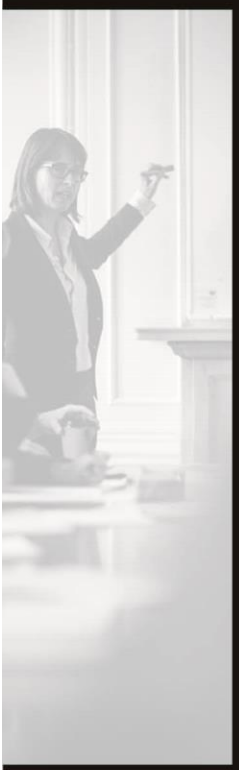
ACCESS AND WIDENING PARTICIPATION

UCL



Teacher Action Research Project (TARP): Inform, Inspire and Impact

2019 Project Evaluation Report

“…for me as an educational professional it has given me the confidence, the information and the skills that I need to be able to start some kind of small teacher action based research in my school – and I would say that’s the benefit for my school.”

Teacher

Report Foreword from the UCL Access and Widening Participation Office

UCL has one of the largest Widening Participation teams in the country, working with prospective students, parents and education professionals. Our work is ambitious in scope and evidence-informed to ensure that activity, policy and practice can effectively support students from economically disadvantaged and under-represented backgrounds into and through higher education.

As one of the world's leading research institutions we are committed to sharing our knowledge, expertise and resources with our colleagues in schools, working together to identify effective practice that will help to close the attainment gap between disadvantaged students and their peers. Our Teacher and Professional Engagement team run a number of programmes for teachers as we recognise that this work is crucial in helping us support students who may face particular barriers in accessing higher education.

In the summer of 2018 we expanded the work of the team to include research, and used our Teacher Summer School as the starting point for teachers who were keen to learn more about engaging with, educational research. The 'What Works in the Classroom?' Teacher Summer School was designed to equip teachers with the skills and confidence to approach evidence and research and apply it to their classroom practice.

The Teacher Summer School included a collaboration with the UCL London Centre for Leadership in Learning, which offered teachers the chance to learn more about the research and development process. Attending teachers were offered the opportunity to develop their knowledge and skills by applying for a one-year action research programme that had a particular focus on supporting the attainment and progression of students who are under-represented in higher education.

Eight participants were selected for the programme and UCL gratefully acknowledges the commitment of participating teachers from the following schools:

- Admiral Lord Nelson School, Portsmouth
- Ark Evelyn Grace Academy, London
- The Bemrose School, Derby
- Bullers Wood School, Kent
- Sir Christopher Hatton Academy, Northamptonshire
- The Duston School, Northamptonshire
- Holy Trinity School, Barnsley
- The Palmer Catholic Academy, Essex

We hope that you find this report interesting and that it helps to inform your own approach to action research and evidence-informed teaching. For further information about UCL's Teacher and Professional Engagement work, or our Widening Participation activities for students please visit

www.ucl.ac.uk/wp

UCL Access and Widening Participation Office
August 2019

What was TARP?

Between October 2018 and June 2019 a group of eight secondary school teachers from across England met on three occasions at the UCL Institute of Education (IOE) to take part in a Teacher Action Research Project – TARP. The teachers had previously attended the 'What Works in the Classroom?' Teacher Summer School in June 2018, a two-day programme that focused on equipping teachers with the knowledge, skills and confidence to approach evidence and research in the classroom. The Summer School and subsequent project was funded by the UCL Access and Widening Participation Office, whose remit is to increase the number of students from under-represented and disadvantaged backgrounds at leading universities. TARP was delivered by Mark Quinn (also author of this report), a programme leader at IOE London Centre for Leadership in Learning (LCLL).

