Teachers' Use of Research Evidence

A case study of United Learning schools

National Foundation for Educational Research (NFER) and United Learning

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Michelle Judkins
Oliver Stacey
Tami McCrone
Matthew Inniss

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Contents

Forewords

Carole Willis, NFER, Chief Executive

For our schools, and the young people they serve, to gain maximum advantage from the best available evidence, research organisations and schools have to work together. That is why I'm delighted with this partnership between United Learning and NFER, investigating how teachers can use research to inform and improve their practice. It is particularly encouraging that a teacher has played a key role in the planning and delivery of the research, and I know it has benefited greatly from his involvement.

This project itself encapsulates many of the principles it sets out to explore. I hope the findings will be of practical benefit to schools, particularly those seeking out new ways to integrate evidence-use into their practice. But furthermore, my hope is that the template it provides for how future research might be conducted (for example, with input from teachers at all stages), paves the way for an increase in the accessibility and relevance of *all* research for schools.

Jon Coles, United Learning, Group Chief Executive

United Learning is a group of schools which aims to provide excellent education to children and young people across the country. We seek to improve the life chances of all the children and young people we serve and make it our mission to bring out the best in everyone – students, staff, parents and the wider community. We are uniquely united across both the state and the independent sectors; we make learning and improvement our focus. Together, we are one of the country's leading education providers, currently educating over 30,000 students and employing over 5,500 members of staff including over 2,500 teachers.

As a group we believe that evidence-informed practice is at the heart of developing a teaching profession that brings out the best in everyone. United Learning is committed to supporting our schools to deliver this vision, through the extensive work of our Teaching School Alliance on research, innovation projects, subject networks and initial teacher training to name just a few areas. This collaborative project with the NFER highlights the important role that research-engaged schools already play and give us a clear vision of how both our schools, and others, can take this agenda forward.

Executive summary

Introduction

What makes for an evidence-informed school? The main purpose of this research project was to explore how teachers use evidence in the classroom, and what they feel are the most effective approaches to engaging with research and using it to inform their practice.

This summary sets out the key findings from 17 telephone interviews with members of the senior leadership teams (SLT) within a sample of United Learning schools and 39 face-to-face interviews from seven case-study schools.

Key findings

Key findings from the case-study data focused on the perceived benefits of engagement in research evidence and suggestions for developing an evidence-informed culture.

Perceived benefits

- Overall, engaging in research evidence was perceived to encourage practitioner reflection and open-mindedness: **'Engaging with research gets you thinking, it challenges you and makes you evaluate carefully your teaching methods and the reasons behind them' (Head of Department).**

- Teachers' openness to adopting different pedagogical approaches was considered to make lessons more engaging for learners, and engaging with research was seen to encourage this: **'Using research evidence can give you new ideas; it helps to stop you getting stale and using the same teaching strategies over and over again, if you do this the kids get bored' (teacher).** This is in addition to a widely held belief that research evidence is beneficial for teachers and learners, by identifying proven techniques for teachers;

- Interviewees also believed that teachers benefit from research evidence through its use to inform professional development and through the confidence acquired from implementing new approaches: '**research provides evidence that a teaching strategy is effective. This in turn gives you more confidence to try out something new in the classroom and to take a risk' (teacher).**

- SLT members explained the benefits of using research evidence in terms of its ability to drive school improvement initiatives; to substantiate the reasons behind change; and to underpin staff professional development: **'[Engaging in research evidence] provides a process for thought and examination of practice. It opens minds ….. and prevents teachers becoming compartmentalized within their own subject areas' (governor).**

Developing an evidence-informed culture

- Creating the right environment to nurture a culture of evidence-informed practice (EIP) was considered important by interviewees. For example making it explicit to staff where SLT use research evidence to inform decision making; senior leaders filtering evidence and providing practitioners with examples on how to translate research into practice in the classroom; and nurturing staff confidence by allowing them to take risks with practice (informed by research evidence): **'It is ok to fail in a lesson, as long as we learn from it. With that shift, we are more open-minded and it gives teachers the confidence to experiment. The research informs how they experiment' (Deputy Head).**

- Creating the time and space to engage in research evidence was also viewed as important for example by ensuring it is an item on departmental meeting agendas and saving teachers time where possible: **'I would not expect my staff to wade through information …. they need to be directed to the research' (Head of Department).**

- Making it easy for teachers to engage with research evidence will also encourage an evidence-informed culture by, for example, making research findings accessible; identifying context-specific evidence for teachers; and using appropriate internal and external support. One illustration focused on the use of social media: **'Twitter ….. helps us to discover research and we can then go away and dig deeper into the research' (Head of Department).**

Conclusions and ways forward

Although this study has indicated that the use of research evidence to inform and improve practice is in its infancy, it also suggests that there is recognition within the profession of its potential.

The findings from this study provide some starting points (techniques, approaches and strategies) for developing a research-engaged culture within schools. The study also highlights challenges, for example that the enthusiasm for research engagement within schools is by no means universal. There is therefore a need for a systematic approach that allows teachers to act on robust evidence when appropriate or contribute to teacher-led enquiry, each in their appropriate place. In order to promote evidence-informed practice, the findings also suggest the need for support at different levels, from external agencies, local authorities and academy chains, and from within school themselves.

Finally, we recommend building on this study with further research in schools that develops a range of tried and tested strategies for schools to adopt, to enable teachers to use research evidence to inform their practice.

Background

This small-scale exploratory study was devised to provide some current examples of the ways in which schools are developing different approaches to the use of evidence to inform practice. The project stemmed from the recognition that existing teaching practice is not systematically evidence informed. We wanted to explore how, if at all, teachers are using

research evidence in the classroom and what teachers feel are the most effective approaches to engaging with research evidence, and integrating it into teaching practice.

United Learning and the National Foundation for Educational Research (NFER) commissioned and jointly-funded this study of the way in which United Learning schools use research evidence.

Methodology

In autumn 2013, we conducted 17 telephone interviews with members of the senior leadership teams (SLT) (typically a head or deputy head) within a sample of United Learning schools. As a result of these exploratory interviews, seven schools were selected as case-study schools (schools where there was evidence that research was, to an extent, being used to inform practice).

We carried out the school visits between January and April 2014. In total, 39 case study interviews were conducted with key staff, including seven SLT staff, 17 Heads of Department, nine classroom teachers, four teaching assistants and two governors.

It should be noted that the schools and staff that we interviewed had been identified because they were engaged in evidence informed practice.

1 Introduction

**'If other people have taken the time to research something in a valid way …
then I would be foolish not to take something from it' (Head of Department).**

1.1 Background

Despite a range of programmes developed during the 1990s and 2000s designed to
mobilise knowledge within the profession, many commentators argue that the role of
evidence in teaching remains limited (Goldacre, 2013).

In a literature review published earlier this year (Nelson and O'Beirne, 2014), one of the
topics for 'attention and action' identified was the evidence base. The review pointed out
that: 'there are very few recent evaluated examples enabling us to determine the relative
effectiveness of different approaches to evidence use. There is a need for better
understanding of the most reliable methods so that useful research evidence can be
embedded in schools in the best ways possible.'

United Learning and the National Foundation for Educational Research (NFER)
commissioned and joint funded this research to begin to address this gap. This small-scale
exploratory study contributes to our understanding of how research evidence is currently
being used, drawing on the experiences of United Learning schools.

