

Keynote address: “Capacity building on the local level: The role of knowledge and use of research”

Philippa Cordingley

**The Centre for the Use of Research
and Evidence in Education**



The role of knowledge and use of research for local capacity building?

- What kind of knowledge system can support effective governance
- 2 case studies at scale
- Understanding knowledge, research use and Continuing Professional Development and learning (CPD&L)
- What we know about effectiveness – practising what we preach – via systematic reviews
- Capacity building – conditions, actions and principles
- A metaphor

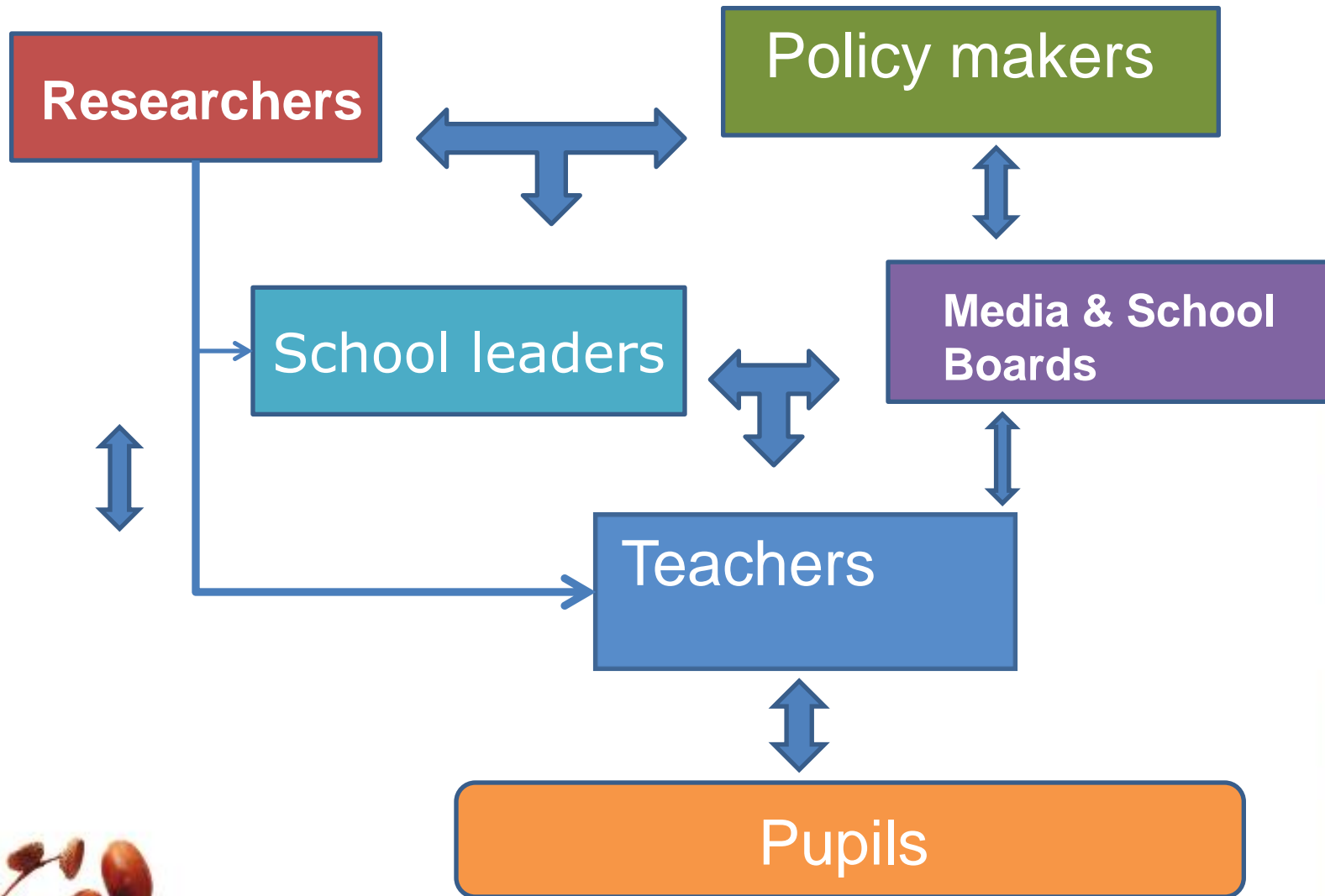


What knowledge system can support the effective, research informed governance of complex education systems?

