



Building Research-Informed Teacher Education Communities

A UCET Framework

Forward

I am happy to support this new framework.

The Chartered College of Teaching, working in partnership with the Teacher Education community, is committed to promoting a culture of research informed pedagogy throughout teachers' careers. This aspirational framework supports a collective ambition that Teacher Education, whatever the context, should always be informed by high quality research. At the Chartered College, we believe it is vitally important that our profession embraces life-long learning and professional development. The most obvious place to begin this culture shift is from the earliest experiences teachers have of learning about their profession. This paper embraces the challenge and provides practical approaches via self-evaluation and review of provision. I recommend it most highly to you.



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Introduction

The landscape of Teacher Education (TE) in the UK is rapidly changing and new and innovative models of where and how teachers engage in formal initial and continuing professional education are burgeoning. TE has always occurred in a range of contexts and with varying partnership arrangements (between universities, primary and secondary schools, further education colleges and early years settings), but policy developments over the last decade have resulted in the growth of an increasingly complex and diverse ecology. The parts played by Higher Education Institutions (HEI) in designing, supporting and sustaining new models of TE are many and varied and University Departments, Institutes and Schools of Education have an exciting opportunity to re-imagine the roles they play in teacher preparation partnerships. Understanding how research underpins, enhances and enriches TE is a unique, crucial and central contribution that universities make in securing high quality TE.

Recognising the unique role of the Universities Council for the Education of Teachers (UCET), the BERA-RSA review, *Research and The Teaching Profession, Building the Capacity for a Self-Improving System* (BERA, 2014), recommended that UCET should “work with its members and partners to...produce a sector-wide plan to strengthen research informed practice wherever this is required.” (p29). However, within the education community, the concept of research is used in a variety of what might be thought of as loose ways, including, for example, reports of innovative practice, as a component of professional development, exchange of knowledge and the theory-practice nexus. This has important implications for teacher education (TE), both initial and continuing.

UCET understands teaching to be a scholarly, evidence-based activity and that **“where possible, teacher educators should introduce new teachers to pedagogies grounded in a firm evidence base”** (Royal Society and British Academy, 2018 p56) thus equipping them both to undertake their own high quality research and to “understand how to interpret educational theory and research in a critical way, so they are able to deal with contested issues” (Carter 2015: p8). We welcome calls for “an agreed level of familiarity with current research in education, and evidence assisted practice in general” (Bennett, 2017 p2) but push beyond the notion of research ‘familiarity’ to offer a bolder, more aspirational framework that sets new challenges with increased expectations for the role and contribution of research in TE.

This paper builds on the BERA-RSA (2014) review, to set out the position of UCET, which is to affirm teaching as an intellectual activity, in which research and researching enhances teachers’ capacity to make a positive and enduring difference to the lives of the children and young people with whom they work. The primary audience for this paper is the community of teacher educators and teacher education leaders and managers working in our university, school, college and Early Years’ settings. The paper will also have resonance for those with strategic interest in teacher education such as University leaders, Head Teachers and policy-makers.

Responding directly to the BERA-RSA challenge, this UCET position paper sets out a practical, dynamic framework that will support development of high quality research-informed practice wherever teacher education occurs. The purpose of this is to enable teacher educators in any context or setting to undertake critical curriculum review, (Nunn, 2017) and to develop TE provision that is deeply and purposefully engaged with research. The framework is supported by exemplary case studies, covering topics including research ethics, action research, scaling up of small scale research findings, developing research capacity and community in school-HEI partnerships.

Discussion of Key Themes

Underpinning Principles

The BERA/RSA (2014) report identified four specific dimensions of the contribution research makes to TE:

- **research-informed** content of teacher education programmes drawing on a range of disciplines;
- **research-informed design** of teacher education programmes and activities;
- teachers and teacher educators being equipped to engage with and be consumers of research;
- teachers and teacher educators being equipped to conduct their own research, individually and collectively.

Research Informed content of TE programmes

UCET believes that initial and continuing TE courses should be informed by scholarship and provide an evidenced basis of knowledge and understanding, which is derived from research that has its origin in a range of academic disciplines and epistemological traditions. Furlong argues that in “Their commitment to the ‘contestability of knowledge’” universities have a uniquely significant role to play in supporting and facilitating research engaged TE contending that “it is this commitment that goes to the very heart of what the university-based study of Education can contribute.” (Florian and Pantić, 2013: p8).

Effective teaching practice demands engagement with a broad range of knowledge bases that are made more powerful when they are research-informed. It is therefore of central importance that TE programmes contain elements of the syntactic and substantive subject knowledge of the founding disciplines of Education in relation to the practice of teaching, for example, philosophy, psychology, sociology and history. Additionally, teachers’ engagement with contemporary research issues and debates pertinent to their specific curriculum areas must be supported.