Over the three sessions, the participating teachers learned how to:

- Write a research question which would be meaningful to their own practice
- Access the existing research base
- Plan for the implementation of an innovation to their practice
- Collect baseline and impact evidence
- Track evidence of change in teacher practice or student behaviour and outcomes
- Mobilise new knowledge so that colleagues might learn from their experience

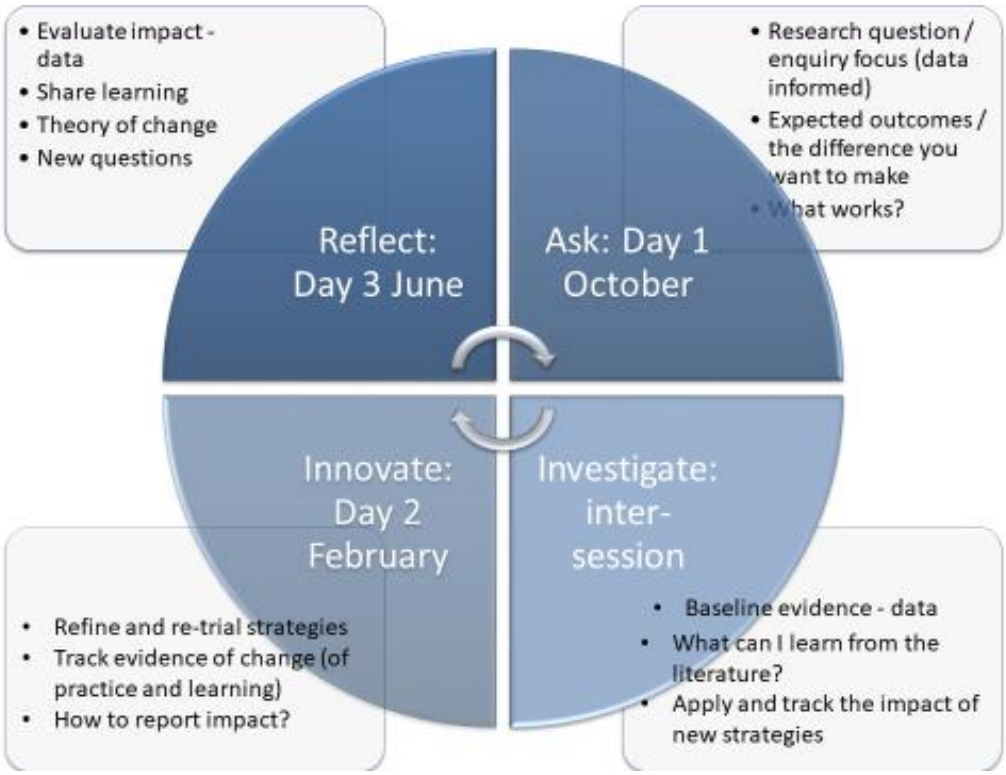
The teachers chose from a series of themes suggested by the UCL Access and Widening Participation Office, which included raising academic attainment with a particular focus on literacy and numeracy, developing non-cognitive skills e.g. oracy, school engagement and self-efficacy, and parental engagement. Within this framework teachers were free to propose interventions that they judged likely to make a substantial difference to their own students: some focused on aspects of their classroom practice that they wished to adapt; others conducted their action research on an element of their wider school responsibility. The only stipulation was that they must concentrate on outcomes for their *disadvantaged* students. For the purposes of TARP, disadvantage was defined as:

> *Pupils from groups that are under-represented in higher education: those from lower income and lower socio-economic backgrounds, Black African and Caribbean pupils, disabled pupils, care-experienced pupils, young carers, pupils from Gypsy, Roma or Traveller backgrounds, refugees or forced migrants, pupils with specific learning difficulties and mental health problems.*

We were looking at outcomes that may contribute to the likelihood of progression to Higher Education, including attainment, attendance, wellbeing and any of a range of other factors that might be likely to support attainment, progression and student wellbeing. The TARP participants were:

Alan Chan	The Palmer Catholic Academy
Jennifer Coe	Sir Christopher Hatton Academy
Martin Hanlon	Ark Evelyn Grace Academy
Emma Hughes	Admiral Lord Nelson
Rebecca King	The Duston School
Lauren Mitchell	The Bemrose School
Catherine Newton	Holy Trinity
Siobhan Osborne	Bullers Wood School

