

Continuing Professional Development and Learning – practical tools and protocols for making this work

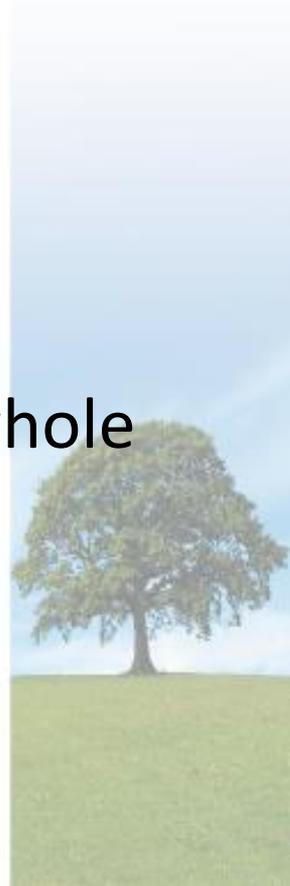
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Education (CUREE)





Practical, research-based tools for high quality, research-informed CPDL

- Focussing on our learners
- Reviewing a researched case study of CPD
- Practical ways to use tools and protocols:
 - Collaborative enquiry or
 - Evidence-rich coaching and or mentoring
 - Lesson studyto integrate disparate activities into a coherent whole
- Some examples of tools related to our goals
- A metaphor



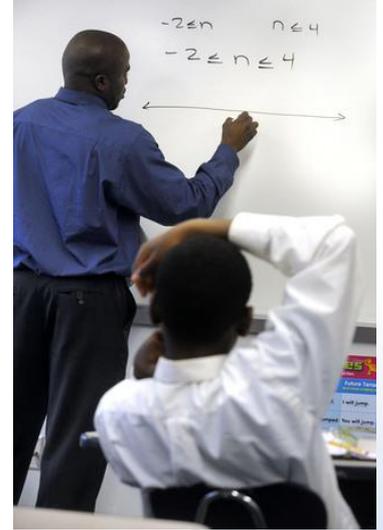
A case study of powerful CPD

Making algebra meaningful

Ensuring students engage deeply with algebra from the start

Alf started by researching, with his class and a history colleague, what great Algebraists had achieved and what they did to solve important problems e.g.

- think for themselves,
- notice and write about what they are doing,
- ask why things work,
- look for patterns; and
- get organised



Alf Coles – making algebra meaningful by changing classroom culture

- Alf and his tutor turned these habits into criteria for tracking progress and shared them with students
- He designed learning tasks to generate these behaviours, help him and students spot and celebrate progress and plan “deep dives” for the greatest challenges



A key tool for Alf's pupils and his own learning

Key to this were Common Boards where students:

- Pinned work for completion by others
- Invited comments/checking by others against frameworks
- Offered and/or asked for feedback
- Recorded results and thinking for others to analyse/classify
- Identified patterns in working strategies and common mistakes



Ongoing support

- Alf took photos of the Common Boards and explored what they revealed about students' progress with:
 - the tutor supporting his research; and
 - colleagues teaching mathematics to other year 7 classes
- He found this so useful he invited pupils to do this with him, against their shared criteria for being an effective algebraist, at the end of lessons.
- He used these discussions to shape and refine future lessons



Results

- After 15 weeks all the students were:
 - Recording and analysing their mathematical thinking
 - using symbols to express their own ideas
 - Asking “can we do this for n ” in problem solving
 - Understanding algebraic statements in different contexts and identifying what was useful and efficient
 - Equivalent of A or B grade in Algebra papers in external assessments for 16 year olds by students of 11
- Teachers of other subjects approaching Alf about harnessing students’ learning in other subjects

<http://www.curee.co.uk/node/4818>



Reflection

- What do you think are the key features of that example that link to the research about effective CPDL?
- What might different elements mean for you and your focus students?
- Use the grid on the next slide to focus your thinking with a partner. Start with a different row each and compare notes



Key components of effective CPD	What Alf did	How my focus students might benefit
Access to specialist expertise		
Sustained, iterative experimenting with new approaches		
A focus on ambitious aspirations for students		
AFL to help refine the approaches of Alf & his tutor		
Tools and protocols to keep things going		
Developing theory and practice side by side		
Peer supported dialogue re learner responses		
Exploration of assumptions		

Common approaches and examples of protocols





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Collaborative enquiry

Work with a tutor and a partner to

- Explore obstacles to progress for focus students and set aspirations for them and for you
- Use research to identify ways of addressing them
- Experiment with new approaches/ ways of thinking
- Plan how to capture and reflect on your own and focus student's learning
- Explore your learning and refine your approach with peers and experts