Research-Informed design of TE programmes

The development of pedagogical reasoning, (Shulman, 1987), that scaffolding which supports the sophisticated intricacies of a teacher’s professional practice, is a fundamental element of all good initial TE courses. Far from being a simple ‘pot-filling’ exercise of ‘tell and listen’, learning to teach is complex and involves an appreciation of the problematic milieu of the classroom, described by Schon (1983 p42) as “the swampy lowlands” of practice where important but messy issues arise that cannot simply be resolved by technical management. It has been argued (Loughran, et al. 2016) that understanding the manner in which pedagogical reasoning develops and how it influences practice is a challenge that should be taken up by all TE programmes. UCET contends that this is central to any TE curriculum and further, that teacher educators’ own research should continue to inform this corpus of educational knowledge.

Teachers and Teacher Educators as Consumers of Research

UCET concurs with the assertion in the BERA/RSA report (2014) that ‘to be at their most effective, teachers and teacher educators need to engage with research and enquiry – this means keeping up to date with the latest developments in their academic subject or subjects and with developments in the discipline of education’ (p6), as argued above. This continuous informing and updating of the knowledge bases of teaching enables an upward spiral of increased understanding that characterizes successful pedagogies, (la Velle and Flores, 2018).

Teachers and Teacher Educators-as-Researchers

UCET recognises the current tensions between research activities and regulatory regimes, such as in the case of teachers, OfSTED, and for teacher educators, the Research and Teaching Excellence Framework (REF). Nevertheless, there is universal recognition that teachers researching their own practice can generate unique ‘insider knowledge’ that provides valuable new insights and conceptualisations of educational processes and practices, (Burke and Kirton, 2006).

The UCET Research-Informed Teacher Education Framework

Structured around BERA-RSA's four dimensions of research engagement detailed above the **UCET Research Informed TE Framework** provides a structured 'thinking tool' that can be used in a very practical way to kick-start development and change in local contexts. By working through the framework, users will be prompted to interrogate and develop aspects of existing practice that research has identified as having a significant bearing on successful practice. The framework will support users to:

- **Explore** existing attitudes and approaches to research production and usage in their own context;
- **Engage and collaborate** with the institutional community (university, college, school, EY setting) to develop better understandings of using and producing research in their own contexts;
- **Create** new meanings, identities and roles in relation to research;
- **Drive** innovation and implement change;
- **Improve** quality and outcomes for teachers and the schools, colleges and Early Years settings in which they work.

The framework design is underpinned by an enquiry-based approach, that encourages inclusive, collaborative and co-constructionist approaches to institutional growth and development in relation to research engagement. The process is context-sensitive and starts with reflexive engagement with the everyday experiences of participants in the specific TE community. This enables participants to develop, in collaboration with others, grounded descriptions of research engagement in their particular context. Teacher educators are enabled to 'work towards change' that is distinctive, highly differentiated and tailored very precisely to the needs and aspirations of the particular institution and the communities they serve.

The framework aims to enable:

- strategic TE leaders to be bolder about their expectations of the role research engagement can play in securing high quality TE learning cultures/communities that secure better (more socially just) outcomes for young people participating in Education;
- TE operational leaders to identify the practical steps necessary to building a research informed community;
- teacher educators to become more ambitious in the way they engage with research (as both users and producers);
- all participants in teacher education sector to make greater and better use of research (as content and process) towards achievement of more ambitious classroom impacts/outcomes for learners.

We also hope that the framework will help teacher educators and teacher education leaders in non-university settings to initiate conversations about the place, role and value of research in their contexts and to consider the role that university partnerships meaningfully might play in their work.

Using the Framework

Informed by the work of Neary (2010), the framework invites teacher educators to analyse and self-assess their provision in relation to research. The framework makes use of Neary's five-point assessment scale, which users may find useful to enable benchmarking and cross-institutional comparisons. However, it is recognised that numerical judgements may or may not be useful depending on purpose and priorities. The framework can be used by those with different roles in teacher education, to achieve a range of outcomes. This process may reveal that the various stakeholders interpret the elements of the framework very differently. In turn, this creates productive opportunities for professional dialogue and development.

Vision, Values, Ethos

Establishing 'whole institution' vision and values for development are an important starting point for ensuring that innovation is aligned to strategic priorities and that interventions will be well supported and sustainable. The opening 'challenge questions' of the framework therefore provide an opportunity to reflect on purpose and vision to facilitate the development of a 'context for change', an environment within which teachers are well supported and enabled to take sensible risks, be innovative and creative in pursuit of a first class, student-centred experience.

Self-assessment scoring need only be used where it is felt to be productive. Users may simply prefer to use the descriptors if this is a more fruitful approach in their context.