Research and Development



TARP was modelled on the LCLL approach to Research and Development (R&D). This was a deliberately iterative process: the teachers were invited to construct their research questions and methodologies at the outset, and were encouraged to refine these as the action research process unfurled. We kept in mind at all times that the participants were teachers first; that their responsibilities were primarily to their students and colleagues; that the evidence they collected was not to meet some predetermined methodological standard but rather the more modest requirements of their own projects. We know from Greany and Brown (Greany and Brown, 2015) that 'The evidence that research can impact positively on teacher practice and school improvement is strong. The challenge is how to make it happen.' We also know that the majority of educational research is done to teachers rather than by them. As long ago as 1975, Stenhouse (Stenhouse, 1975) was saying: 'all well-founded curriculum research and development… is based on the study of classrooms. It rests on the work of teachers. It is not enough that teachers' work should be studied: they need to study it themselves.' Stenhouse was clear that teachers themselves needed to be engaged in research. We know from Coldwell *et al*'s report for the Department for Education (Coldwell et al, 2017) that schools' engagement in and with research is variable, and that teachers' confidence in accessing published research is patchy. However, the same report states:

> *'Teachers trusted research evidence when it was supported by other evidence sources. Most teachers were unlikely to be convinced by research evidence on its own: they needed to have this backed up by observing impact themselves or hearing trusted colleagues discuss how it had improved their practice and outcomes for young people.'*

The LCLL has developed a framework for connecting the evidence arising both from formal academic research and the data found and generated in schools. This underpins our message that evidence-informed practice (EIP) does not favour one form of evidence over another, but that all should be interrogated carefully by teacher leaders,

> *'thereby generating powerful questions and investigating issues of compelling interest to their teams and schools.'*
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> Spence-Thomas and Quinn, 2018