Repeat through several cycles and for different sub groups <https://www.noii.ca/wp-content/uploads/2018/01/SOI-Stages-Feb-2016.pdf>



Collaborative enquiry

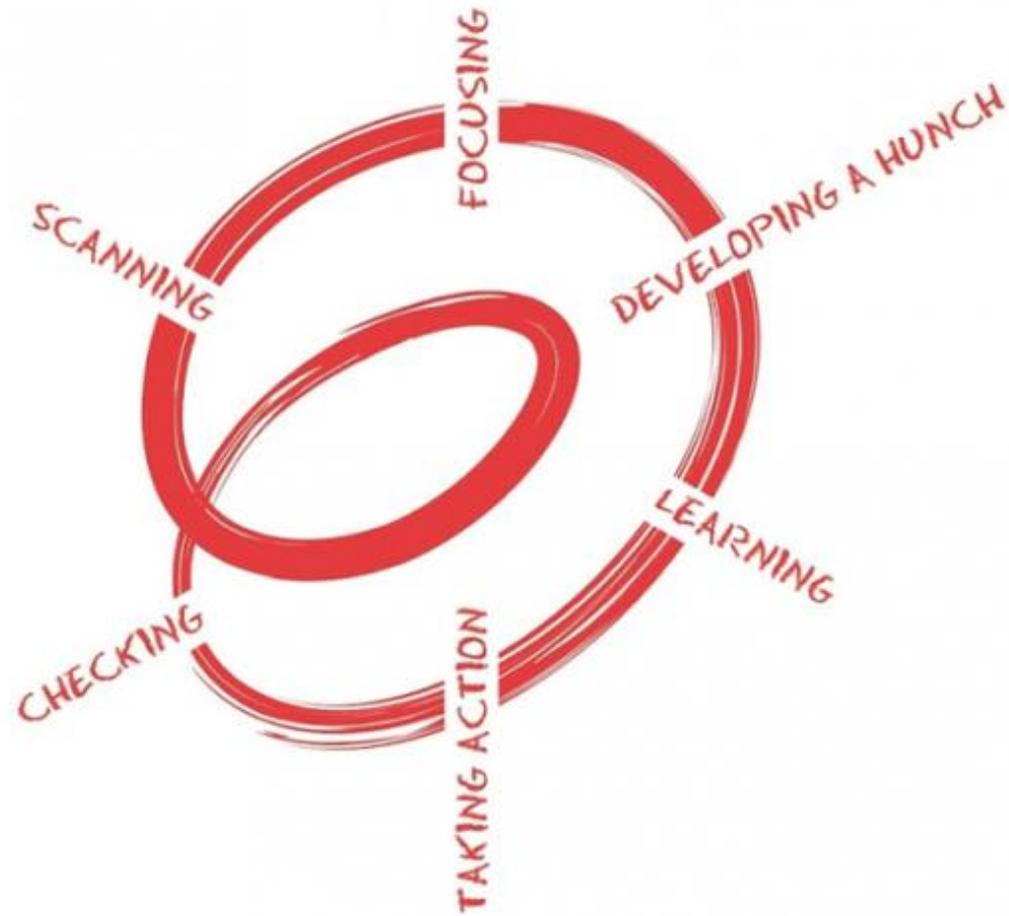
Work with a tutor and a partner to

- **Scanning** Explore obstacles to progress for focus students and set aspirations for them and for you
- **Developing a hunch** Use evidence to identify ways of addressing them
- **Taking action** Experiment with new approaches/ ways of thinking
- **Learning** Plan how to capture and reflect on your own and focus student's learning
- **Checking** Explore your learning and refine your approach with peers and experts