There are three stages to this research: this first stage has been to explore and identify
approaches to accessing and applying evidence (the subject of this report); we hope to
undertake a second stage evaluating these approaches, and a final stage trialling them if
appropriate.

The overarching aim of the study is to explore how teachers access research and apply
evidence to improve their practice in the classroom. Specific research objectives were to

- identify the different ways in which teachers access or become aware of research
  evidence that could inform their practice

- understand what practitioners perceive to be relevant evidence

- understand what the barriers and enablers are for accessing and applying research
  evidence

- explore how evidence-based teaching methods are spread and embedded.

For the purposes of this study we described research evidence to interviewees to mean:

[...] *broad thinking, writing and research on teaching and learning practice – this could
include (but is by no means limited to) academic educational research. We are also
interested in a wider understanding of what resources teachers use to improve their
classroom practice. So research could include non-academic writing, the shared work of
peers, expert journalism, blogs and social media, as well as resources that help to
improve subject knowledge.*

In discussions with interviewees we clarified that we were interested in both accessing external evidence and conducting research.

1.2 Methodology

In Autumn 2013, we conducted 17 telephone interviews with members of the senior leadership teams (SLT) (typically a head or deputy head) within a sample of United Learning schools. As a result of these exploratory interviews, seven schools were selected as case study schools (schools where there was evidence that research was, to an extent, being used to inform practice).

We carried out the case-study visits between January and April 2014. In total, 39 case study interviews were conducted with key staff, including seven SLT staff, 17 Heads of Department, nine classroom teachers, four teaching assistants and two governors.

It should be noted that the schools and staff that we interviewed had been identified because they were engaged in evidence informed practice.

This exploratory study highlights the benefits of engaging in research evidence (chapter 2); and suggests some of the key elements necessary for research engagement and sets them out in terms of ways to develop and sustain a system of evidence-informed practice (chapter 3). However there is much further research needed in order to test the most effective ways to engage practitioners and create a system of truly evidence-informed practice.

2 The perceived benefits of engagement in research evidence

'Engaging with research gets you thinking, it challenges you and makes you evaluate carefully your teaching methods and the reasons behind them' (Teacher).

Key findings

- The benefits for pupils, staff and the school as a whole of engaging in research evidence were reported to be interlinked. Teachers engaging in research evidence and practice were said to be 'open-minded to change' and 'reflective'. This was perceived to produce more targeted, interesting and varied lessons.

- In addition to particular groups within the school benefiting from engagement in research evidence, it was also seen to benefit the wider culture of the school, for example by helping to contribute to an ethos of continuous learning, enquiry and improvement within school.

- All schools in the study were in the very early stages of using research to inform practice. As a consequence of being in the early stages of their journeys, much of the evidence is based on perceptions.

For the vision of an evidence-informed teaching profession is to become reality, teachers need to believe in and value evidence (Nelson and O'Beirne, 2014). Most importantly, this belief needs to be driven by the profession, not the research community. Encouragingly, the majority of interviewees in this study believed that the use of evidence to inform practice benefited their profession, their school and pupils. Case-study interviewees reinforced this with close to all acknowledging the benefits[1] of engaging in research evidence.
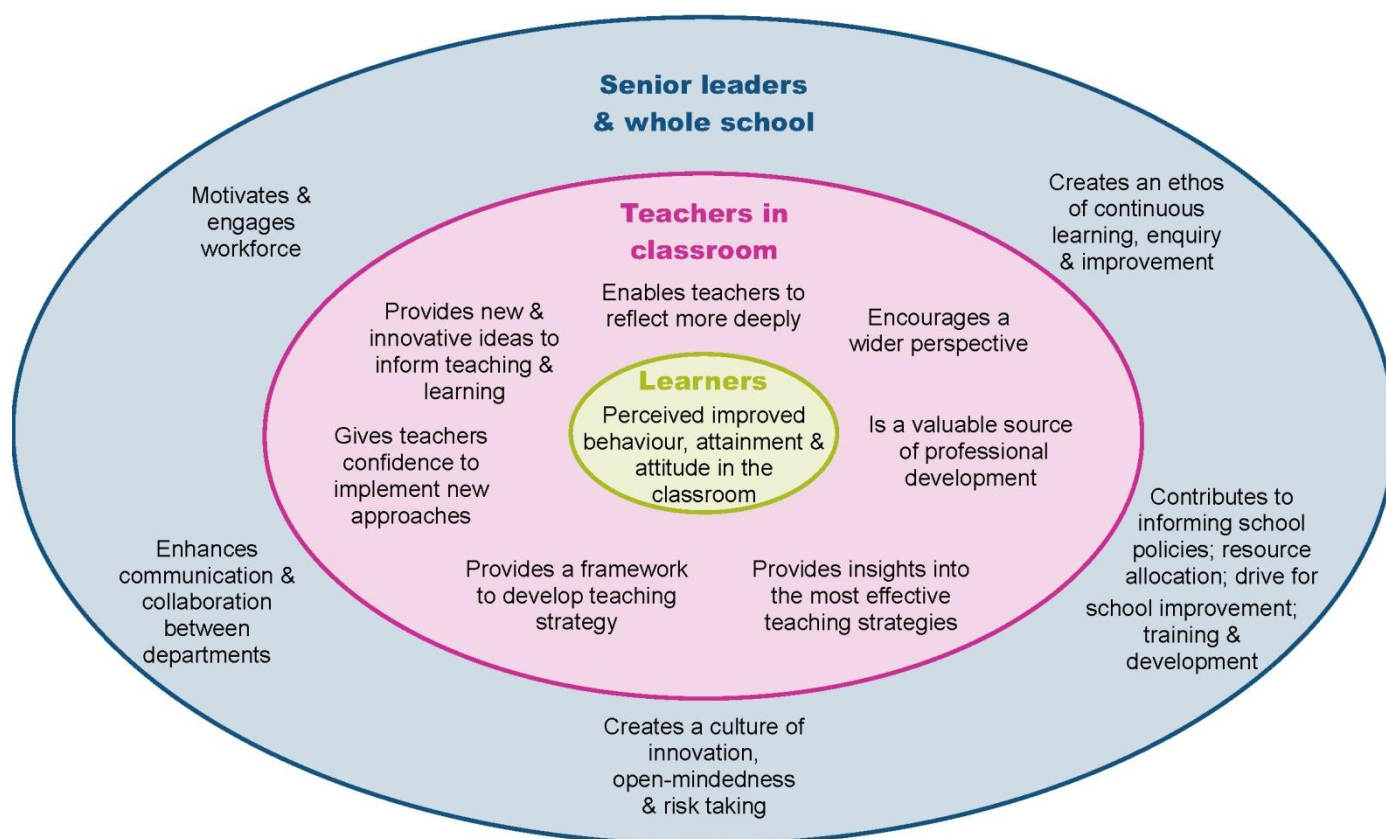
The benefits of engaging in research evidence for pupils, staff and the school as a whole were reported to be interlinked. Interviewees in this study felt that teachers who engage in research evidence and practice were 'open-minded to change' and 'reflective'. One teacher's observation illustrated this point: 'research makes you stop and think about the things you take for granted in the classroom.' This attitude in turn was perceived to impact on lessons by making them more targeted, interesting and varied. Interviewees also felt that engagement in research evidence led to clear improvements in student attendance, standards and progress over time, as well as staff retention. For example, a Vice Principal in one school explained that, 'for the school it's all about recognising that you never stop improving'. He believed that new ideas from research can help a school fulfil its ambition of continuous improvement and can help to keep the school moving forward. Similarly, one

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[1] It is worth noting that during case study visits, the research team asked to speak to practitioners who were involved in some way in research within the school, therefore, to some extent, these findings are expected.

head of department believed that teachers engaging in research led to a more motivated staff and felt that engaging in research evidence was a valuable source of professional development because it meant that, 'teachers have more opportunities to develop and hone their craft'.