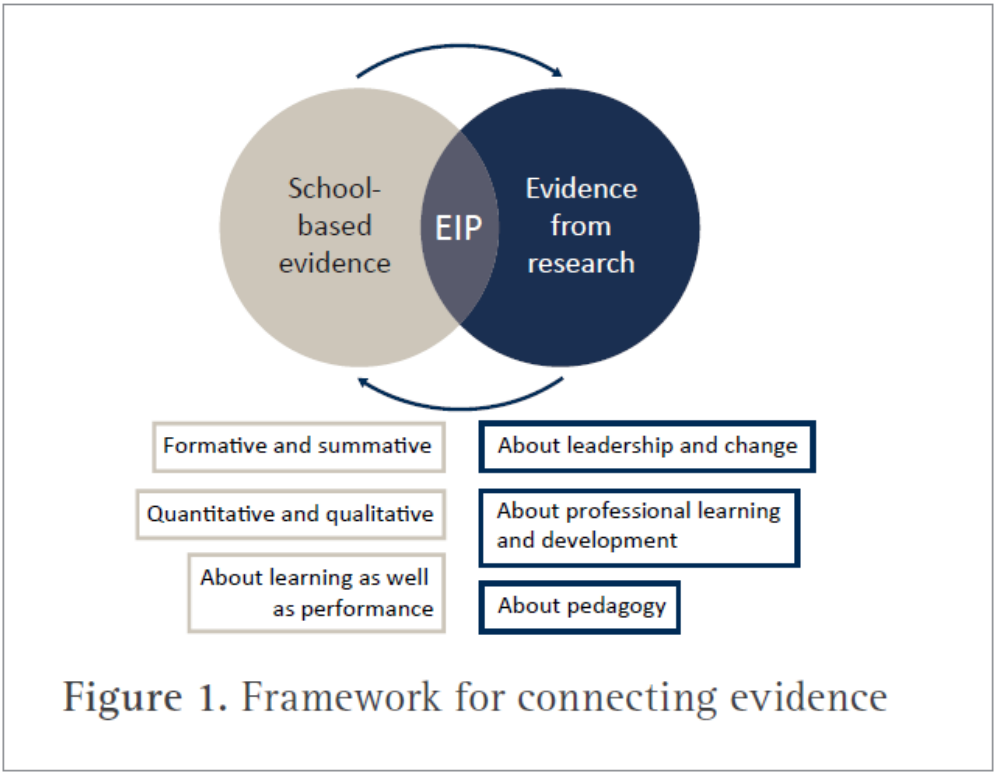

Figure 1. Framework for connecting evidence

Action research and systematic practitioner enquiry, drawing upon this connected evidence and rooted in teacher and student experience, is therefore a powerful way for teachers to improve their own practice and affect the practice of others.

Summary of the interventions and outcomes

The participants chose their own action research projects but retrospectively they can be very loosely grouped into three categories. Alan, Martin and Lauren were all interested in the process of student learning; they were keen to increase their students' awareness of how they learn, and to see the extent to which this would contribute to their academic progress. These projects may be labelled *metacognitive strategies*. The self-regulation of learners was a feature across several other projects. Siobhan hypothesised that, to address the demands of new linear exams at A level, teachers needed to address the metacognitive skills of their students and could best achieve this through explicit modelling of written responses; Rebecca and Catherine are both English teachers whose projects focused on boosting subject-specific vocabulary in Key Stage 4. These three enquiries can be loosely grouped as *language and literacy*. Jennifer was interested in the link between students' self-efficacy and realistic career choices; Emma's project saw her department take a range of new evidence-informed approaches to teaching Geography at Key Stage 3. These last two come under the very broad heading *curriculum development* but, like the rest, are complex interventions concerned largely with students' self-regulation.

> *"…basically we were getting really down to the bones of you how to do a really effective and simple piece of research…"*
>
> Teacher

	What they did	What they found
Metacognitive strategies		
Alan	Adapted his teaching in a number of ways (quizzing prior knowledge, extending opportunities for independent practice, modelling thinking by 'talking aloud') and provided structures for homework ('The 5Rs learning log', metacognitive prompts, reading comprehension checklist) to his Year 10 history students.	Understanding of metacognition improved for all but a small minority of disadvantaged students. Internal assessments showed progress gains in the short term, but these were not easily sustained. The students' intrinsic motivation, their attitudes to the subject and their relationship with the teacher remain crucial factors.
Martin	Embedded retrieval practice activities, such as low-stakes quizzing and brain dumps, into his teaching of Year 13 English Literature.	Placing subject knowledge at the heart of the curriculum yields significant benefits, including growth in student confidence and their trust in the teacher, and the freeing up of cognitive space to concentrate on structuring essays and writing well.
Lauren	Met with a group of 5 students in Year 11 (selected for their low scores in a PASS survey) for 40 minutes at lunchtime once a week for two terms, to teach them how to use recall and retrieval strategies to support their revision and preparation for their exams.	In all but one case, learner self-regard increased amongst the group. They took a more independent approach to selecting and using appropriate recall and retrieval strategies and were open and willing to share these with their peers. They became more and more accountable for each other and encouraged one another to meet the demands of their courses.