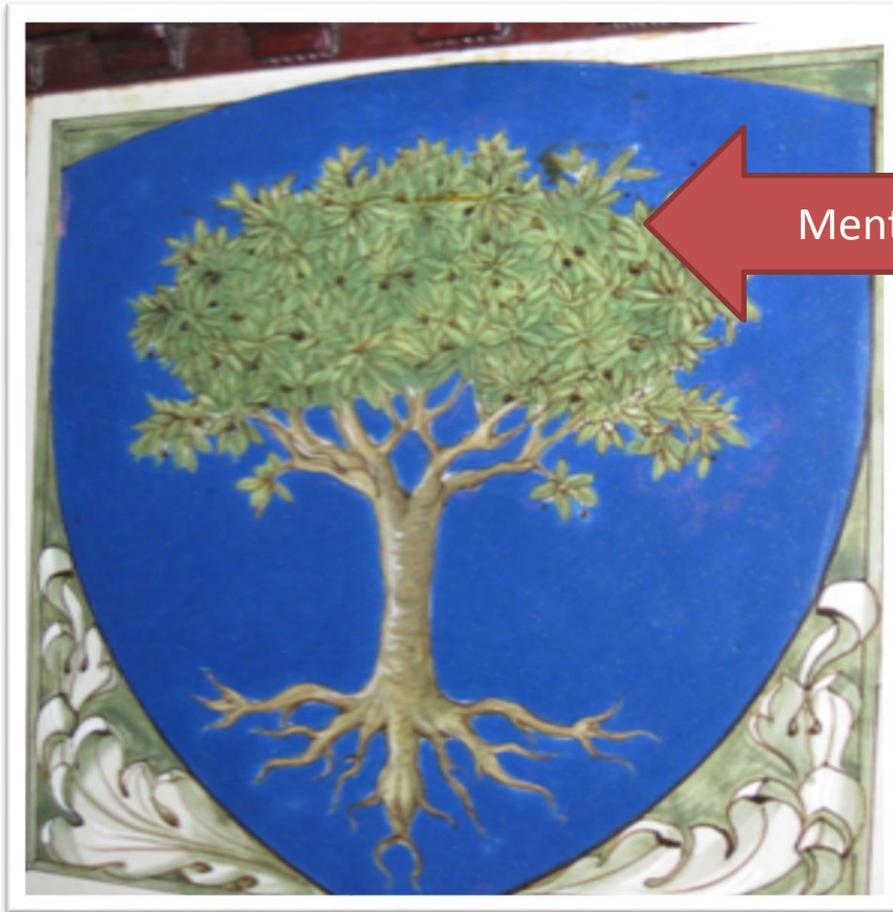
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Spirals of enquiry



Evidence based coaching and mentoring



Mentoring is a structured, sustained process for supporting professional learners through significant career transitions





Specialist Coaching

Specialist Coaching is a structured, sustained process for enabling the development of a specific aspect of a professional learner's - often embedded within mentoring





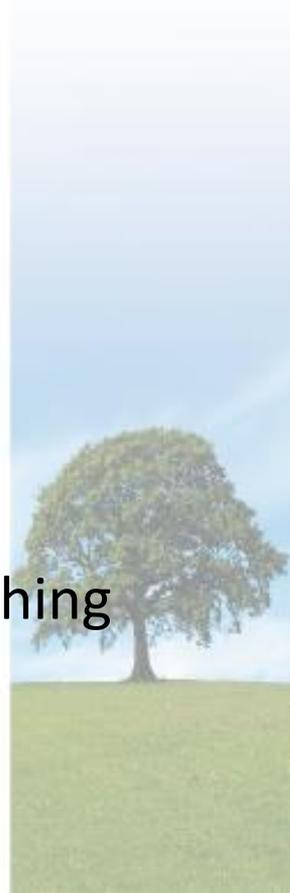
Co-coaching

Collaborative (Co-) Coaching is a structured, sustained process between two or more professional learners to enable them to embed new knowledge and skills from specialist sources in day-to-day practice.



The Welsh Framework for mentoring and coaching

- CUREE created a National Framework for the Welsh government to clarify the research evidence <https://bit.ly/2tHNJWs> and support the new Professional Learning Framework
- It comprises 4xA4 –
 - A set of ten shared principles,
 - A map of the who, where, why, when
 - A summary of core skills
 - A map of overlaps between mentoring, specialist coaching and co-coaching



Mentoring and coaching - core activities

- Identifying learning goals
- Increasing learners' control over their learning or recognising it
- Active listening
- Modelling, articulating and discussing practice to raise awareness
- Providing guidance or Shared planning
- Action planning
- Sharing and reviewing learning experiences
- Evaluating evidence to plan next steps





A key skill - Listen actively

Mentoring	Specialist coaching	Co-coaching
Accommodating and valuing silence	Accommodating and valuing silence	Accommodating and valuing silence
Concentrating on what's actually being said	Concentrating on what's actually being said	Concentrating on what's actually being said
Using affirming body language to signal attention	Using affirming body language to signal attention	Using affirming body language to signal attention
Replaying what's been said to reinforce, value and re-frame thinking	Replaying what's been said to reinforce and value thinking	Replaying narrative using PI's own words to check meaning and or value thinking