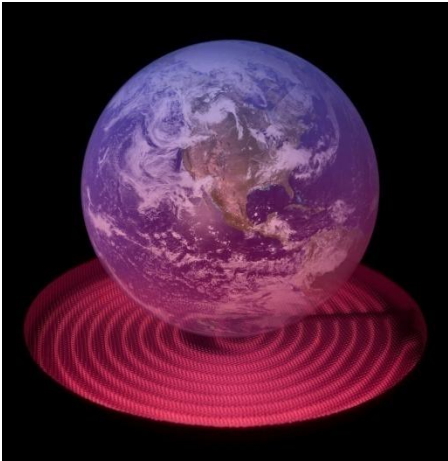
- Key players and key linkages
- Systems differ but components are broadly constant...
- Pupils too often seen only as the end
- They also have the potential to act as key means...
- But the actors who make most difference are always the teachers



Key players and key linkages?



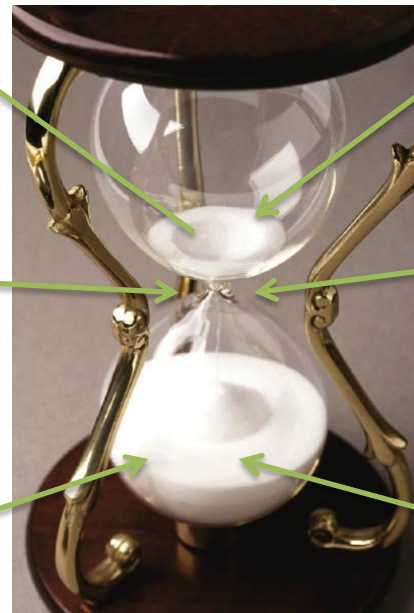
Knowledge models



Research based knowledge?

Use of research?

Practice based knowledge?



Knowledge

Understanding

Action





Building Capacities for Educational Change



Capacity building in complex systems what exactly is involved for whom

- Research \Rightarrow process \Rightarrow capacity building \Rightarrow effectiveness/efficacy for governance?
- Complex, multi level actions and actors
- Means acting on researchers *and* on users
- Teachers improve classroom practice
- So research \Rightarrow improvement means looking at how *they* improve practice – Continuing Professional Development and learning (CPDL) and research re effective use of research
- IE local capacity building means practising what we preach/modelling



Romey Tacon, Catherine Stern and Numicon Mathematics

- Pair of teacher researchers with real concerns about mathematics for vulnerable learners
- Started from Catherine Stern on Number relations
- Developed, trialled and tested resources for “dialling in” number bonds visually & worked out from there
- Dramatic improvements proved infectious strong pull, e.g. from local schools, then strong push
- Developed into a mainstream approach for mathematics and boosting vulnerable learners, locally, regionally nationally & internationally



Romey Tacon and Numicon

- Waves of supported research
- Grew to be a regional movement – great results for struggling learners
- Became Numicon Mathematics Taken up by policy makers at lots of levels
- Changed expectations and life chances of pupils re: mathematics



Conditions that enabled it?

- A “wicked” issue linked to aspirations for pupils
- A strong evidence base on which to build
- Funding & recognition from a high status, structured teacher research scheme including:
 - Requirement to build on existing research
 - Clarity & rigour re: role of evidence
 - Coaching in methods and in writing up research
 - An emphasis on needs of users from the start
- Sustained support over 3+ years
- Compelling pupil, teacher and school responses



What did this mean re: conditions to enable Romey's work to flourish?

- An important/relevant question
- Access to good, large scale evidence to build on
- A challenge to & support for working publicly on behalf of profession
- Sustained, high quality support/mentoring
- A quality framework/context
- Funding for high quality, sustained research
- Arrangements for diffusion/dissemination that secured interest and thus data at scale
- Tools???



What does research tell us about capacity building and use of research for improvement?



Use of research - review Methodology

- Comprehensive electronic literature search
- Screened titles & abstracts against published criteria;
- Retrieved full studies applied 3 levels of filtering
- Completed a map of the literature (64 studies);
- Double blind data extraction - 50% (98) of initial selection; 100% (25) for synthesis;
- Assessment for weight of evidence for synthesis
- Synthesised evidence for review questions
- Commissioned anonymous peer review
- Implications explored in-depth with users



Systematic reviews about Continuing Professional Development and Learning (CPDL)

- 4 quality assured reviews into impact of CPDL to shape CPDL – and CUREE’s work
- Explored impact on pupils as well as teachers
- Over 2,000 studies via comprehensive searches
- Double blind filtering and weighing of evidence
- 300 relevant studies identified & coded
- Data extracted & evidence weighed for 45
- Very strong coherence with findings from the Timperley CPD Best Evidence Synthesis