Figure 1 below provides an overview of the perceived benefits of engagement in research evidence for learners, teachers and senior leaders, from the perspective of teachers and senior leaders in this study. Further detail is provided in the discussion sections below.

Figure 1: Perceived benefits of engagement in research evidence

2.1 The benefits to learners

The majority of interviewees believed that the main potential benefits of engaging in research evidence were improved pupil achievement and attitude. Interestingly, interviewees in this study felt that this arose from teachers creating more varied and innovative lessons as a consequence of engaging with research. Other perceived benefits included pupils being exposed to teaching methods and activities which have been demonstrated to be effective in other schools. The flow chart below summarises this process, as reported by teachers engaging with research in this study.
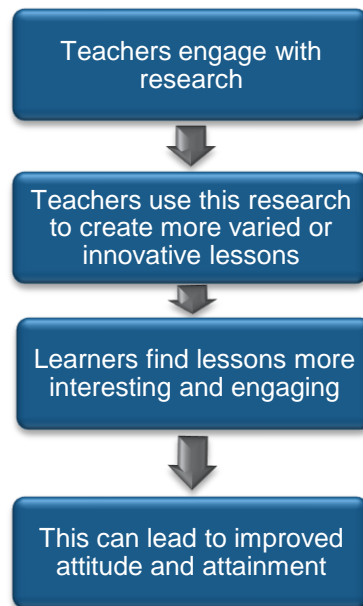
Some teachers also felt that using action research can help learners to engage on a deeper level with their learning, particularly if teachers share the research process, and the reasons why different approaches are being used, with young people. The case study below provides an illustration of how research evidence can benefit learners both in terms of them engaging in the research process and in terms of them benefitting from teaching practice proven to work.

Case study: The impact of action research on Year 9 speaking skills in modern foreign languages (MFL)

The MFL department in one case-study school researched how the use of drama could be used to improve speaking skills in French and Spanish, with a particular focus on Year 9 boys (selected because they were reported as being the most reluctant group within the school to speak a foreign language.) The project aimed to provide more opportunities for pupils to practice their spoken language skills within lessons. MFL staff monitored the Year 9 boys and compared test scores with data from similar previous cohorts of Year 9 boys. This monitoring was perceived to provide the evidence that the additional opportunities to speak MFL within lessons led to improved attainment in tests. [A next step in compiling research evidence on the effectiveness of using drama to improve speaking skills in MFL would be to monitor progress in speaking skills between a group of students taking part in the intervention and a comparison group not taking part – this would provide further, more robust data.]

This project was seen to benefit pupils as it has helped to improve both their confidence and also the quality of their spoken language. As a result of this research the MFL department changed their schemes of work to ensure that activities which encourage speaking are routinely included in lessons.

2.2 The benefits to teachers

Teachers and senior leaders identified a range of perceived benefits for teachers from engaging in research evidence as follows:

It encourages teachers to reflect more deeply on their teaching practice.

A typical example that illustrates this point was made by one teacher who believed that: 'Engaging with research gets you thinking, it challenges you and makes you evaluate carefully your teaching methods and the reasons behind them.' Another teacher further illustrated the importance of having time to access research and reflect. 'It [research] helps teachers to have the space to think about and challenge their practice.' The following case study highlights the value of engaging with external research and reflecting on internal practice.

> **Case study: Using research evidence to reflect on and evaluate current practice**
>
> At one case-study school the head of science had engaged with research conducted by the Association for Science Education on what makes an effective practical. He had used this research to reflect on and evaluate the practicals used in his school and how effective they were. He discovered that they varied considerably in terms of their purpose, quality and effectiveness. This has led the science department to question the purpose of some of their practical science lessons. This analysis will lead to changes and modifications to practical activities within the department in the future, to ensure that they are effective at facilitating learning.

It provides new and innovative ideas to inform teaching and learning.

Several teachers observed that engaging in research evidence provides the impetus for fresh ideas as illustrated by the following comment: 'Using research evidence can give you new ideas; it helps to stop you getting stale and using the same teaching strategies over and over again. If you do this the kids will get bored.' Another teacher observed that: 'it helps to confirm my gut feeling or even challenges me about teaching ideas.'

Additionally, one SLT member commented that teachers who had engaged in their own action research were now 'using more creative approaches to teaching and learning and producing more engaging lessons'.

It encourages teachers to look beyond their school and gain a wider perspective.

Many teachers mentioned how easy it was to become solely focussed on what is happening within school. A benefit of engaging with external research was that it provides a wider perspective: 'Teachers get so into the day-to-day teaching in their own classroom, but research can give you a different perspective on teaching because it gives you access to external studies which have been carried out elsewhere.'

It provides a valuable source of professional development.

Many teachers observed that research engagement provided the opportunity to be at the *cutting edge* of areas such as curriculum developments or innovative uses of technology in

assessment. Additionally a number of teachers observed how research has helped to improve particular aspects of their teaching such as their use of questioning and assessment for learning.

Some teachers felt that engaging with research has helped them to, 'recognise that you never stop improving' and that research can be an important source of development for all teachers, regardless of their level of experience.

One headteacher commented that action research provides a structured model in which teachers can develop and evaluate their teaching in a systematic manner. He explained that it encourages practitioners to identify an area for development or research, carry out the research, evaluate the impact of the research and modify the strategy if necessary.

It provides insights into the most effective teaching strategies.

Illustrations of the ways in which teachers were using research evidence to identify effective teaching strategies included:

- Neuroscience into how children learn, helped practitioners plan lessons that improve memory retention amongst students

- the work of John Hattie provided insights into strategies which have the biggest impact on learning (such as feedback)

- one head of department observed that it is always possible to learn from existing research but that caution is needed to contextualise such evidence: 'if other people have taken the time to research something in a valid way … then I would be foolish not to take something from it.'

It gives teachers confidence to implement new approaches.

Many teachers felt that research engagement enhances confidence, for example one teacher observed that: 'research provides evidence that a teaching strategy is effective. This in turn gives you more confidence to try out something new in the classroom and to take a risk.' While another teacher emphasised how important evidence was to her confidence: 'it is very important to me that I have evidence and proof so that I can have confidence about what I am doing in the classroom.'

It can lead to improved behaviour, attainment and attitude in the classroom.

Several teachers and teaching assistants commented that as a result of trying out new ideas in the classroom based on research evidence, pupil behaviour, attitude and attainment had improved.

2.3 The benefits to senior leaders

On the whole, members of the senior leadership team interviewed were more research engaged than classroom teachers and more inclined to be accessing and using external research evidence. In addition to impacting on their own personal teaching practice in many of the same ways as identified above for classroom teachers, senior leaders highlighted other whole-school benefits of engaging with research as follows:

On the introduction and justification of school policies.