The UCET Research-Informed Teacher Education Framework

DIMENSION 1			
Research informed content of teacher education programmes drawing on a range of disciplines;			
Opportunities for reflection and discussion	Self-assessment 0 – currently no evidence of this feature 1 – poor inclusion of feature 2 – partial inclusion 3 – adequate inclusion 4 – optimal inclusion	Justification of self-assessment including examples from existing practice	Priorities for local action and development
<p>1.1. All aspects of programme content are informed by current research</p> <p>1.2. Student teachers are introduced to the contested nature of the knowledge base and have opportunities to explore competing ideas/issues/debates about practice</p> <p>1.3. Student teachers are encouraged to position themselves within contemporary issues and debates relating to all aspects of the curriculum</p> <p>1.4. Student teachers are encouraged to explore insights from sister disciplines e.g. sociology, psychology, philosophy, health and well-being etc. to support concept-making related to their own practice</p> <p>1.5. Student teachers explore ethical issues related to research in education generally and practice based and practitioner-led research/enquiry in particular</p>			
DIMENSION 2			
Research informed content of teacher education programmes and activities;			
Opportunities for reflection and discussion	Self-assessment 0 – currently no evidence of this feature 1 – poor inclusion of feature 2 – partial inclusion 3 – adequate inclusion 4 – optimal inclusion	Justification of self-assessment including examples from existing practice	Priorities for local action and development
<p>2.1. Teacher Educators research their own teaching and learning practices using theoretically secure research methods and methodologies (across a range of paradigms)</p> <p>2.2. Students and Teacher Educators contribute to pedagogical research into their teaching, learning and assessment experiences</p>			

DIMENSION 3			
Teachers and teacher educators are equipped to engage with and be consumers of research ;			
Opportunities for reflection and discussion	Self-assessment 0 – currently no evidence of this feature 1 – poor inclusion of feature 2 – partial inclusion 3 – adequate inclusion 4 – optimal inclusion	Justification of self-assessment including examples from existing practice	Priorities for local action and development
<p>3.1. Student teachers appreciate the diverse nature of the research evidence base and know how/where/what to look for to support professional enquiry</p> <p>3.2. Student teachers explore a range of research paradigms, methodologies and methods and are well equipped to evaluate the meanings and values of different kinds of research outcomes</p> <p>3.3. Student teachers engage critically and analytically with the contestability of research concepts and are able to take up an independent position within existing debates</p>			
DIMENSION 4			
Teachers and teacher educators are equipped to conduct their own research , individually and collectively.			
Opportunities for reflection and discussion	Self-assessment 0 – currently no evidence of this feature 1 – poor inclusion of feature 2 – partial inclusion 3 – adequate inclusion 4 – optimal inclusion	Justification of self-assessment including examples from existing practice	Priorities for local action and development
<p>4.1. Student teachers are able to design and justify a professional enquiry including:</p> <ul style="list-style-type: none"> - Contextualising their enquiry - Engaging with existing literature - Understanding the research paradigm they are working within (what it takes for granted how it positions them and others within the research) - Justifying research methodology and methods - Articulating the benefits/beneficiaries/limitations/ impact of outcomes <p>4.2. Student teachers explore the ethical issues related to their chosen practice based enquiry and take up and describe a responsible ethical position in relation to their work.</p> <p>4.3. Student teachers justify their ethical decision making to a formally constituted ethics scrutiny panel to which they are accountable as a requirement of final assessment.</p> <p>4.4. Student teachers demonstrate their understanding by undertaking (independently or collaboratively) professionally enquiry as part of the formally assessed aspects of their programme.</p>			

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Appendix

Exemplary Case Studies

1. Science subject knowledge in Primary ITE (Fay Lewis, UWE)
2. Outstanding Practice in Mathematics (Jo Skelton, Oxford Brookes)
3. Thinking It Through: Using lesson study approaches to engage with effective pedagogic strategies (Rachel Lofthouse, Newcastle)
4. Partnership Approaches to Research-Informed ITE (John Thornby, Warwick)