Effective CPD/Use of research

Both CPD and use of research reviews highlight similar findings i.e. the importance of:

- Linking pupil and teacher learning
- Specialists providing range of sustained, structured support, highlighting & modelling high leverage approaches
- Sustained peer support/reciprocal vulnerability to embed learning from others' research and through own – i.e. engagement in and with research – facilitated by specialists



- Learning from looking
- Structured dialogue rooted in evidence from trying things out – disturbing the status quo
- Ambitious goals – can be mandated by others if there is peer support
- Leaders showing their support by e.g.
 - Providing time for teachers to plan & reflect , and
 - encouraging experimentation and learning



The nature of the support

Range of Support was crucial & provided through:

- **Training** – including instruction in key components and rationale for new teaching and learning strategies
- **Modelling** – innovative teaching strategies were demonstrated in the classroom
- **Sustained, responsive guidance or critical friendship**, often called mentoring or coaching, sometimes enquiry or research
- Provision of **tools and resources** such as observation frameworks, questionnaires, analysis grids



T2T and peer coaching

- 10-14 teacher pairs – 24 hours with leading researcher
- explore practice *and* peer coaching
- Build peer coaching agreement for 12 weeks (min 4 experiment cycles)
- Follow up 24 hours – exploring students' before & after work, lesson plans, videos a& photos
- E.g. Assessment for learning, consulting pupils about their learning, thinking skills; behaviour



Benefits

- Show sustained benefits for pupils re:
 - motivation, responses to subjects & curricula
 - performance e.g. test results and specific skills
 - organisation e.g. collaboration, choosing strategies
 - questioning skills, thinking & responses to stimuli
- Improvements in teachers'
 - self-confidence e.g. in taking risks and efficacy
 - willingness to continue professional learning
 - willingness & ability to make changes to practice
 - knowledge & understanding of subject & pedagogy
 - repertoire and skills in matching to pupils' needs



Barriers to development

Barriers to success. These include:

- time e.g. for initial training in new strategies
- Diverse foci – teachers found it difficult to engage in or with others' research if they had to focus on too many different things at once
- Inadequate facilitation and/or external support – e.g. too little support or lack of expertise in either content (e.g. high level strategies) or process (e.g. research instruments), not business like enough e.g. re: time management
- Practicalities of enquiry



What does this evidence mean for knowledge use and capacity building?

- Structures that work on:
 - Supply
 - Access and communication
 - Relevance
 - Demand
 - Process of interpretation/use
 - Relevance
 - Recognition, learning and identity
 - Depth
 - Quality – of supply, support and demand
 - Ownership and sustainability



Supply

- Relevance – Wicked issues – analyse teachers' own research questions to help shape research agenda
- Scaffold engagement with evidence through e.g. micro enquiry tools, streamlining research instruments for teacher use
- Create multiple entry points to high quality large scale *evidence* www.curee.co.uk/products-and-services-overview/research-sat-nav



Stepping stones and related skills



Stepping stones from

- 2.5 minute “bites” – PowerPoints
- Tasters – micro enquiry tools based on nuggets of evidence (400+)
- Web digests
- Major summaries of cornerstone academic studies – hot linked to teachers’ studies
- A wide range of CPD tools and resources e.g. mystery games, treasure hunts



Supply continued

- Increase stock of teacher research (like that of Romey) to be infectious: www.ntrp.org.uk/node/62
- Connect academic and teacher research
- Synthesise/draw on syntheses to build cumulative picture:
 - www.curee.co.uk/our-projects/eppicentre-systematic-reviews-continuing-professional-development
 - www.educationcounts.govt.nz/topics/BES