When introducing a new policy or encouraging a new teaching strategy in school the senior leaders at some schools in this study use research to inform their policies e.g. in marking and feedback. They also provide details of the research behind the strategy or approach in order to convince teachers of its effectiveness and credibility. This has helped create more buy-in from teachers. One head of department explained: 'if the school are trying to introduce particular policies or teaching strategies then if they have research to back up what they are doing then this will make the strategy or approach more credible and so help convince teachers that it is effective … you can't really argue with research evidence.'

Upon resource allocation decisions in school.

Many schools reported using the EEF toolkit and Sutton Trust research to help inform their approach to interventions, in order to get the maximum impact out of their resources. For example one case study school has looked at the EEF toolkit to establish the most effective interventions for improving literacy levels within the school.

On the drive for whole school improvement.

In many cases senior leaders reported using research to help target areas which needed improvement. For example several case-study schools had identified the underachievement of Low Income White British pupils and are taking part in cross-school research projects aimed at improving educational outcomes for this group of students.

A governor illustrated this point effectively and highlighted the whole-school aspect: 'It [engaging in research evidence] provides a process for thought and examination of practice. It opens minds and working across departments and prevents teachers becoming compartmentalised within their own subject areas.'

Upon staff training and development.

All schools in this study were using some form of research to help inform and underpin their training and Continuing Professional Development (CPD) programme. In some cases this research was used directly in training and in other cases it was summarised to make it more accessible to staff.

2.4 Perceived wider benefits on the school culture

Interviewees from across the seven case-study schools believed that teachers' engagement with research evidence offers five broad benefits for the school culture. They felt that it:

- **creates and contributes to an ethos of continuous learning, enquiry and improvement within school.** For example, one senior leader commented that 'research can help the school fulfil its ambition of continuous improvement and the ideas from research are helping to keep us moving forward'.

- **leads to a culture of innovation, open mindedness and risk taking amongst staff**. Teachers said that they felt encouraged and supported by senior leaders to carry out new strategies and teaching approaches which were supported by evidence.

- **contributes to more interaction, communication and collaboration between departments**. For example in a number of schools teachers in different departments

were working together collaboratively on action research projects. In one school teachers in the science and art departments were working together to investigate how creative thinking skills could be developed in science through the use of art.

- **contributes to creating a highly motivated and engaged workforce** (not just teachers but also teaching assistants who were actively engaged in carrying out their own research in several case study schools). For example one teacher remarked that, 'the use of educational research by teachers and at INSET has led to a more motivated and engaged workforce which is constantly learning and updating its skills'. Additionally, one school mentioned that this approach was viewed as helping to retain good staff as well as attracting high calibre new staff to the school.

- **encourages schools to become more outward looking and seek opportunities to create external partnerships**. These partnerships have included joint research projects with other United Learning schools, joining networks of research engaged schools (such as the National Teacher Enquiry Network) and also developing partnerships with local universities and coalitions of other like-minded schools (see case study below).

Case study: External links and partnerships to facilitate research

One case-study school has created strong links with two local universities. These links have included teachers accessing support from academics at the universities to help teachers with their own action research. For example, academics have delivered training sessions for staff on research design and writing research reports. Practitioners commented that this had been 'extremely useful', especially for those with little to no experience with the research process. As one head of department commented:

Many teachers are not used to carrying out research, or might not have gone to a university where they received much grounding in educational research and so they would find this very useful.

The school also participates in university led research projects. Additionally the school has entered into a coalition of research schools across the local area which has been set up by one local university. This coalition consists of a group of schools which are committed to participating in research to inform their development. The headteachers of the coalition schools meet regularly to plan, share and learn from each others' inquiry based research.

In summary, this chapter has provided some insights into the benefits of engaging in research evidence on learners, teachers, senior leaders, and the whole-school culture according to our case-study practitioners and senior leaders. The challenge of how to develop a system of research engagement and evidence-informed practice (EIP) and how to sustain such a development are considered in the next chapter.

3 Developing a sustainable EIP culture

'You don't have to get everything right all the time. Overcoming fear is the first step to opening up the dialogue to change' (Senior leader).

Key findings

- Practitioners currently undertaking, or having recently completed programmes of study often emerged as practitioners more likely to engage with research evidence.

- Staff in schools interested in developing a culture to support and sustain EIP recognised that there were many challenges but were forthcoming with suggestions to overcome such barriers.

- They suggested that creating an appropriate whole-school research-engaged environment is important. Ideas included making it explicit to staff where senior leaders use research evidence to inform decision making; senior leaders filtering evidence and providing practitioners with examples on how to translate research into practice in the classroom; and nurturing staff confidence by allowing them to take risks with practice (informed by research evidence).

- Creating the time and space to engage with research evidence was also viewed as important. Interviewees suggested making opportunities, for example to discuss research evidence collaboratively in departmental meetings and to offer more chances and funding for staff to carry out research.

- Staff also suggested that in order to encourage EIP it needs to be made easy for teachers to engage with research evidence by, for example: making research findings accessible; identifying context specific research; and providing practitioners with internal and external support where appropriate.

This chapter draws on interviewees' observations on the challenges to developing an EIP culture and their views on the ways in which it can be sustainable. These challenges and barriers to developing sustainable EIP culture, and suggestions for overcoming them, are listed in Appendix A.

3.1 Create the right environment

Interviewees believed that developing a whole-school culture and ethos that values research evidence will encourage its use to inform and guide classroom practice. Such an environment can be supported by:

- making it explicit to staff where senior leaders are using research evidence to inform decision making in school

- clearly communicating with pupils, and where appropriate, parents to explain the rationale behind changes to practice and the underpinning evidence base

- providing examples on how to translate research into practice in the classroom: 'It is not just giving you a piece of paper and telling you to read it, they [SLT] actually show you how to use the research'

- considering how changes in education can be a potential source of research for schools, for example research into innovative methods of assessing key stage 3 pupils in response to the new national curriculum and removal of national curriculum levels at this key stage

- allowing staff to take risks. This helps to encourage teachers to feel more confident in using and conducting research and encourages a culture of innovation, reflection and experimentation.

It was clear from case-study schools that there were several kinds of confidence that would help support a research engaged school. These included:

- **Confidence to adapt initiatives** and translate research into practice to suit practitioner, student and or/school needs. Commonly, there was the notion that practitioners are open to the reference of academic research but 'want the practical experience and guaranteed solutions' which are relevant to their teaching. Senior leaders can support this by encouraging staff 'to think outside of the box' and 'be creative in coming up with questions which are researchable'.

- **Confidence to fail:** It was often said that schools need to be open-minded in order to be responsive to change; it is difficult to change and improve a school without having the courage to take risks. As detailed by a deputy head:

    It is ok to fail in a lesson, as long as we learn from it. With that shift, we are more open-minded and [it] *gives teachers the confidence to experiment. The research informs how they experiment.*

- **Confidence to turn problems into opportunities:** In addition to encouraging risk, senior leaders have an important role to play in lifting staff spirits and supporting staff as they strive to become better teachers. 'You don't have to get everything right all the time. Overcoming this fear is the first step to opening up the dialogue to change.' This was more evident in schools that had adopted the concept of joint professional practice (JPD), a concept that is described in more detail below.