Language and literacy		
Rebecca	Adjusted teaching of Year 11 English by: repeatedly questioning students on their knowledge of what characterises top level work; frequently exposing them to top level written responses using a visualiser; including key subject vocabulary in every lesson with explanation of definitions and demonstrating how to apply terms.	Modelling responses, a heightened focus on relevant terminology and repeatedly asking students to verbally articulate what a top level response looks like over a period of months improves the progress of High Prior Attaining Pupil Premium students, and indeed the other students in the class.
Catherine	This English department conducted a lesson study, providing KS4 students with tailored glossaries to improve their responses to Literature questions.	Improved the written outcomes of students who may otherwise have struggled to write 'clearly'. Students are confident with using vocabulary provided but do not necessarily have the tools to transfer this knowledge to other subject areas or to source vocabulary for themselves.
Siobhan	Structured use of past papers and model answers in Year 13 Maths and Economics classwork and homework over three months.	For the focus students in maths, although teacher data fluctuated, three students made progress and three remained on the same grade. In economics, one made progress and one stayed on the same grade.
Curriculum development		
Emma	Worked collaboratively with the geography team to introduce innovations to practice at Key Stage 3 including interleaving the curriculum, aligning it with other subjects, differentiating by 'teaching from the top' and encouraging students to 'think like geographers'.	Student self-reporting showed that, when 'thinking hard', most had moved out of the panic zone and into the stretch zone. There remained a direct correlation between lower prior attaining students and those still finding themselves in the panic zone. After only a few weeks, students of all abilities started to use vocabulary consistent with thinking like a geographer.
Jennifer	Investigated the extent of self-efficacy in relation to career choices among year 10 pupils from both low income and ethnic minority backgrounds. Introduced careers mentoring and options guidance across a 4-month intervention period.	Providing students with information allows them to feel more confident about their career decision-making and helps to break down the barriers to self-efficacy. Students can only be confident and overcome the barriers to self-efficacy if there are structured tasks to enable them to become more independent in their future search.

What TARP has to say about innovations that make a positive difference to disadvantaged students

There were many common findings across the eight action research projects. Many saw student confidence as a *prerequisite* to progress; others saw that increased confidence was an *outcome* of their projects. The same could be said for the issue of teacher-student relationships: some saw them improve, while others identified them as a continuing threat to successful outcomes. Teaching strategies that placed an emphasis on student self-reflection, their metacognition and self-regulation all had promising results for disadvantaged students and others. Likewise, modelling of exemplar answers, emphasis on appropriate subject vocabulary and the embedding of strategies which force students to retrieve prior knowledge: greater focus upon these pedagogical approaches did bear fruit for many of the disadvantaged students whose progress was tracked.

Not all projects succeeded on their own terms. Those where the number or complexity of interventions were greatest found it difficult to implement change or to track the impact of the changes they did implement. In some few cases, the participating teachers speculated that their innovation may have in some way hampered the progress of the students they were trying to help, but this was a minority finding. Others were able to reflect upon the extraneous factors which continue to impede the progress of their disadvantaged students.

Modelling

Modelling happened in several ways across the projects. In some cases this involved the use of a visualiser in class to highlight features of exemplary practice; in another it included the repeated use of model answers provided by exam boards; one teachers referred to the ‘talking aloud’ strategy, whereby the teacher models their thinking as they construct an answer ‘live’ in front of their class. Rebecca found that ‘it was clear that all students, disadvantaged or not, wanted to see what excellence looked like and had a genuine thirst for knowledge.’ The progress of her High Prior Attaining Pupil Premium students improved, but so did that of most of the rest of the two Year 11 English classes in her study. In a questionnaire one of her students said ‘it helps to see a plan so that you know the direction your writing has to go in.’

Siobhan – who had analysed the planning and teaching of A level subjects that had performed well since the reintroduction of linear exams – wanted to see what lessons could be learned by those departments whose results had dipped. A student survey (targeted at the eight bursary students in maths and economics) revealed that students wanted more modelling of exam questions in their weakest areas. They identified this as the area that would help them improve the most. Teachers in both subjects agreed to a six-week implementation of explicit modelling – specifically of exam board answers and typically within homework – and to track the impact upon the bursary students through internal assessment and mock exams. The effects in maths were variable (and hard to pin down due to the fact that students would find some assessed topics harder than others) but half the bursary students in the set improved their grade while the rest remained as they were. The picture was similar in economics, where one bursary student improved their grade while the other remained static.