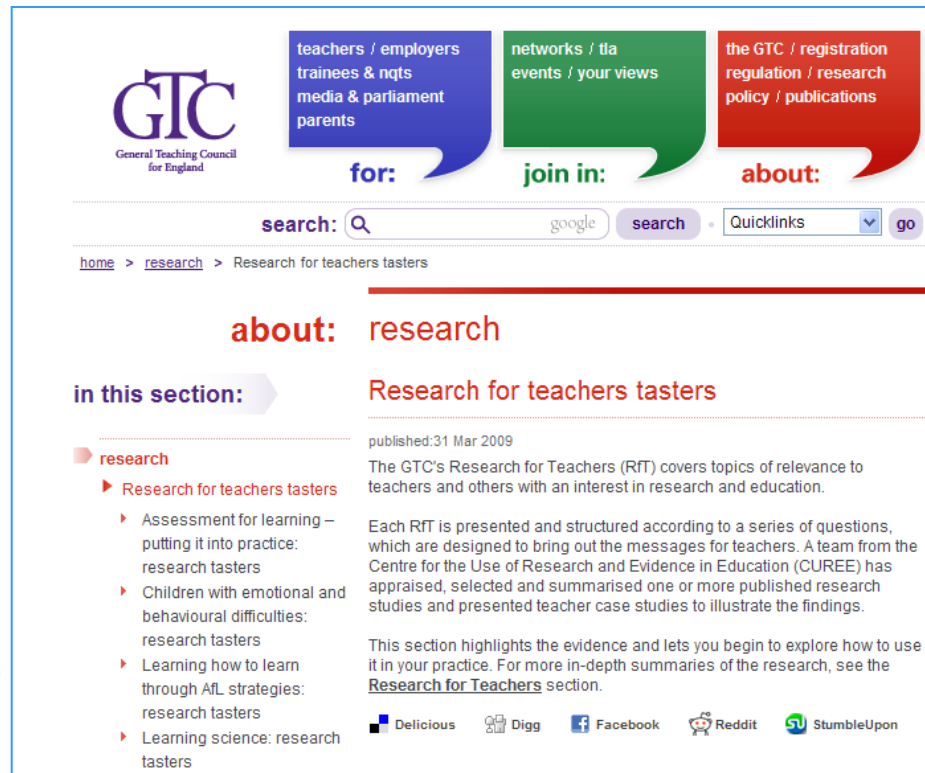


Using External Resources

www.gtce.org.uk/research/tasters/

Key features:

- nuggets of evidence taken from the RfT summary
- enquiry activities to find out how learners experience phenomena now
- Ideas for taking next steps
- where to find out more



The screenshot shows the GTC (General Teaching Council for England) website page for 'Research for teachers tasters'. The page features a search bar with 'google' and 'search' buttons, and a 'Quicklinks' dropdown menu. The main content area is titled 'about: research' and includes a section 'in this section:' with a list of links: 'research', 'Research for teachers tasters', 'Assessment for learning – putting it into practice: research tasters', 'Children with emotional and behavioural difficulties: research tasters', 'Learning how to learn through AfL strategies: research tasters', and 'Learning science: research tasters'. The page also contains a paragraph about the RfT, a date 'published:31 Mar 2009', and social media sharing icons for Delicious, Digg, Facebook, Reddit, and StumbleUpon.

Many teachers have used the research tasters as a starting point for coaching supported learning