Building Research Informed Teacher Education Communities: the UCET Framework

Case Study

Title of Case Study	Building research-informed teacher education communities
Contributing Institution	UWE Bristol
Author/s & lead contact details Please include the name, role and email address you would reported with the case study	Dr Fay Lewis Senior Lecturer- Primary Maths and Science Education Fay.lewis@uwe.ac.uk
Which dimension/s of the UCET framework does your case study illustrate? (please delete those which don't apply)	<ul style="list-style-type: none"> • research informed content of teacher education programmes drawing on a range of disciplines; • research informed design of teacher education programmes and activities; • teachers and teacher educators being equipped to conduct their own research, individually and collectively.
Please identify teacher education context including phase (HE, PCE, Secondary, Primary, Early Years, SEND), teacher career stage (pre-service, post-qualification) and anything else that might help the reader to understand the context for the work	HE ITE Primary STEM Education- pre-service teachers
Summary (max 1000 words) Please include: Description of the Activity & how it's illustrative of the selected dimension You might include (guidance only): <ul style="list-style-type: none"> - context of the teacher education programme (sector/phase/ career stage of participants) - when and how it was developed - how long the initiative has been running - how it's funded (start up and sustainability costs if any) - how effective/valuable/useful/ impactful the initiative is considered to be - any lessons you've learned along the way (we're interpreting impact broadly rather than in the REF sense and invite you to select your own evidence of impact)	<p>In UK primary schools there are very few teachers who have any scientific qualifications above GCSE level. Many also report that they struggle with science subject knowledge and that this causes them to feel less confident about teaching science. Unfortunately, we know that these aspects can have a negative impact on children's learning and attitudes to science. The work described below was undertaken by a cross-disciplinary team of staff and students at UWE Bristol who attempted to address this using a paired peer model where undergraduate Initial Teacher Education (pre-service, ITE) teaching students were paired with undergraduate engineering students within a knowledge exchange framework.</p> <p>Initial work was supported through the Engineers Professors' Council (20th Anniversary Grant of £9,667) and a UWE Spur 6 Grant (£13,655 2014/15) with a group of 20 volunteer students. Training was given to the pre-service teachers about what engineers do, how they work and how science can be taught through engineering. The engineering students were then given training about how to understand children's scientific thinking and knowledge, how to use this to support learning and how to use questioning successfully. The students from the two disciplines were then paired up and trained in the use of engineering challenge materials to teach science, designed for the Key stage 2 classroom.</p>

Title of Case Study	Building research-informed teacher education communities
	<p>Finally, the pairs of students went into local schools to work on these challenges with upper KS2 children, teaching science through engineering.</p> <p>As researchers we were interested in the outcomes for both the engineering and pre-service teachers. We looked at the engineers public engagement skills and found that they were much more likely to engage with educational activities and projects such as this again in the future. Rather than de-skilling the pre-service teachers, pairing them with an 'expert' engineering student appeared to be a vital contributor to the positive outcomes of the project. Research findings indicated that for the ITE students there were significant gains in their STEM subject knowledge and confidence in their ability to teach these subjects (a key factor in ensuring positive outcomes for children (Ofsted, 2011, Singh & Stoloff, 2008)). This work was presented at the ECER conference (Budapest 2015) and the following paper published.</p> <p>Fogg-Rogers, L., Lewis, F. & Edmonds, J. (2016): Paired peer learning through engineering education outreach, European Journal of Engineering Education pp 75-90</p> <p>A second paper relating to the pre-service teachers is also nearing completion along with an article for a teacher facing publication (the association for science education) about to be published.</p> <p>Following the success of the volunteer pilot project the paired-peer model and the toolkit of teaching and research materials developed has now been formally built into UG programmes within engineering and education programmes thanks to support from a HEFCE grant (£50,000 Catalyst fund, 2016). This is being used to help us to evaluate longer term, sustainable impact and to embed this good pedagogical practice. This year over 70 UWE undergraduate engineering and ITE students participated in this work as part of their programme modules, delivering engineering challenges and teaching science through engineering to over 300 primary school children. This work is currently being reviewed for the impact that it may have on children's attitudes towards science and engineering and their future aspirations. We are also evaluating if participation in the work has a long-term influence over practice of the ITE students as they move into their teaching careers.</p> <p>A toolkit of HE pedagogy which integrates active learning through paired peer mentoring and networks has been developed. This unique pedagogy now needs to be disseminated to other HEIs to drive forward practice and widen impact using the UWE model. One objective for this next stage of work will be to develop a forward bid to disseminate the toolkit and model as well as offering CPD training to a variety of regional engineering industries to enhance their outreach provision.</p>

Building Research Informed Teacher Education Communities: A UCET Framework

Exemplary Case Study Template

Name: Jo Skelton; Jane Liddle
Email: jskelton@brookes.ac.uk; jliddle@brookes.ac.uk
Institution: School of Education, Oxford Brookes University
Title: Outstanding Practice in Mathematics

References

- This maths specialist module is one of the optional pathways offered to Y3 BA students; in addition to the core maths module delivered to all students (covering maths subject knowledge and pedagogy); specific focus on delivering innovative methods for developing the maths curriculum in school, in preparation for a future role as maths subject specialist/ curriculum leader
- Relationship to Teachers' Standards: TS 2, 3, 4, 5, 7, 8

Relationship between research and teacher education (select one or more):

- Informed by pedagogic / professional learning research
- Informed by other education research
- Engaging students in school-based research / enquiry
- Developing students' understanding of research processes

Recipients and where, context:

Who received: Y3 BA (Hons) students – final year of course. Students select a specialist pathway, in order to develop a specialist understanding in a chosen field. This module runs in addition to the core maths module delivered to all students (covering maths subject knowledge and pedagogy). The specific focus for this module is to explore innovative methods for teaching the maths curriculum in school, in preparation for a future role as maths subject specialist/ curriculum leader.

Where: A combination of on campus sessions, sessions in primary schools and sessions working in school alongside mastery specialist teachers.