In terms of creating and developing the right environment, if programmes of INSET and CPD are informed by research and staff are made aware of this, then all staff are being exposed to research. Moreover, interviewees suggested that senior leaders could consider introducing a JPD model of professional development to encourage teachers to work in small groups to develop practice. Three case-study schools had introduced the concept of JPD, in order to support their staff development programme. The concept encapsulates a peer-to-peer approach to CPD. It seeks to complement whole-school INSET by providing a more continuous development of practice. It also encourages senior leaders and practitioners to work together more in helping raise standards and test pedagogical

approaches that lead to improvement. Its introduction was considered key to the shift in culture towards a more research-engaged school, as described by a senior leader:

We're trying to change the culture to becoming a collaborative school. We were a 'requires improvement' school and we needed to shift to a 'good' school. The quality of teaching wasn't that great, so we've shifted the quality of teaching through collaborative sharing of practice.

Encouraging collaboration was also viewed as a way to positively promote the wider use of research evidence, for example:

- partnerships with other schools with similar contexts will support sharing of information and translating of findings into practical ideas to trial in the classroom

- collaborations with academics in universities or research organisations will create a more research-engaged community

- developing networks and face-to-face training sessions and workshops, (making it *'hands on')* will enable teachers to engage with external research.

3.2 Create the time and space

Interviewees considered lack of time to be a major barrier to engaging with research. Specifically they reported lack of time to: engage with research; implement findings from research evidence; plan research design; reflect on research evidence; and see findings from action research have an impact.

However, interviewees also suggested ways to overcome these challenges such as:

- creating opportunities to engage with research by, for example, providing: staff with timetabled sessions to reflect on research evidence; cover to conduct research once a term; weekly opportunities for whole-school CPD (i.e. Monday afternoon training sessions across the United Learning network)

- providing funding for staff to conduct their own internal research projects (not just limited to staff on accredited courses)

- ensuring that teachers have sufficient time between training sessions to implement and evaluate the research findings in their own classroom

- discussing research in departmental meetings. Four heads of department explained that using research evidence is part of their standard practice. They considered it 'their role' to distil information during meetings or to share electronic links with staff. One interviewee, explained that, 'I would not expect my staff to wade through information ... they need to be directed to the research'. Typically, they would read articles and research topics of interest to the department, and then summarise key elements to discuss at departmental meetings and consider (as a group) about *if* and *how* they might be able to implement it in the classroom. The case studies below illustrate ways in which research can feature in departmental meetings.

> ### Case studies: Feeding research into departmental meetings
>
> A department head had recently distributed a link to a research paper on improving pupils' spatial awareness in science in relation to statistics and graph drawing. Staff were expected to read the paper before the meeting. They then discussed as a department how they might then implement the findings from the paper in their lessons, some staff trialled ideas and fed back to the group at a subsequent meeting.
>
> A head of physics in another case study school had identified some research on strategies to encourage girls to study physics post-16. They then asked each person at the meeting to talk about the article for 60 seconds saying what their views were on it, what they took away from the article and what they will do differently as a result.

- running internal innovation bids in which teachers submit research proposals to senior leaders. Successful bids are given money to help them run their projects, e.g. to buy e-readers for after school kindle book clubs designed to improve literacy and increase levels of reading for pleasure at the school

- offering masters degrees and provide financial support to help teachers with this

- including action research projects in middle leader, aspiring leader and NQT programmes within school to encourage its use.

Teachers as researchers

The distinction between engaging *with* and *in* research can be overstated (Nelson and O'Beirne, 2014). Teachers undertaking action research, in our study, were often more disposed to engage with external evidence to support their enquiry than those who were not. The two processes are not mutually exclusive and they complement each other, as identified by a classroom teacher who reported that, 'since we have embarked on our own research project ... we have thought about and looked more into educational research and theory to support the research that we are carrying out.'

The majority of interviewees believed that teachers are well-placed to be the producers of research and all seven case-study schools were engaging in primary action research to some extent.

While practitioner engagement in research is to be welcomed and the value placed in contextualised teacher-led research understood, there is an associated concern that teachers may dismiss robust, academic evidence in preference for localised teacher-led enquiry. This point was illustrated by a head of department who explained that, 'teachers are more convinced by their own judgement than a barrel of academic research'. She explained that they rely on their own experiences of what works through their own action research projects, even if this meant disregarding robust research within academic journals. Additionally a classroom teacher explained that:

> *Tell me you're a teacher and I've instantly got an affinity with you and I've more chance of trusting in what you say. Tell me you're an academic and I'll need more convincing. We're a very judgmental profession.*

The challenge this concern raises is to ensure that teachers fully understand different types of research and when, for example, it is appropriate to carry out small-scale localised

enquiry; to contribute to more robust research projects and to take on board findings from large-scale robust 'academic' research. Bearing in mind that the primary role of a practitioner is to teach, it is important that they target their energy to suitable engagement in research evidence.

Teacher-led research was generally supported in one of two ways:

- **Internal funding for research opportunities:** Three case-study schools had introduced opportunities for staff to submit innovative bids for action research projects and funding.

- **Programmes of study:** Staff enrolled on, or who had recently finished extended teacher training courses (for example, MAs, MBAs, NMPQL as well as NQTs) had opportunities to undertake research to support their course and were often described as having greater awareness of and comfort using research evidence.

Teachers' ideas for research were mainly drawn out of their own personal interests and development needs. However, there were also examples of collaborative working across departments to help address a learning need (see below).

> **Case study: encouraging cross departmental working through action research projects**
>
> The Head of Art in a large community Academy described how she was collaborating with the science department to examine ways in which art and creativity can be used in science lessons. The project came about through a conversation in the staff room with one of the science teachers who wanted to look at how they could improve pupil engagement. After discussions with the head teacher, they have tried to come up with more engaging and creative ways of teaching certain science topics through the use of art. For example, cell structure was considered a topic area that students struggled to comprehend and typically performed poorly on in class tests. The Art teacher helped examine ways in which art and creative skills can help support the topic. She led a programme which ran across five days entitled 'Science through Art Week'. The Head of Science explained that this 'helped students engage more with the subject' whereby they were able to visualise cell structure in a creative way through 3D modelling and other artistic techniques.

3.3 Make it easy to engage with research evidence

Senior leaders reported that some practitioners had more of a 'thirst for research' than others. Practitioners currently undertaking, or having recently completed programmes of study (for example, newly qualified teachers, those undertaking Masters qualifications or middle leaders courses such as MPQML) often emerged as practitioners more likely to engage with research evidence due to the requirement of the training, their exposure to literature and, subsequently, a greater awareness of, and comfort in using secondary evidence. Furthermore, articles relevant for assignments had paved the way for investigating other educational topics, creating a spider's web of material to access. Such practitioners were described by one head of department as: 'still on a learning journey ... and professionally driven.' An immediate challenge therefore, is encapsulating ways in which to sustain interest in, awareness of, and a desire to use research evidence going forward.

The hardest to reach practitioners were said to be less professionally aspirational. Indeed, one headteacher suggested that, 'if you've already been in the classroom for a significant time (3-5 years plus) and you are not engaged with evidence/research, you are more likely to be one of those who is ambivalent towards it'.

The term *research evidence* was a difficult term to define for some interviewees. The majority of those currently accessing and using evidence, were growing their knowledge of the variety of evidence-based resources. However, those with little to no experience of using research would struggle to define its breadth, narrowly considering articles in books or academic journals to encompass its full extent.