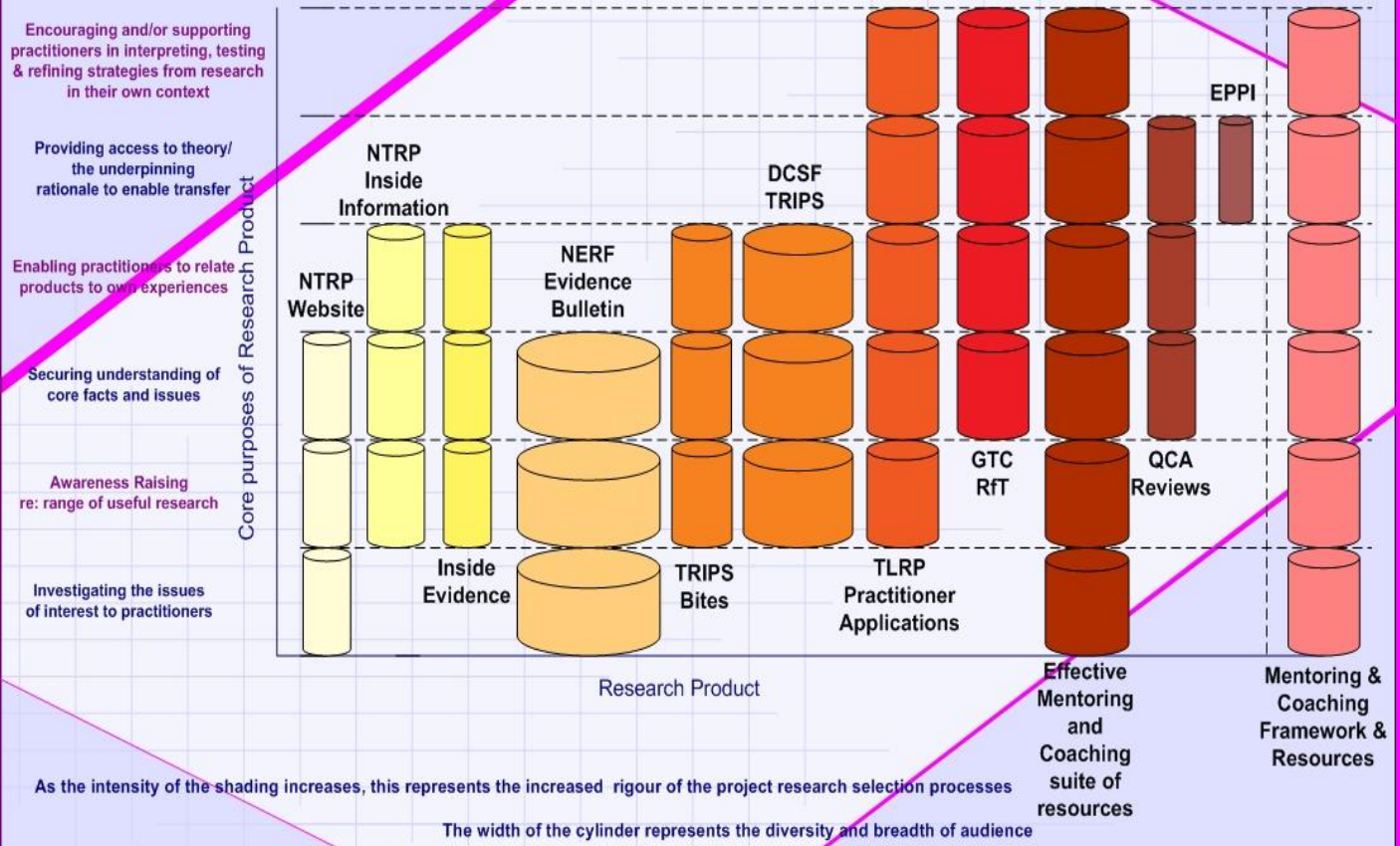


Strategic planning – ensuring resources to

- Secure understanding of core facts and issues
- Raise awareness re: range of useful research
- Investigate the issues of interest to practitioners
- Encourage practitioners in interpreting, testing & refining strategies from research in their own context
- Provide access to the evidence *and to theory/the underpinning rationale* to enable transfer
- Enable practitioners to relate research findings to own experiences



Products designed to raise awareness of and practitioners' engagement with research





Personalising access e.g. via Route maps

Communicating with teachers about research (Free Resources)



Gender Differences
On this line you will find resources which will help you investigate whether either gender is advantaged or disadvantaged at Blackthorns.

Using and carrying out research
On this line you will find resources which will help you use and carry out research effectively

Teaching Phonics
On this line you will find research about phonics which can be used to stimulate your own action research.

Developing our Curriculum
On this line you will find resources about the important factors to consider when developing our curriculum. As we are particularly looking at developing our curriculum in science we have included some examples from this subject.

The dotted line is used for areas where the evidence base is not so mature.