Building good relations and a culture of trust

Rebecca contended that 'establishing a culture of trust within a class is central to students making progress.' Alan also saw trust, and a positive attitude to the subject and teacher to be a pre-requisite for success. He termed this as 'intrinsic motivation', which, he said:

> *'is key to the success of any action research and this in part, is shaped by a complex interplay of forces such as the ability of the students', their disposition towards the subject (whether they feel they are any good at it or not) and most crucially, the relationship with the teacher.'*

He went on to identify what he saw as a direct correlation between those occasions when the teacher-student relationship had become strained and the relatively poor participation of these students in the research. In what he termed a 'variation on the Hawthorne Effect', a few students deliberately undermined his research efforts because of their strained relationship with his subject.

Trust was also on the mind of Jennifer's students, but in a contrasting way. In an online survey she conducted with Year 10 students at the start of her project, not one of the students said that they wanted a talk with a qualified careers adviser, even though two-thirds of them agreed that it was important to start thinking about their next steps. This she identified as a key barrier to their self-efficacy, which results in them routinely opting for further study that they are unlikely to qualify to access. Instead – as a marker of how they are more willing to enter into dialogue with teachers they know and trust – 17% of respondents said that they preferred a careers meeting with Jennifer herself.

Some participating teachers pointed to the trust that was an outcome of involvement in the project. Lauren (who ran a lunchtime group intervention focused on the students' knowledge retrieval skills) saw that 'as the interventions progressed, the girls started to become more and more accountable for each other and encouraging one another to meet the demands of their courses.' She spotted a relationship between that burgeoning culture of trust in the group and their regard for themselves as learners, which (for all but one of the group) improved also. Martin noted that, the more familiar his Year 13 English Literature students were with simple cognitive processes and the rationale behind the approaches to feedback he was taking, the more they trusted him and the tasks he was setting.

Student confidence

For Martin, this trust in him and his teaching was a contributory factor in the students' growing confidence going into their exams. One of his students said she had begun to 'trust my own thinking'. Alan also found a correlation between students' deeper understanding of learning processes and their confidence and willingness to use them.

'[A]ll of the disadvantaged students said they had an improved understanding of metacognition and the practices associated with self-regulation and independent learning at the end of the research period than at the beginning… [This] reflected a growing confidence amongst some students that the skills of reflection and evaluation *were* being implicitly understood. This appears to be borne out by comments from the disadvantaged and other students who said that before the research, they simply completed the work in class with little thought, but now they take more time by "going over it" and "looking back at the textbook" and "double checking my work".'

That was clearly also the case for Lauren's focus group: the intervention helped improve how confident the students felt towards their own abilities. Among Jennifer's Year 10s, after the four months of her careers and options guidance programme:

> *'82% of the students felt that they were now more confident to make decisions related to their career paths highlighting that the project has been somewhat successful in breaking down the barriers to career self-efficacy and increasing student confidence.'*

She concluded that it was the early and structured nature of the intervention which helped the students become more confident in their decision-making.

Emma, implementing a new Key Stage 3 geography curriculum, explicitly measured the confidence of her students using 'feedback circles' in the lessons. She and her colleagues were alarmed at the high rate of students describing themselves as within the 'panic zone' when they were asked to think hard. But, persisting with their innovations – and in particular the demand that their students 'speak like a geographer' – they found gradually that 'most of the students moved out of the panic zone and into the stretch zone'. However, the picture was mixed. Students who were economically disadvantaged (receiving the Pupil Premium) responded in line with other students. But she found that the lower ability students were more likely to see themselves in the panic zone. 'Many were finding it hard to make sense of new concepts and knowledge and were underperforming as a result.'

The effect of a better vocabulary

Rebecca noticed that students, who were unfazed at the prospect of producing two to three pages of work would still feel anxious about giving 'the right answer', and this stopped them writing. A 'heightened focus on relevant terminology' was one of the factors leading to improved progress for Pupil Premium students with higher prior attainment. Emma's geographers, as they moved out of their panic zone, began to expand their discipline vocabulary.

> *'This started to finally pay off and after a few weeks teachers and students started to use these words as a matter of course (in the interviews this is something teachers referred to again and again and were quite amazed by.)'*

Catherine delighted that some of her students had become 'word hungry' – asking for vocabulary and prepared to use the thesaurus – but she sounded a warning note too.

> *'Students accessed and used a range of complex and higher level vocabulary that they would otherwise either not have the tools or confidence to access… Students are empowered when given tailored vocabulary – however students do not have the skills to be able to build upon this independently.'*

They remained reluctant to source higher level vocabulary for themselves, or to transfer the new vocabulary they had learned to other subject areas.

Metacognition and Retrieval Practice

Several of the TARP teachers used their enquiries to test their supposition that students make better progress the more they are aware of the processes of learning. As noted already, Martin found that his students trusted him and his methods the more they recognised that they had some basis in cognitive science. He concluded that placing subject knowledge at the heart of the curriculum yielded significant benefits that seemed to go beyond simply recalling knowledge.

'The ease with which the students retrieved information decreased cognitive load. It seemed that being able to retrieve knowledge with relative ease freed up cognitive space to concentrate on structuring essays and writing well.'

Alan's Student B (a boy eligible for free school meals) said of the process of self-reflection during Directed Improvement and Reflection Time (DIRT) that:

> *'I found self-reflection with the plenary questions to be most helpful in developing my skills and becoming more of an independent learner. This is because it gives me time to think about my work and see what I could do to improve it.'*

Lauren's intervention group began to bring in examples of dual-coding they had produced in Science and discussed flash card examples for their humanities revision.

> *'It was evident that they had not only taken a more independent approach to selecting and using appropriate recall and retrieval strategies but were also open and willing to share these with their peers.'*

Caveats

The TARP teachers reported several examples of considerable improvements for their disadvantaged students. Trust in their peers and in their teachers contributed to growing confidence in their own choices and abilities; they developed and practised strategies that would boost their subject-knowledge recall and language; they engaged in self-reflection and interacted with exemplar models; most of them made academic progress, as measured by their teachers' assessment. There were very many successes.

These were small studies, a few conducted across a department or between two or three groups, most confined to a single class. Within that, the teachers tracked the impact of their projects on the much smaller number of specifically disadvantaged students. It is an advantage of action research that it allows participating teachers to spot the often very small, yet significant, changes that can occur when a modification is made to teaching. The methodology is essentially qualitative, which allows the teachers to report on the attitudes and behaviours which are both factors in and outcomes of learning. But the datasets are necessarily tiny, and the measures of attainment – short of public examination data – are assessed by the teachers themselves. (TARP concluded before the end of the summer term, and this report was written before the release of the 2019 public examination data.) Consequently, the findings here are not to be taken as reliable judgements upon the teaching methods used. Rather they might serve as an encouragement to other schools to also embark in practitioner enquiries into practices that make a positive difference to disadvantaged students.

The teachers on the TARP were clearly invested in the successes of their interventions, and they were mindful of the pitfalls of bias. Several, in their own reporting, speculated upon the possible negative consequences of their study. Catherine's English department colleagues undertook a lesson study into the expanded use of higher order language to enable their students to express perspective. She noted that they enjoyed the 'safe' bank of vocabulary they were given and asked

> *'Are we inhibiting students by providing them with too much? Do we over-stimulate or confuse students with SEN? Some students feel they have to use every new word, which then makes their written responses convoluted.'*

Emma also expressed a residual concern for her lower prior attaining students. When she and her geography colleagues rewrote their Key Stage 3 curriculum to interleave it and draw links with other subjects, and when they explicitly upped the intellectual challenge, they found that their higher and middle prior attainers responded well. But the lower prior attainers – especially those deemed to be at Levels 1 or 2 – did not. Due to a shortage of teaching assistants, 'there seemed to be little we could sustainably do about this in the short term.' She remained confident in the approaches taken by her colleagues but was cognisant also of making too bold a claim.