Recipients and where, context:

Use of current research to identify the key areas of enquiry, which are:

- Teaching maths through story and other creative strategies
- Teaching maths through mastery
- Using the outdoor environment
- Leading the development of maths in school

Each theme follows a similar cycle, which is:

- Launch key idea with a 'specialist/researcher' e.g. for the story telling, Natthapoj Vincent Trakulphadetkral (colleague from University of Reading <https://www.mathsthroughstories.org>).
- Use research to develop teaching strategies/ create teaching resources e.g. using criteria for selecting books for teaching mathematics (Lake, 2009; Burns, 2010).
- Trainees create their own teaching sequence, based on their chosen book.
- Trainees trial their resources in school.
- Trainees reflect on the process/ learning opportunity and the impact on learning.
- Trainees formally write up their reflections, with supporting evidence/research of impact on learning, as part of the assessment of the module.

18 sessions of 1.5 hours across two semesters, at times to suit attendance in schools and at external events

Who provided:

The sessions are delivered by the Primary Maths team (currently two senior lecturers).

Summary of key outcomes/benefits:

The key outcomes are to prepare the student teachers to become outstanding practitioners in the teaching of mathematics and to prepare them to lead the development of this core subject in primary schools.

The use of the research to lead this module has the following benefits:

- Trainees are clear about what is considered to be current good practice.
- Trainees understand how to use evidence to inform their own practice and, in the future, to inform how they might develop this subject within school.
- Trainees are encouraged to critically evaluate published research and to consider this in the light of their own experience, in trialling their resources in school.
- Use of research to inform practice is clearly modelled to trainees, who actively engage in the process, thus building habits of developing sustainable evidence-informed practice for the future.

Challenges/issues/ scaling:

- Access to the 'specialists' for the trainees to work alongside
- Time to trial their resources in school
- When scaling up- sufficient schools willing to host the shadowing sessions

Thinking It Through:

Using lesson study approaches to engage with effective pedagogic strategies

Why:

Student teachers undertake a Master's level module which introduces them to pedagogic practices of teaching thinking, theories of metacognition, and the significance of dialogue for learning. The module is designed to draw on relevant research evidence while offering practical strategies for the student teachers to extend their teaching repertoire. The module promotes professional learning as student teachers develop and teach a thinking skills intervention within the context of their age-appropriate subject teaching. Students use an adapted version of lesson study as a collaborative approach to create peer support and ensure critical engagement with the teaching and learning outcomes.

The module helps students to demonstrate evidence towards the following Teachers' Standards:

- T 1 Set high expectations which inspire, motivate and challenge pupils
- T 2 Promote good progress and outcomes by pupils
- T 3 Demonstrate good subject and curriculum knowledge
- T 4 Plan and teach well-structured lessons
- T 8 Fulfil wider professional responsibilities

Relationship between research and teacher education (select one or more):

- Informed by pedagogic / professional learning research
- Informed by other education research
- Engaging students in school-based research / enquiry
- Developing students' understanding of research processes

Recipients and where, context:

All Newcastle University Secondary PGCE & School Direct PGCE students and trainees following the Newcastle SCITT Primary and Secondary ITT programme. In 2016-17 this involved about 150 students, training in age phases between 5-18, and working in over 40 North-east schools.

What, when, how long/much:

This module is introduced through a two day conference during which the students were introduced to teaching thinking skills, metacognitive talk and lesson study. They follow this up using Lesson Study to co-plan, teach, observe and co-enquire into this pedagogic approach in their placement schools. The focus on teaching thinking skills builds on the legacy of former work by tutors and school teachers in the North East of England, in the late 90s and early 2000s which resulted in the '[Thinking through ...' series of books](#). This module is the second of three and provides a stimulus for professional learning, practice development and peer support at the start of the second term of the PGCE.

Who provided it:

During the conference students had keynote lectures provided by ECLS colleagues Professor David Leat and Professor Rachel Lofthouse and Kirsty Tate (Assistant Headteacher from [Park View School](#)), and were also introduced to Project-based learning by a group of their fellow School Direct PGCE students. In between these sessions were six workshops, during which PGCE tutors modelled and debriefed teaching thinking skills approaches with the students providing them with practical and adaptable metacognitive strategies to use in their placement schools.

A summary of key outcomes/benefits:

All students give joint presentations on their learning through lesson study and follow this with a short written assignment. The module helps build the student teachers' repertoire and allows them to engage with the links between research and practice in a focused and productive way. Workshops were well received by the students, as one of our Employer-based PGCE students stated, "The sessions on Thinking Skills were very engaging and highly insightful." In 2015, James Rivett, an MFL PGCE student who had worked in partnership with a science student for this module went on to publish a blog post in which he described the experience as one which went beyond ticking boxes to something which felt real and enabled a deeper process of learning. This was circulated widely amongst the Lesson Study practice and research community.