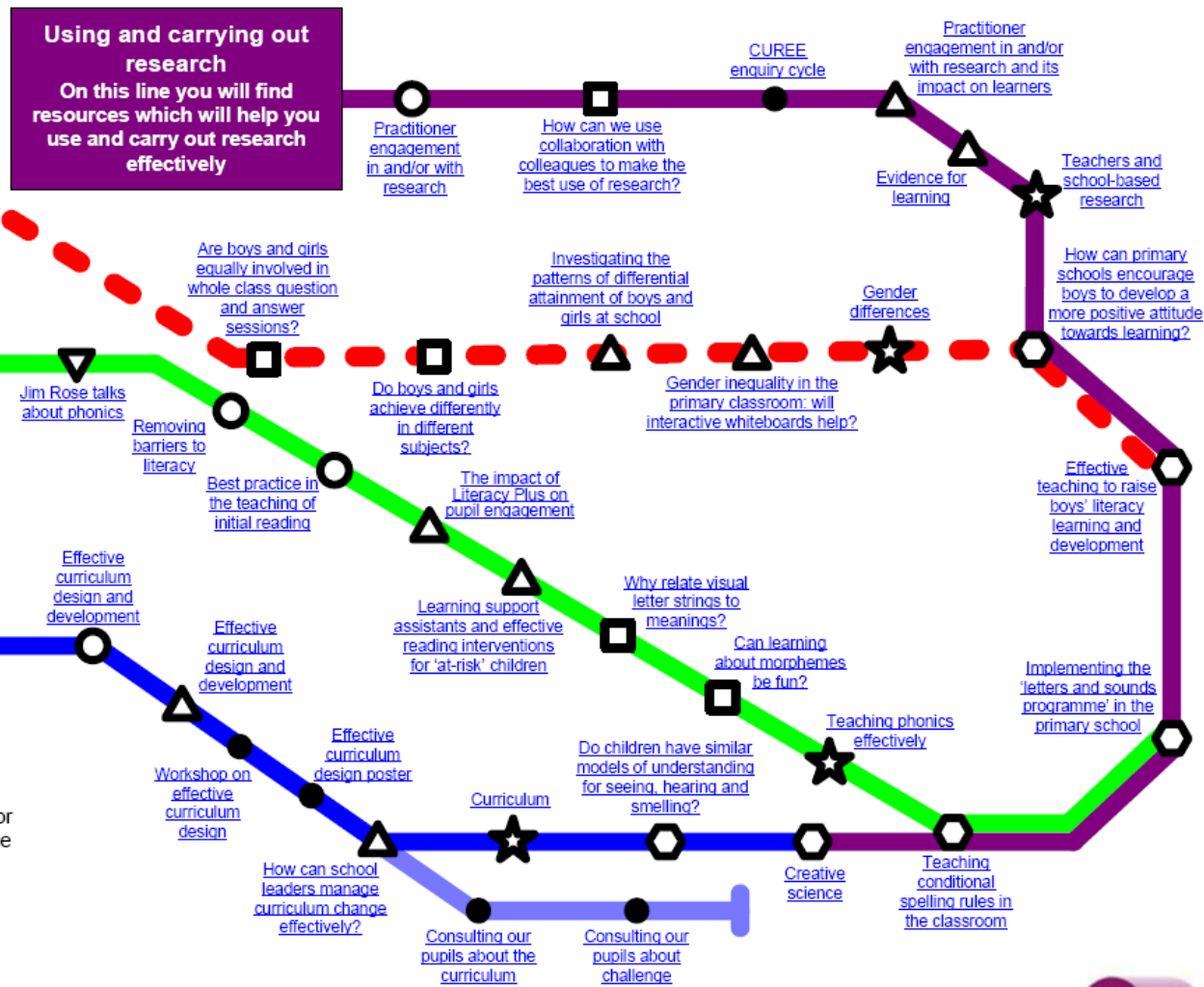


Key

- Bites - short and engaging PowerPoints
- ◻ Tasters - micro enquiry tools to try with your students
- ◕ Teacher research summaries
- ◔ Video clips
- ◤ Practitioner friendly summaries
- ★ Links to RfTs - summaries of longer research reports with case studies
- Practitioner tool



Blackthorns Routemap



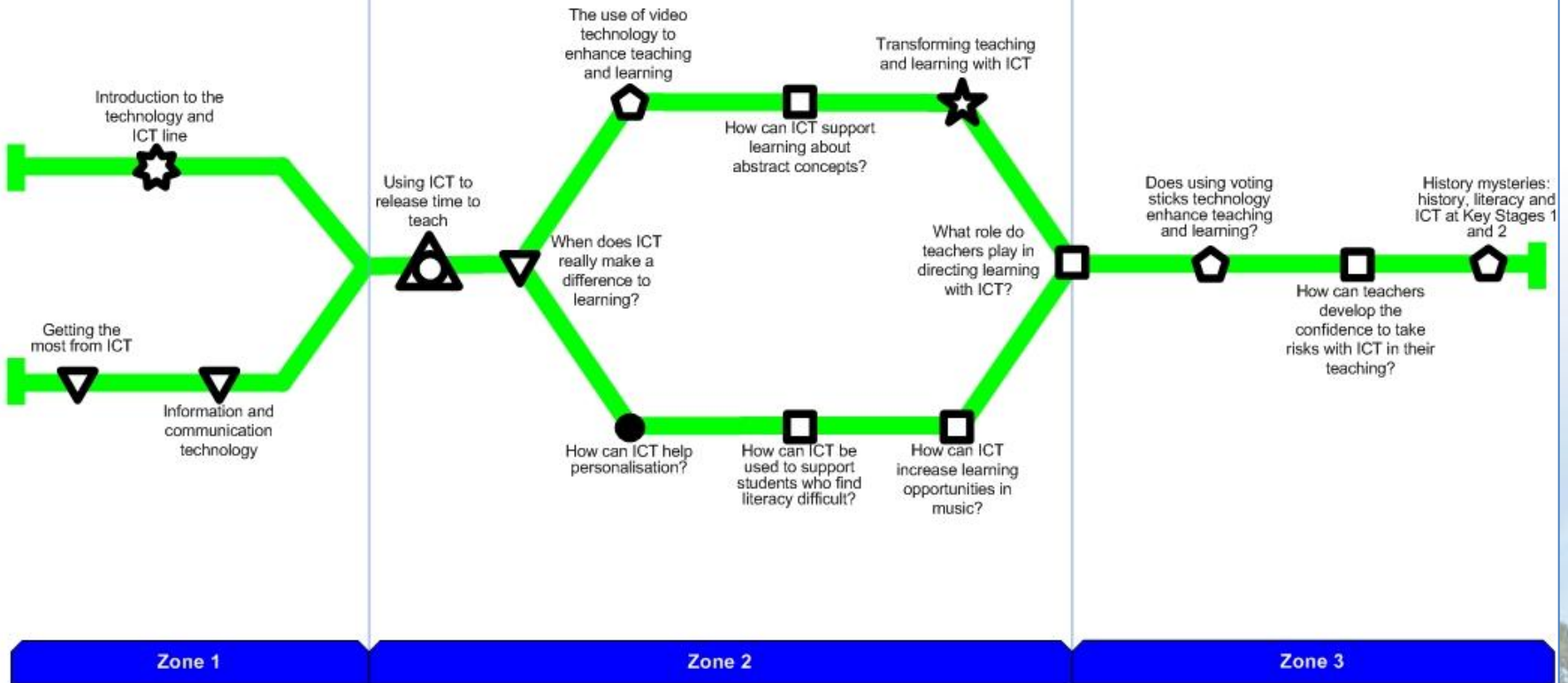
Use of New Technologies and ICT in the Classroom