> *'One would hope that the more challenging curriculum would give all students, irrespective of ability, a better chance of progressing to higher education through the language and access to deep mastery learning coupled with the interleaving and recall to help them retain the knowledge and connect it with new knowledge. However, at this stage, with this small study, it is very difficult to tell.'*

Alan was another who looked deliberately for negative consequences of his enquiry. He supplied his Year 10 historians with a considerable number of tools to use in class or at home, designed to aid their reflection and metacognition. He soon found that they were not being used.

> *'[T]he time-consuming nature of all three scaffolds were perceived to be an unnecessary workload, particularly when they could not see a direct relevance to either the content or the skills focus of the homework. "The learning journal took a lot of time and wasn't useful because it did not help me do my work and writing my thoughts seemed unnecessary and a waste of time so therefore I was unmotivated to use it".'*

He had tried to do too much at once. His enquiry points to the complex nature of teaching, how it is a tangle of different social interactions where the trouble is to identify the strands that do and do not work. By implementing so much, he struggled to see the effects of the individual things that he did. In the end, he did find that the large majority of his students, including all those who were disadvantaged, had an improved understanding of metacognition and the practices associated with self-regulation and independent learning. But he remained concerned that the process of change, whereby a teacher deliberately and explicitly alters the normal pattern of learning, can itself impede learning for some. Recalling the antagonistic attitude some already had towards his subject, and his attempts to introduce self-reflection scaffolds, he wondered had he made a difficult situation worse.

> *'This raises an intriguing question as to whether the negative perception of the scaffolds had dented students' motivation, or whether an existing predisposition had imperilled their use from the very beginning.'*

> **"…what I learnt was how to ask the right questions, how to think about how you're doing it, how to choose your target, and how to get data that's meaningful, and how to get every ounce out of that data that you've got…"**
>
> Teacher

Final comments

The Teacher Action Research Projects have made a positive difference to disadvantaged students in the eight schools. They have also affected the teachers themselves, their confidence as practitioners and their sense of place in the profession. All intend to continue with the practices they innovated this year, and several have expanded their plans.

Reflecting on TARP, Lauren commented:

> *'I think that to be effective educators, we need to be able to process, explore and consider the research before it is implemented, so that it can have a more positive impact on our students.'*

The success of Lauren's small group intervention has persuaded her school to enlist two additional staff members to deliver the programme to their own groups.

In Emma's school, they have moved to allot directed time to more regular collaborative departmental planning. The tailored vocabulary banks and vocabulary teaching strategies, that Catherine and her English colleagues trialled in their Key Stage 4 classes, are now to be embedded across schemes of work in Key Stage 3 as well. In a similar vein, Rebecca says she has since unpicked their Key Stage 3 curriculum and worked with other post-holders to 'design an academically robust programme of study that prepares students for a lifetime of studying English'.

For Siobhan, the project has made her think about 'how small changes can have an impact without adding to workload and that sometimes it is doing more of what already works rather than incorporating something completely new.'

Martin was also determined to be more evidence-informed in his practice.

> *'I think the thing that attracted me to TARP was the fact that actually what we are doing is looking at something that is a lot more research-based... it's much more useful to be thinking about what does make a difference in the classroom; how does one implement it; how does one disseminate it and how does one go through the process of being more professionally engaged with the science and craft of teaching.'*
>
> Mark Quinn, August 2019

References

Greany, T. in Brown, C., et al (2015) Leading the Use of Research & Evidence in Schools, London, IOE Press

Coldwell, M., Greany, T., Higgins, S., Brown, C., Maxwell, B., Stiell, B., Stoll, L., Willis, B. and Burns, H., (2017). Evidence-informed teaching: an evaluation of progress in England. Research Report. Department for Education.

Spence-Thomas, K., Quinn, M., (2018). Building Capacity for Learning through Research Engagement. BERA

Stenhouse, L., (1975). An introduction to curriculum research and development, London, Heinemann.