Challenges/issues/ scaling:

Other providers could readily use lesson study, focusing on developing key pedagogic practices, either as part of Masters' level study, or as part of school-based training. The significance here is the authentic link to pedagogies developed through original research-practice partnerships, and the fact that the module provides an opportunity for building legacy from that work.

Partnership Approaches to Research-Informed ITE

A Case Study

John Thornby, Centre for Teacher Education, University of Warwick

Why:

In responding to the government's drive for school-led ITE, the University of Warwick has introduced a number of collaborative partnership activities that harness the experience and expertise of practitioner researchers in partner schools, alongside academic staff from the University and beyond. The primary motivation for this was to provide opportunities to expose trainees to examples of practice-based research that would evidence the impact this can have on personal development and pupil outcomes, while supplementing the more theoretical reading they were undertaking as part of their PGCE course. Over time, however, the activities have broadened in scope and now serve several purposes. While the principal focus remains as the shaping of a research-rich ITE experience, Warwick recognised the potential for these activities to serve as CPD opportunities for mentors and other staff in partnership schools, as well as an opportunity to develop the strength and depth of partnership through collaboration.

How:

The initiative began in 2014 with the inception of the "Research in Action" conference. This one day conference replaces a teaching day in the PGCE Secondary calendar and brings together practitioner researchers from across the partnership with academics from the Centre for Education Studies and other institutions. The conference has opening and closing keynotes, with a carousel of presentations and workshops throughout the day, from which trainees are free to choose.

A subsequent development has been the repositioning of what used to be the annual mentoring conference as a more general "Excellence in Education" conference. While this conference retains its training focus (in particular for new mentors), it also offers more experienced partners the opportunity to shape the ITE course in other ways and engage in CPD to understand the latest theoretical and policy developments in teacher education.

Finally, in 2017 Warwick launched the Warwick Journal of Education – Transforming Teaching (WJETT). The remit of this project was to capture innovation and best practice, and promote research-informed teaching and learning within schools and teacher education.

Recipients:

The "Research in Action" conference began with a principal audience of PGCE Secondary trainees (university-led and all School Direct pathways), but in subsequent years partner schools have begun to send representatives to attend for the purposes of CPD, who then disseminate the learning upon their return to school. The "Excellence in Education" conference is aimed at staff from schools across the partnership who support ITE, predominantly as a training opportunity.

WJETT aims to make good quality research and innovation accessible to practitioners. It is positioned in such a way as to be more academic than magazine supplements (such as TES), but more accessible than traditional academic research – both in terms of cost and the kind of language its articles employ.

Processes / content:

Content for the "Research in Action" and "Excellence in Education" conferences is largely sourced from within the partnership. Practitioner-researchers share their work and, more importantly, its impact, at these events; experienced mentors provide training and guidance for those who are new to the role and join roundtable discussions about the future direction of ITE and the partnership's training offer.

WJETT invites contributions from students, teachers and academics alike. Although it accepts articles all year round, its publication schedule and deadlines are constructed in order to synchronise with the school academic calendar and give practising teachers the opportunity to work on drafts and corrections during vacation periods. Content can be anything transformational within education, but should be aimed at an audience of practitioners. It is free to publish in WJETT and articles are available via its webpage on an open access basis.

Who:

The “Research in Action” conference has grown considerably over its short lifetime, from 10 presenters in 2014 to 24 in 2017. Presenters are mostly selected on a volunteer basis from staff within the partnership who can be released from teaching duties for the day. These form the bulk of the carousel workshops, which are supplemented by content from academics and other professional organisations. The keynotes are specifically invited and are usually themed around developing teaching with a solid evidence base.

The “Excellence in Education” conference is slightly more directed (in terms of content) by the University partner but is prepared and delivered collaboratively with school staff – usually senior leaders with a responsibility portfolio for ITE and/or staff CPD.

WJETT involves a range of stakeholders at all levels. The Editorial Board is led by academic staff but has representation from schools and students. Each submission is peer-reviewed and the journal’s policy is to assign a minimum of one technical specialist (usually an academic) and one practitioner from the local partnership. This ensures that the work is academically rigorous and robust, but also accessible to the intended audience.

Outcomes and Benefits:

A strength of this collaborative approach is that school-based stakeholders have an equitable role in the creation and delivery of research-informed education and CPD. This gives them a measure of responsibility and creates a sense that they are taking a leading role in shaping the future of education. This also helps to strengthen relationships and improves goodwill, which can have tangible benefits in managing other aspects of ITE.

The activities discussed are a vehicle for Warwick to achieve many of the recommendations outlined by Carter and the Munday Review. While they could be addressed in other (more traditional) ways, this teaching experience is found to be more varied and engaging for the trainees, and the content of the conferences and journal creates a legacy that can have longer-lasting impact. It also provides a platform for staff CPD beyond the primary audience of PGCE trainees, which will serve to improve the quality of teaching and learning in the local community over time.