On this line you will find a range of useful resources to support you in using new technologies and ICT in the classroom.

Zone 1 - Gain an overview of the evidence

Zone 2 - Explore the research evidence in more detail and collect evidence from your pupils

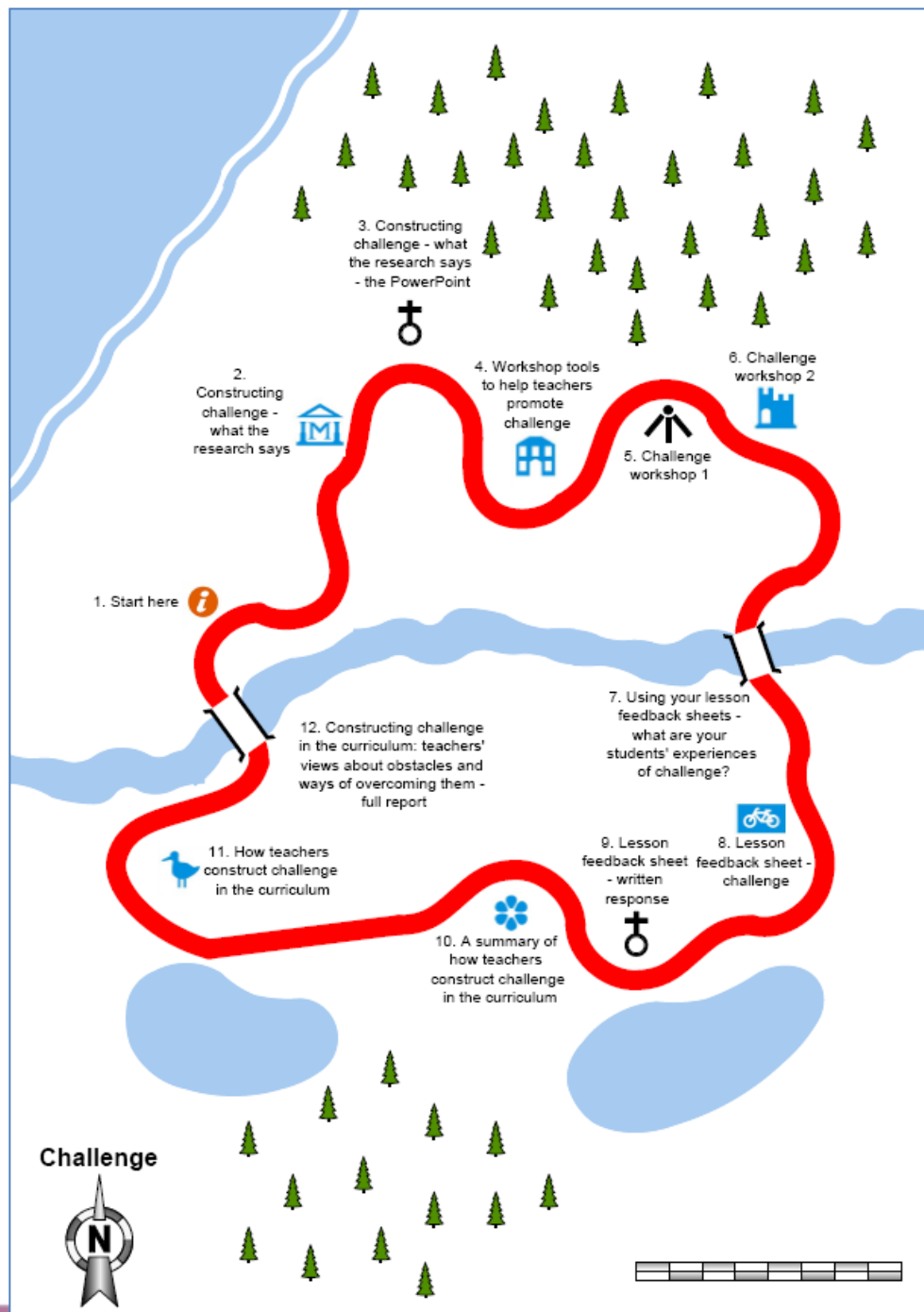
Zone 3 - Find out how other teachers have developed their practice