In addition to academic journals and books, practitioners perceived research evidence to include the following resources:

- **Practitioner magazines:** for example, articles in teaching union magazines or subject association magazines.

- **Ofsted and examination board guidance**: for interviewees who had little to no experience and/or access to journal databases, they would examine their school's Ofsted report or question level data from exam boards to help focus their teaching.

- **Social media:** Following educational resources on Twitter; for example, a head of department described how his interest in the use of neuroscience in the classroom initiated by a Twitter feed, encouraged him to read around the concept of spaced learning and is now using this technique to help improve pupil's long term memory through repetition. One interviewee stressed that:

    Twitter has been a real help in terms of professional development because you have that immediate network and access to research and current thinking within education. It helps us to discover research and we can then go away and dig deeper into the research.

- **Teaching blogs**: both internally produced and external blogs.

- **Evidence of good practice from partner schools:** For example, a head of department in one school valued the ideas and strategies that teachers in partner schools have been using more than academic research, as 'it has a greater chance of working here'.

Commonly, the drive to engage with a piece of research was a 'knee-jerk reaction' and there was little evidence to suggest that practitioners were assessing sample size or research design. In the main, interviewees appear to primarily assess research evidence according to its relevance to their subject area and school context, then 'intuitively' assess whether they agree with the findings. There was an interesting perception by one head of department who felt that her experience and professional judgment was the driving force behind what pedagogical evidence she would trial. She explained that:

    As a teacher I do what's right for my class, not what's right for an international, large scale project, even if it goes against my own professional judgement. I understand the magnitude of some research, but tell that to my one pupil who I'm trying to help get to college and perhaps that won't work for them.

There was also some evidence to suggest that practitioners were identifying the schools involved in the research design and would investigate the Ofsted grading of that school. The comment made by one head of department was representative of a few interviewees; 'If the

school in question has been Ofsted graded Outstanding ... this is telling me that they're doing something extraordinary that we're not.'

Make research findings accessible

As indicated above, many staff found research difficult to read, access and translate into practice so they suggested:

- careful filtering and appraisal of research so that only accessible and practical research is cascaded to them

- making research findings user friendly, short, and transferable, through a staff member taking the lead on the dissemination of evidence

- affiliation with university courses to enable access to educational library databases and ensuring staff are aware of such links

- ensuring research findings are available to teachers in a variety of ways. The following informal structures were identified from case-study schools to encourage independent enquiry:

  - Weekly **teaching and learning email**s (information on good practice and links to research for teaching staff).

  - **Reflective diaries:** In one school where diaries had been introduced, a senior leader cascaded literature to staff who were expected to read and reflect on their practice within their diaries. It was thought that the diaries encourage teachers to set targets and consider the evidence of the impact on their results.

  - **Teaching and learning blogs** highlighted and signposted practitioners to pedagogical resources in four schools, although there was mixed reaction to them with some teachers accessing them regularly and others not at all.

  - **Research publications:** Two schools were in the process of designing research publications, to include recent internal research projects, to disseminate to staff.

  - **Using the intranet to share resources (for example through internal teaching and learning blogs)**: The deputy head in one case-study school encouraged staff delivering training sessions to write about them and to include video footage or photos of sessions where possible. She explained that:

    The idea behind it [the blog] *is that staff go ahead and try something new and then report back to others how they've got on. Before it was hidden whereas now it's more formal and we're trying new strategies and trying to make it more open to everybody.*

There was a general observation that informal social interaction was valued as a way to mediate research evidence. A good illustration of this was a comment by one departmental head who remarked that, 'it can be quite dry if you don't have an in-depth conversation about how to implement it into current practice'. Staffroom discussions, where staff shared their research findings, occurred often and helped collaborative working across departments often leading to staff being invited to attend other departmental meetings to disseminate their work.

If research evidence was mediated via print, then interviewees felt that the most accessible formats were 'short and punchy', for example short one page summaries rather than research papers provide more context specific information. Additionally, anything that is password protected is less likely to be accessed.

Identify context specific research

Most interviewees believed that their school was 'unique' and that research relevant to their school context, and department, was paramount to engagement. In order to extend the perceived relevance of research, interviewees suggested:

- senior leaders take a coordinating role in order to sift through evidence and disseminate relevant literature to departmental leaders

- considering subscription to relevant subject associations as this was viewed as a valuable source of context-specific research

- sharing research projects with schools in similar contexts via a network such as United Learning

- targeting research findings at particular individuals or subjects to whom it is most appropriate, in contrast to disseminating research wholesale.

Most interviewees emphasised that it is essential that research evidence is contextualised. They felt that external presenters at training sessions were often guilty of 'sharing information irrelevant to the context of our school'. In addition, practitioners indicated that they feel 'daunted' by the wealth of literature in the domain.

Provide appropriate support

Interviewees felt that the provision of support from internal and external sources to support the development of research expertise would make it easier to engage with research evidence, for example:

- senior leaders could supply examples of research carried out in other United Learning schools to provide ideas on topics and questions which are researchable in a short time scale by a single teacher or small group of teachers

- the provision of training and support from both internal and external sources in, for example, how to evaluate and critique educational research or help with questionnaire design and statistical analysis would promote engagement with evidence.

The majority of interviewees engaged in action research projects were doing so within a programme of study and, therefore, had the support of tutors at their institutions.

While internal structures, such as research frameworks (detailing how to go about conducting and reviewing research), and training sessions (on conducting research) provided teachers with support and a way of structuring their research, interviewees felt that the most beneficial support came from collaborations with external partners.

A key assertion was that a research-engaged school could not work in isolation from other institutions or research expertise, especially as they emerge through the early years of inception. Interviewees had a mixture of experience when it came to using research evidence to inform their practice, with the majority having little to no prior experience of accessing or carrying out research. Closer links with such parties was seen as vital in order to harness practitioner support and confidence in using research evidence. The following support was evident:

- **External research expertise**: Where partnerships with local universities or external researchers were evident, it was considered 'invaluable' and 'insightful' in supporting the research process (for example, research design, reporting findings and identifying articles). This had saved teachers time and had helped them focus their research into manageable tasks. Furthermore, some university partnerships had led to joint research projects to investigate teaching practice and provided a 'feedback loop' where university researchers conducted research that would help inform teacher practice. Practitioners were playing a role in ensuring the relevance of results and outputs to their practice. The following case study provides a useful illustration of using external expertise.

> **Case study: the value of external research expertise**
>
> A large secondary school provides an interesting illustration of how external research expertise helped support practitioners who felt that they lacked the expertise and confidence to conduct their own action research investigations.
>
> The consultant met with all teachers carrying out projects as a group and then with each individual for 20 minutes. Staff also had regular email contact with the consultant to support the research process, from designing methodology, signposting them to literature, help with documenting findings and publicising results. There was agreement that the consultant had been 'invaluable' and had been 'a rock in all of this'.

- **External learning networks** (for example, United Learning networks, subject networks and online forums) were considered a useful resource to support teachers as researchers and to share resources. A number had found subject networks supportive and having access to action research completed at other United Learning schools had been insightful, as one class teacher explained, 'research has been carried out in a similar context and so you are more confident that it could be applied here'. The following case studies provide a useful illustration of this.