Challenges:

The principal challenge of these kinds of activities is securing the participation of staff in schools. While many are keen to participate and/or contribute in principle, the pressures and demands of school life understandably take priority and often mean that individuals are unable to commit. This can lead to a perception that events and activities are attended by only a small kernel of individuals from across the partnership – namely those who have protected time within their school roles to support ITE activities. Over the last three years, however, this number has grown. Reasons for this are that schools (in particular Alliance Lead Schools and Teaching Schools) are beginning to recognise the need to be research-engaged and have created dedicated roles for Directors of Research or similar, as well as being more open to releasing staff for the purposes of CPD. Warwick is also fortunate to have one of the new Research Schools within its partnership, which brings with it expertise and opportunities within research, as well as additional capacity to support other partner schools with research activities.

Key challenges moving forward are to find ways to share and disseminate the learning from these events with partners who are unable to attend in person (due to geographical or other logistical constraints), and perhaps exploit technology in order to facilitate participation at a distance.

Links:

WJETT: <http://journals.warwick.ac.uk/index.php/wjett/>

Advancing the learning of research-informed practice through authentic learning experiences

A Case Study

Kimberley Hibbert-Maine (University of Worcester)

Rationale:

This case study provides an example of an 'event' (authentic learning experience) which is now embedded into the Secondary PGCE PE programme to enhance trainee competence and confidence while engaging in research and evidence-informed practice. The example is a Multilingual Athletics Festival which also saw trainees evidencing aspects of the following Teachers' Standards: 1a, 1b, 2d, 3a, 3c, 4a, 4b, 4d, 4e, 5b, 5c, 5d (English as an Additional Language (EAL) in particular), 7c, 8a, 8d, Part 2.

Relationship between research and teacher education (select one or more):

- Informed by pedagogic / professional learning research
- Informed by other education research
- Engaging students in school-based research / enquiry
- Developing students' understanding of research processes

Recipients and where:

- Cohort of Secondary PE trainees (currently 31) who are completing their one year PGCE in Physical Education at the University of Worcester.
- The Multilingual Athletics Festival is held at one of the University's own campuses using the 3G astro and sports hall facilities.

Context:

The distinctive pedagogical knowledge and skill of teachers is vital for meeting the needs of all pupils (Capel, Leask & Younie, 2016). The lack of provision for teachers to acquire knowledge and skill in the areas of EAL has been widely criticised for decades (Arnot et al 2014; Cable 2009 & Hall; Cajkler 2008, 2010).

"Research has shown that the specialist expertise within the teaching workforce for pupils with English as an additional language is currently not sufficient to meet the demand." TDA (2011: p.2)

A legacy of resources which were distributed (under the then named Department for Education and Skills (DfES) went somewhat in enhancing Initial (pre-service) Teacher Training (ITT) in the areas of EAL from around 2001-2010. However, since 2010 the Coalition government's policies regarding the needs of EAL learners seems to have regressed. Supporting EAL learners is no longer identified as a priority for the teaching profession (NALDIC 2013). The Department for Education (DfE) has issued no guidance since the publication of 'Developing Quality Tuition: Effective practice in Schools - English as an Additional Language' (DfE 2011); though it is worth noting that there is little to no direct reference to ITT within this document. The most prevalent documents in ITT currently include the Carter Review of Initial Teacher Training (DfE 2015) and the Education Excellence Everywhere Framework (DfE 2016a); neither mention EAL. The onus on Initial Teacher Educators (ITE), Schools, teachers and independent bodies to 'craft' their own effective EAL teaching practices is only further amplified by the latest Ofsted School Inspection Handbook (2015) which again, makes no mention at all of EAL. Therefore it could be assumed that except for a number of case studies of good practice (Ofsted, 2011), pre-service training of EAL teaching remains an area for development as it has been for decades (TTA, 2005).

Rationale:

While pupils with EAL are not regarded in law as having special educational needs, teachers need specialist knowledge and skill for delivering in a way that promotes language learning alongside content learning. (Capel, Leask & Younie 2016). As with all skill development, the differentiation of teaching approaches to suit the needs of pupils with EAL requires an element of deliberate practice (Larke et al. 2014). However, while the number of EAL pupils in UK schools is on the rise, Worcestershire statistics remain lower in comparison (National population of secondary aged EAL pupils is around 15%. Worcestershire is only around 5% (DfE, 2016b). This means trainees from the University of Worcester are not generally experiencing enough preparation or delivery of teaching approaches for EAL while on placement. The variability of trainee experience in EAL teaching is not unique to the University of Worcester or its partnership schools. Davies (2012: p.11) reiterates this by stating that “the opportunities that trainees have to teach EAL pupils learning EAL will vary from course to course and school to school”. Until we introduced the Multilingual Athletics Festival less than half of PE cohorts agreed that they ‘had some opportunity to work with pupils for whom English is an additional language’ during Autumn Term Surveys (2015, 2016) and, only around half of the cohort responded ‘Good’ to whether they felt ‘proficient’ working with learners with EAL during exit surveys in the same years.