Key

- | | | | |
|---|----------------------------|--|--------------------------------|
| Bites - short and engaging PowerPoints | Teacher research summaries | TRIPS - practitioner friendly summaries | Extract from a research report |
| Tasters - micro enquiry tools to try with your students | Research article | Overviews and links to longer research reports with case studies | Introduction to the line |

Generic ICT Line



Demand

- Grants for flagship teacher, school network research working to quality standard and peer review
www.ntrp.org.uk/content/what-can-research-do-cpd-coordinators
- Model, promote engagement in & with research via:
 - National Teacher Research Panel acting nationally & locally e.g. biennial National Teacher Research conferences and “dine and discuss” meetings
 - Regional/ local networks e.g. Dorset and Flare
 - Teacher Associations promoting research or research themes
- Include engagement in and with research in policies professional Standards, inspection frameworks
www.education.gov.uk/schools/toolsandinitiatives/schoolswhitepaper/b0068570/the-importance-of-teaching/



Quality and capacity building

- Willingness to push through methodology wars e.g.
 - over swinging pendulum re teacher use of knowledge base
 - recognising value of mini experiments as well as qualitative work
 - Importance of generalisability, large samples and isolation of variables for deciding *whether* to impose approaches
 - Importance of qualitative methods in supporting interpretation/valid adaptation for context
- Developing an *explicit* teacher owned quality framework/s with an action orientation
- Involving teachers in peer review – of own and of academic research



Quality and capacity building

- Developing systematic reviewing to enhance research literacy across policy, research and teacher community
- Improving the quality of writing for policy and teacher users – to reveal limitations as well as strengths
- Funding participation of teachers in larger research projects as co-researchers and advisory group members, partnerships with universities
- Threading engagement in and with research through the bigger initiatives e.g. re: assessment for learning, Dialogic teaching enhancing numeracy etc.



The journey for the UK

- Top down – Teacher Training Agency mounted 1st teacher and school research schemes as a catalyst
- Sideways on:
 - Local Authorities followed suit
 - National Union of Teachers – 1st sponsor of research reviews, research based CPDL/coaching and thematic teacher research programmes
- Bottom up – National Teacher Research Panel championed teacher engagement in and with research, modelled quality, established a quality framework and peer review process, biennial teacher research conferences



In summary

- In the end research use and capacity building are learning problems
- What you know already about learning for young people and teachers in your country is the key to building on starting points to create research informed capacity building
- In our country two key hurdles:
 - anti intellectualism and the tyranny of common sense
 - Anxiety about experimenting and risk taking in face of hugely explicit, high stakes accountability systems



Merlin, Arthur and professional learning



The book of Merlin, T H White

Merlin” said the King, “tell me the reason for your visit. Talk. Say you have come to save us from this war.”

“No” replied his former tutor “it is hopeless doing things for other people. The only thing worth doing for the race is to increase the stock of ideas. Then, if you make available a larger and deeper stock, the people are at liberty to help themselves from out of it . By this process the means of improvement is offered, to be accepted or rejected according to their need. Such is our business, to open up new ideas (and practices).”

“You did not tell me this before.” Replied Arthur “You have egged me into *doing* things all my life, the chivalry, the Round Table. What were these but efforts to save people and to improve how things are done?

“They were ideas” said Merlin firmly, “rudimentary ideas. All thought in its early stages begins as action. The actions which you have been wading through have been ideas, clumsy ones of course, but they had to be established before we could begin to think in earnest. You have been teaching man to think.”

“So my round table was not a failure Merlin?” - “Certainly not, It was an experiment”.





Contact Details

philippa.cordingley@curee.co.uk

www.curee.co.uk

Centre for the Use of Research
and Evidence in Education

4 Copthall House

Station Square

Coventry CV1 2FL

England

+44 2476 524036



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