriculum/subject learning? How well did your innovative approaches help children develop the subject concepts and skills. In what ways will this change your teaching or practice in the future? (up to 150 words)

2. What ethical considerations arose during your lesson study, and how did you respond? (up to 150 words)

3. What were the main things you learned about the pupils that you did not know so clearly before? From the focus on oracy, have there been parallel changes in wider learning and other markers (e.g. behaviour, attendance, wider participation)? In what ways will this inform your future practice - what are the implications for your ongoing teaching of this class? (up to 150 words)

4. What other things have you learned about teaching, learning or school life not captured in the above? How will this change your teaching or engagement in future/implications beyond this class? (up to 150 words)

5. Are there any implications for your school's development of the innovative approaches you took for other curriculum, assessment or pedagogical matters? (up to 250 words)

6. What key learning will you share with colleagues in school and within the programme/what are your headline findings? (up to 150 words)

Congratulations on completing your lesson study!

We hope you've found it insightful! Don't forget to submit your completed workbook to Camtree, where it will be collated into a draft report for you to review and edit as you see fit.

Step 16: Sharing your learning with your colleagues in school and beyond through the Camtree electronic library

'...what I've been surprised and really pleased about I think is that people who normally close the door and get on with what they do in a lesson, have suddenly thought 'Oh hang on, this is good for me, within my lesson. It's good for the kids within my lesson, it's practical, I'm doing something

When you and your colleagues discover aspects of pupil learning, teaching or curriculum that you intend to act upon yourself or change in your practice it is a professional duty to inform others.

This can be done by presenting your lesson study to colleagues in a staff meeting or, better still, inviting them (and perhaps others from outside school) to attend an open lesson after school in which you demonstrate the new approach you have developed through the lesson study process. A discussion can follow and the pupils themselves can take part.

But if you want to go a step further and share what you have learned with teachers around the world, submit your lesson study workbook to Camtree and receive a draft report and abstract ready for you simply to edit.

Published on Camtree (the Cambridge Teacher Research Exchange, your lesson study could become an inspiration and source of valuable practice knowledge for countless others around the world. You will also receive feedback on reads and downloads of your article and the languages in which it has been download.

Bibliography

Churches, R. (2016). *Closing the gap: Test and learn*. London, UK: National College for Teaching and Leadership. Retrieved from www.curee.co.uk/files/shared/closing_the_gap_test_and_learn_full_report.pdf

Dudley, P. (2013) Teacher Learning in Lesson Study: What interaction level discourse analysis revealed about how teachers utilised imagination, tacit knowledge of teaching and fresh evidence of pupils learning, to develop practice knowledge and so enhance their pupils' learning, *Teaching and Teacher Education*, 34 (2013) 107-121.

Dudley, P., Xu, H., Vermunt, J. D., Lang, J. (2019). 'Empirical evidence of the impact of lesson study on: students' achievement, teachers' professional learning and on institutional and system evolution: an illustrative, complex case-development exemplar in London', *European Journal of Education* 54.2. 202-217 (European Journal Star Article 2019).

Dudley, P. (2019) *Lesson Study: a handbook*. Lesson Study UK www.lessonstudy.co.uk Distributed and downloaded to over 100,000 and now available in six languages. (First published 2005 by NCSL.)

Dudley, P. and Lang, J. (2021) How case learners, learner interviews and sequenced research lessons can strengthen teacher insights into how to improve learning for *all* learners. In *Stepping up lesson study: an educator's guide to deeper learning*, Aki Murata and Christine Lee, Eds. London. Routledge.

Vermunt, J.D., Vrikki, M., Dudley, P., Warwick, P. (2023) Relations between teacher learning patterns, personal and contextual factors and learning outcomes in the context of lesson study. *Teaching and Teacher Education*. 133 (2023) 104295.

Warwick, P., Vrikki, M., Faeroyvik Karlsen, A. M., Dudley, P. And Vermunt, J. D. (2019) The role of pupil voice as a trigger for teacher learning in Lesson Study professional groups.

Appendix 1: Ideas for using video and adapting RLS in special school settings

Using video

It is optimal for both or all three members of the RLS group to be in the research lesson in person. However, one strategy for dealing with times when a member of the RLS pair/group cannot be present in the research less (and that can also be used if one of the RLS pair/group is unexpectedly ill on the day of the research lesson) – is to video as much of the innovative activities as possible, for later discussion.

It can be difficult to capture learners' voices clearly using a standard video camera and microphone because of the background class noise. But it is possible to capture a single group's conversation reasonably well if a microphone is placed in the middle of the group and the volume-level of all the other discussions is kept in check. (It is tempting to ask your three case-learners⁵ to work together somewhere quiet, but this can also be counter-productive. You will have chosen three case learners who are different from each other as learners and so it might be unlikely that they would usually sit together. Only you as their teachers can judge such matters. But in general, try to keep your research lessons as near normal as possible.

If you only have one camera it can be left for five or so minutes with one group, then moved on to another and then a third. The teacher of the research lesson can also video snippets of conversations as they move from group to group with a handheld device.

Another way round this is to seat the groups with the 'case learners' away from the other groups. It may be possible to move one of them just outside the classroom, for example or somewhere quieter nearby where they can still be supervised. This is also likely to require more than one camera.

The RLS group/pair then review the videos together immediately prior to the post-lesson discussion.

Use of video should be in full compliance with your school's policy on images and video of children/young people. Parents should also be informed of your intention to make this video, of how the video will be used and how the images will be stored and eventually permanently deleted in line with your school's policy and they should consent to any video or still images being used beyond the school and online.

Special School Settings

Adaptations that special schools and other specialist settings (such as hospital schools) can make in order to get the most from the RLS.

As a school you will know what approaches, resources and devices you use to support learners to participate in conversations – be they signing, communicators or other forms of contribution and response.

It is appropriate for a learner to use any device or support that they would normally use to enable them to participate in a discussion – however brief and however adult-led (in terms of

⁵ The selection and role of case learners is addressed in full in step 7

relaying what one learner may have communicated to other members of the group and eliciting responses). You are the experts in knowing what each learner has contributed and what those contributions signify in terms of their engagement, their thinking and their communication of feelings, ideas, approval, agreement or disagreement or disapproval etc.

Use all the approaches you would normally use to make the learners feel comfortable, safe and valued, to motivate them to participate and to enable them to access as much of their peers' talk and conversation as they can – as a 'listener' and as a contributor.

In schools and settings where teaching assistants and other medical or specialist support staff are also involved, it is important to inform them about the Oracy RLS Inquiry and to involve them in as much of the discussion as possible, as their perspectives and specialist knowledge will be important in determining how your oracy practices might best develop.

Appendix 2: Blank Analysis of discussion task language demands

Analysis of discussion-task language demands: [add topic here].		
Functions	Key ideas	What they might need to say