What, when, how long/much:

It was decided after some deliberation and a small-scale review of pedagogies relating to practical experience in Higher Education (HE) and teacher education that an authentic learning experience (Pelton 2013; Stein et al. 2004) in the form of the above mentioned Multilingual Athletics Festival would be implemented.

There has since been two annual Multilingual Athletics Festivals held at the University of Worcester with a third planned for June 2019. Between 40-50 EAL pupils of varying English language competencies from local partnership secondary schools attend the day-long event. To ensure that pupils benefit from the experience (addressing the Carter Review’s priority of pupil outcomes) activities are carefully researched and then planned by trainees to promote social integration, content-specific language development and sporting achievement (Arnot et al, 2014). The trainees repeat the delivery (in pairs) of their 20-minute activities six times. This provides the opportunity for trainees to reflect ‘in action’ (Stein et al. 2004) and work with their partner to refine approaches allowing learning to take place contemporaneously. Funding was secured via an internal Learning and Teaching initiative which was used to fulfil equipment and printing requests from the trainees for their activities.

To close the loop on the learning process trainees are then asked to reflect on the process in their subsequent weekly review, and then in preparation for and evaluation of future EAL teaching experiences; hence developing the skills needed for evidence-based pedagogic practice.

Summary of key outcomes/benefits:

- Authentic learning experiences (events that replicate or even magnify school-based contexts) in University can give trainees the opportunity to practice research, evidence-informed and professionally learned skills.
- Organising such events during a University-based teacher education programme cannot decrease the variability in trainees’ individual opportunities to work with certain pupils or in certain contexts while on placement, but can ensure that ALL trainees experience it during their initial training.
- Trainees’ perceived proficiency (confidence) in areas of the Teachers’ Standards (in this instance teaching EAL pupils) can increase after authentic learning experiences.
- Trainees are more inclined to engage in research and evidence-informed practice when they are required to apply it to an authentic learning experience in University.
- Authentic learning experiences may increase trainee compulsion to reflect on research and evidence-informed theory in their work.

Challenges/issues:

- Trainees have not received tutor-feedback on the research and evidence-informed approaches used within their activities as staff have been otherwise engaged in the running of the event on the day. Feedback is obviously an important part of any deliberate practice (Larke et al. 2014).
- Stein et al (2004) would challenge one-off events saying that practice and literature needs to be revisited to moderate confidence.

Scaling:

- Other authentic learning experiences ('events') have been implemented into both the PE programme and the whole cohort Professional Studies programme:
 - PE Teaching Approaches Conference
 - PSHE Fayre
 - SEND Conference
- Currently the PE trainees and the Secondary PGCE Modern Foreign Languages trainees are planning the next Multilingual Athletics Festival in collaboration. It is hoped that the additional sharing of subject-specific expertise between cohorts will extend the trainees' knowledge and understanding of language development and learning through physical activity.

Links:

Arnot, M., Schneider, C., Evans, M., Lui, Y., Welply, O. & Davies-Tutt, D. (2014). School approaches to the education of EAL students: Language development, social integration and achievement, Cambridge, The Bell Foundation.

Cable, C. ed. (2009). Developing a bilingual pedagogy for UK schools, Reading, NALDIC.

Cajkler 2008, 2010

Capel, S. Leask, M. & Younie, S. (2016) Learning to Teach in the Secondary School: A champion to school experience.

Davies, N. ed. (2012). EAL and initial teacher training: Guidance for providers. Reading: NALDIC.

Department for Education. (2011) Developing Quality Tuition: Effective practice in Schools - English as an Additional Language, London, Department for Education.

Department for Education. (2015) Carter review of Initial Teacher Training. London, Department for Education.

Department for Education. (2016a) Education Excellence Everywhere Framework. London, Department for Education.

Department for Education. (2016b). Schools, pupils and their characteristics January 2015 (SFR 15/2016). <https://www.gov.uk/government/statistics/schools-pupils-and-their-characteristics-january-2016> (Accessed 1st March 2017).

Larke H. Bronkhorst, Paulien C. Meijer, Bob Koster & Jan D. Vermunt (2014) Deliberate practice in teacher education, European Journal of Teacher Education, 37:1, 18-34, DOI: [10.1080/02619768.2013.825242](https://doi.org/10.1080/02619768.2013.825242)

NALDIC (2013) Key Reports and Events impacting on provision for EAL Learners, Reading, NALDIC.

Office for Standards in Education. (2011) English as an additional language: A briefing paper for Section 5 inspector. London, Ofsted.

Office for Standards in Education. (2015) School Inspection Handbook. London, Ofsted.

Pelton, J. (2013) Assessing Graduate Teacher Training Programs: Can a Teaching Seminar Reduce Anxiety and Increase Confidence? