Why Action Research?

Action Research (AR) has long been recognised as being particularly effective in developing teachers' pedagogy as it initiates a change of practice. AR is a way of researching your own practice in your own setting, and considering the impact it can have on the learners you know. Some teachers may have undertaken AR previously as part of their professional development or when they were training. It can be a really effective way of informing your own practice and is a recognised way of developing shared understanding about effective teaching and learning in mathematics.

Action Research in mathematics would normally start with an aspect of mathematics teaching and/or learning that needs to be developed and would then consider interventions that could be undertaken to improve that practice. Reflection and evaluation is a major asset to effective action research: if something isn't working, a different approach can be adopted or adjustments made. The impact of the intervention/s would then be measured, possibly leading to further cycles.

The NNEM practitioner researchers will collaborate in a wider network and will interact with partners in higher education, who will ensure that current research evidence is considered. Furthermore, the work of the action researchers will feed in to a programme of research workshops in schools and colleges in each education consortium in Wales.

There are some examples of the focus of some published action research projects on the National Centre for Excellence in the Teaching of Mathematics website.

Early years and primary mathematics:

- Investigating how children's play can enrich the early mathematical experience
- A Structured Approach to Teaching Problem Solving: an action research study
- Designing rich tasks: A personal action research project into the importance of task design

- Developing the use of models and images to support progression and proficiency in subtraction and division methods throughout the school.

Secondary mathematics

- Does a carefully designed scheme of work lessen the preconceived misconceptions a pupil might have in a topic?
- To improve achievement at A*-C grade in Mathematics by developing teachers' understanding and use of Cognitive Acceleration (CA) and Conceptual Development.