> **Case studies: support from external learning networks**
>
> Senior staff at one case study school were using their involvement with a network of around 3000 teachers across the country called Partners in Excellence group (PIXEL), to support a longitudinal whole school project. A deputy head had responsibility for reading around the topic area and had used the PIXEL network to share resources with other like-minded schools interested in the same topic. As a result, she had visited a school (not part of United Learning) to observe their strategies which were said to have been based heavily on research evidence.
>
> Another school had joined the National Teacher Enquiry Network (NTEN) to support the school in continuing to develop action research. The network was reported to have specific resources to help teachers with their action research and also provided the school access to a network of other schools engaged in research.

In summary, it is clear from case-study data, that there was not a single identifiable strategy or structure that could help support the use of research evidence. A whole host of features contribute to an ecosystem by which schools become more research-engaged. It remains clear that implementing various factors, in a structured and planned way, to develop a sustainable EIP system and to support its use, could be an important requirement for establishing and sustaining a culture of this kind. Furthermore, there appeared to be a distinction between systems that would possibly bring about an immediate benefit, in contrast to processes that would require more time to embed. It is by no means an easy task and schools were very much in the initial stages of the process, with the majority having only introduced structures this academic year.

4 Conclusions and ways forward

'Engaging in research evidence saves time' (Headteacher).

4.1 Conclusions

This small-scale project has done exactly what it set out to do; it has explored approaches to using research evidence in United Learning schools. The results of the exploration have demonstrated that, even within the seven most research-engaged schools, approaches to evidence-informed education are at their inception. There is a considerable way to go before the majority of teachers underpin practice with evidence. Currently the use of research evidence is patchy and dependent on individuals' enthusiasm.

However, this exploration has revealed that some pioneering senior leaders and teachers have taken the first few steps of the journey and see the benefits for learners, teachers, leaders and the whole school ethos. Perhaps most noteworthy of these was the observation by one headteacher who explained that, ultimately, it was necessary to embrace and use research evidence because it 'saves time'. So the question for both the teaching profession and for researchers with an active interest in improving our education system is how, together, do we develop and sustain research-engaged schools, in order to embed a wider culture of evidence-informed practice?

The scope of this particular research project cannot provide robust answers to this question. But the comments of teachers, teaching assistants and senior leaders across a range of research-engaged schools suggest many useful starting points – techniques, approaches and strategies for developing a research-engaged culture. Many of these ideas are summarised throughout Chapter 3 and in Table 3 of the appendix below.

A companion document, published alongside this report, pulls together some of these suggestions. It is a discussion paper aimed at senior leaders and teachers in schools considering their own approach to evidence-informed practice. Future research should test the efficacy of these options, as well as developing a more rigorous evidence-base on the impact of evidence-informed practice on students' learning.

4.2 Developing evidence-informed practice

In developing a culture of EIP the first, and perhaps most important, steps are for leaders to encourage a whole-school focus, for example, through joint practice development (JPD); using evidence to inform whole-school decisions and sharing the rationale for these decisions with staff; and encouraging teachers to question the reasons behind accepted practice and to be open-minded to change.

Helpful factors for developing and sustaining an EIP system can include: having school systems in place in order to filter and disseminate context-relevant evidence; providing access to journal databases; providing opportunities for teachers to join in and take ownership of the discussions surrounding the value of underpinning evidence; and providing more opportunities for discourse between teachers and researchers. Additionally, support at

different levels, from external agencies, local authorities or academy chains; and allowing teachers to take risks and experiment with their practice – based on evidence – were viewed by interviewees as ways to encourage further use of research evidence.

Finally, findings from this study indicate that some teachers remain sceptical about 'academic' research, viewing teaching as a craft that benefits most from direct sharing of classroom experience. Furthermore, as stated at the outset of this report, the term 'research' is often broadly defined; but when used to encompass the wide range of resources teachers today can draw upon (from 'academic' pedagogy, to subject journals, to Twitter) few argue against the relevance of this agenda. This is also why further research on what works to create an evidence-informed teaching profession, and the benefits derived from it, is needed.

4.2.1 Additional support within schools

Most of the suggestions in Chapter 3, as well as those detailed above, focus on the school level since this is where real change needs to take place. In addition, we suggest that senior leaders consider:

- paying subscriptions to subject associations for individual teachers or departments

- providing training and opportunities within school to discuss ways in which teachers can implement the findings from research (both their own and others) in the classroom.

4.2.2 Additional support at 'middle tier' level (local authorities, academy groups)

Support at group level could further foster research engagement by:

- encouraging and facilitating greater dissemination of action research projects and findings between different schools within a group or network of schools

- encouraging more collaborative work between schools in the network, for example through joint action research projects

- facilitating closer links between the departments of practical subjects (like drama) within different schools in a network.

4.2.3 Additional external support

Closer links and partnerships with universities or external research experts can also support a drive towards evidence informed education, for example through:

- undertaking collaborative research projects

- providing training for teachers in *how to access* educational literature and support for sifting material to ensure relevance and accessibility

- providing training in *how to appraise* the literature and identify the factors which can affect the robustness of educational research.

4.3 Further research

We recommend firstly, carrying out a follow-up telephone study to this project to answer the following research questions:

- to what extent have the early perceived benefits of engaging in research, in this small group of schools, been realised? And what does the supporting evidence reveal about the benefits to practitioners of using research evidence?

- how have elements of the EIP systems, identified in this exploratory study to be in early development, been sustained?

- are there identifiable components that appear to be more effective at bringing about change in engaging practitioners in the routine use of research evidence?

Secondly, we recommend using the findings from this study, and other published data, to further develop a school-based EIP 'logic model'. This would describe the intended outcomes of being an evidence-informed school and the activities and inputs that are needed to achieve these. It could then form the basis of a more detailed process evaluation to establish the activities undertaken by a larger group of schools using research evidence to underpin their practice. Such an evaluation would examine the extent to which schools are engaging in research evidence; how they are engaging; the extent to which practitioners believe in evidence-informed practice and the quality of their involvement.

A linked impact evaluation would start to ascertain the effects of practitioners using evidence to inform their practice. This evaluation could be formative in nature, by informing the *development of an existing plan* (as identified in the logic model) to introduce an EIP system during the process; or developmental (an evaluation approach that can assist the *development of a desired change* in complex circumstances and would involve working with schools more intensively to help them develop an EIP system).

If this research identifies discrete approaches which would be practical to implement in a range of settings, and which show promising signs of positive impact, then these should progress to more formal impact evaluation (such as a randomised controlled trial).

Appendix A: Challenges and barriers to developing an EIP system and suggestions for overcoming them

Practitioner-specific challenges

Table 2 below presents challenges and barriers to practitioners engaging in research and their suggestions for ways to overcome them.

Challenges and enablers identified by senior leaders

Table 3 below presents senior leaders perceptions of challenges and barriers and their suggestions for ways to overcome them.