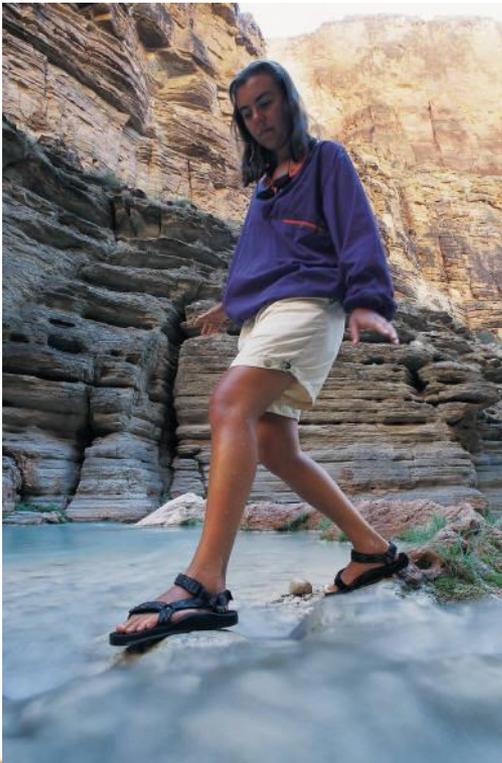
<p>1. Identifying and refining a focus for learning</p> <ul style="list-style-type: none"> a) Can you tell me something about the situation you want to talk about? b) What's going well? What do you enjoy? c) Where is it that you get surprises or feel you struggle? d) What do you want to change? e) That sounds like a lot of things bound up together can you unravel one of the threads? 	<p>2. Exploring why things work the way they do</p> <ul style="list-style-type: none"> a) Can you describe what you do now? How do your students respond? b) Can you think of two different students or groups who respond differently to a strategy - what are the key differences? c) Why do you think things work out the way they do? d) What keeps things the way they are? e) What strengths can you build on here and why do you think they are strengths?
<p>3. Exploring alternative possibilities</p> <ul style="list-style-type: none"> a) How do you want things to be in 3 months/6 months time? b) What would it look like if everything were going just right? c) How would you like things to be in an ideal world? d) What's the best possible outcome? e) What are some of the possibilities? f) When does it work best? 	<p>4. Planning the next steps</p> <ul style="list-style-type: none"> a) What concrete things are you aiming for? b) What practical steps do you need to take to get there? c) What's your first step and deadline? d) What support do you want to secure for yourself? e) What are you going to do next?

An important part of an effective learning conversation is to build appropriate pace to ensure that professional learners have sufficient time to focus on their priorities. The fifth set of questions below will help mentors and coaches to do this.

<p>5. Building appropriate pace into your conversations</p> <ul style="list-style-type: none"> a) Shall we move on because this seems like a good place to look at...? b) I think so far we have looked at ... x, y, z but we haven't yet had chance to consider p, shall we focus on that now? c) These are all interesting strands of thinking – shall we make a note of them so we can choose one and come back to the others? d) What do you think the trickiest issues are – should we focus on those?
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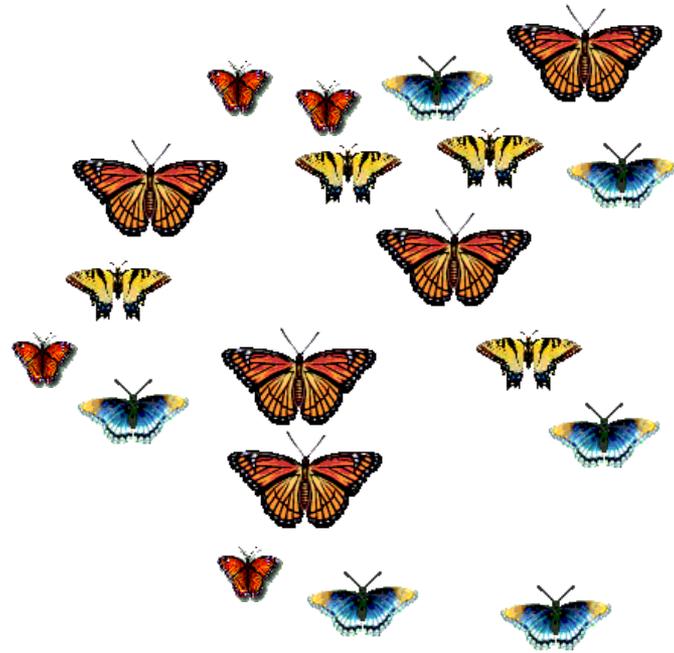
A metaphor for the role of tools and evidence in effective CPDL

Collaboration, tools and shared risk taking focussed on aspirations for students represent stepping stones...



... and the evidence used and evidence generated and explored create a handrail







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