Table 2 Challenges and enablers identified by teachers and heads of department

Challenges & barriers	Enablers to using research evidence to inform practice
Risk associated with experimentation The fear from staff that new practice may not work, or it may take teachers out of their comfort zones.	• Creating a school environment and culture where staff are allowed to take risks helps to encourage teachers to feel more confident in using and conducting research and encourages a culture of innovation, reflection and experimentation.
Measuring the impact of research This was a particular concern where test scores or grades were not viewed as an appropriate measure of impact, for example, when implementing or conducting research which was designed to influence student attitude or engagement.	• Provide access and support from research expertise both internally and from external partners to support the research process, for example help with questionnaire design and statistical analysis.
Lack of knowledge of where to go to find research evidence, in particular academic journal databases. Despite an inclination to examine research evidence, there was anxiety from some interviewees about where to access research findings.	• Consider affiliation with university courses to enable access to educational library databases. • Ensure research findings are available and accessible to teachers in a variety of ways, for example through teaching and learning blogs, workshops and face-to-face meetings and presentations.
Research not viewed as a priority Despite some teachers engaging with research, for many staff research was not a high priority and other more pressing concerns such as the new curriculum, exams and assessments were likely to be higher up their agenda.	• Create a school culture and ethos of valuing research evidence and using it to inform and guide classroom practice. • Make it explicit to staff where senior leaders are using research evidence to inform decision making in school.
Lack of subject specific research This was raised particularly by teachers in practical subjects such as drama who commented that much educational research and whole school INSET was most relevant to traditional academic subjects as opposed to practical ones.	• Consider schools or individual teachers subscribing to subject associations, for example, ASE, in order to access subject specific research which is relevant to classroom teachers.
Gaps in the research or conflicts between different pieces of research Some teachers commented on there being a lack of research in the area they were interested in investigating, or the contradictory findings of research studies.	• Develop an understanding of the nature of educational research and the factors which affect the robustness of the research. • Provide access and support from research expertise (internal and external) to support the research process. • Provide access to educational library databases.
Identifying SMART research questions Some teachers said that they had been too ambitious or unrealistic in the question or topic that they wanted to research in a short time frame. As a consequence, many changed the focus of their research or narrowed the topic as they progressed with their investigations.	• Provide access and support from research expertise (internal and external) to support the research process. • Supply examples of research carried out in other United Learning schools to provide ideas on topics and questions which are researchable in a short time scale by a single teacher or small group of teachers.

Challenges & barriers	Enablers to using research evidence to inform practice
Scepticism of academic research Some teachers voiced concern over research produced by academics with little or no teaching experience and questioned their credibility as authors.	• Provide opportunities to work collaboratively with academics in universities or research organisations to illustrate the university role. • Provide further training in research methods to help teachers appreciate the advantages of large sample sizes and independent external research.
Lack of relevance of research Some teachers considered research to be irrelevant if it was carried out in a different context (e.g. in North American schools) or in a very different socio economic context to their own school or in an area not linked to the school's priorities or development plan.	• Filter research, by senior or middle leaders, so that only research deemed relevant and accessible to classroom teachers is cascaded. • Target research findings at particular individuals or subjects to whom it is most appropriate, in contrast to disseminating research wholesale. • Liaise with other United Learning schools in a similar context to share relevant research findings or come up with appropriate topics to research.
Research is not a priority For example a new national curriculum, changes to GCSE assessment and A level qualifications and new accountability mechanisms in schools may all seem to be more important.	• Consider how changes in education can be a potential source of research for schools, for example research into innovative methods of assessing Key Stage 3 pupils in response to the new national curriculum and removal of national curriculum levels at this key stage. • Create a culture and ethos of research within the school.
Cost This was an issue for some research projects, particularly if the research involved purchasing resources such as new technology, involved sending teachers on external courses or required cover for staff to attend external meetings at a university. There were also costs associated with doing academic courses such as MAs at university.	• Consider running internal innovation bids in which teachers submit research proposals to senior leaders. Successful bids are given money to help them run their projects, e.g. to buy kindles for after school kindle book clubs designed to improve literacy and increase levels of reading for pleasure at the school. • Consider applying for the United Learning Innovation for Improvement projects that provide funding and central support. • Offer masters degrees and provide financial support to help teachers with this.
Sustaining interest and engagement with research Several teachers commented that during their teacher training and their NQT year they engaged with educational research. However as they have become more experienced teachers, and taken on additional roles and responsibilities, they have become less research engaged.	• Consider introducing a JPD model of professional development to encourage teachers to work in small groups to develop practice. • Build research evidence into INSET and training to sustain teachers' engagement with research. • Offer an action research strand to CPD to encourage teachers to carry out action research as they became more experienced. • Routinely discuss research findings and how to implement them in department meetings to help to maintain teacher engagement over time. • Develop external partnerships with networks of research engaged schools (e.g. United Learning schools) or with local universities to maintain and sustain research engagement in a number of schools.

Table 3 Challenges and enablers identified by senior leaders

Challenges & barriers	Enablers to using research evidence to inform practice
Enabling teachers to plan enough time to conduct research and see an impact Many senior leaders believed that teachers wanted instant results, but they sometimes needed to allow a significant amount of time to realise the impact of the research.	• Allow teachers the time, space and freedom to implement research. • Offer more training on educational research to ensure teachers are aware of the timescales and timeframes involved before impacts may be realised.
Developing a shared understanding of research Sufficient time was viewed as necessary to enable teachers to appreciate the benefits, importance, utility and value of research.	• Develop networks and face-to-face training sessions and workshops, (making it *'hands on')* in order to enable teachers to engage with external research.
Cynicism, reluctance and resistance to educational research A number of senior leaders felt that there were a minority of teachers in school who were resistant to change and were happy to keep on doing things the way they always have done.	• Provide examples from within school and from other schools of successful research projects and the impact that they have had. • Use JPD to actively engage teachers and to encourage them to think collaboratively about ways they can improve and develop their teaching practice.
Resistance from pupils and parents to new ideas and strategies coming from research Some senior leaders believed that pupils could be resistant to change and that new techniques sometimes caused behavioural issues. Additionally some parents were reported to favour traditional teaching and learning techniques.	• Clearly communicate with pupils, and where appropriate, parents to explain the rationale behind research and also the evidence base for it. • Introduce and try out ideas and strategies from research incrementally as opposed to trying to do too much too soon.
Ensuring that research engagement is not just sporadic In several schools senior leaders described the challenge of ensuring that research engagement is widespread in the school and that there is buy-in from a large proportion of the staff, as this was the only way for research to make a significant impact on teaching and learning.	• Ensure that INSET and CPD is informed by research and that staff are made aware of this, so that all staff are being exposed to research. • Filter research and target it so that teachers engage with research which they feel is most applicable to their teaching. • Discuss evidence and how to implement it in department meetings so that all teachers are thinking about and discussing research evidence. • Use the JPD model to encourage teachers to work collaboratively to improve practice.
Persuading teachers of the benefits and value of research Several senior leaders mentioned the challenge of persuading teachers of the merit in carrying out their own research, for example to improve or develop practice or to improve outcomes for a particular group of students.	• Provide examples and case studies from within school and from other schools about the benefits and impact action research projects have. • Provide support for teachers who want to undertake masters degrees. • Include action research projects in middle leader, aspiring leader and NQT programmes within school to encourage its use.
Being able to evaluate the quality and robustness of a piece of research In several schools senior leaders commented on the challenge of establishing the technical quality of a research study and also the challenge in distinguishing between robust evidence and well argued opinion.	• Develop an understanding of the nature of educational research and the factors which affect the robustness of the research. • Provide training and support both internally and externally in how to evaluate and critique educational research. • Provide training and support in research methodology.

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**National Foundation for
Educational Research**
The Mere, Upton Park
Slough, Berks SL1 2DQ

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T: 01753 574123
F: 01753 691632
E: enquiries@nfer.ac.uk
www.nfer.ac.uk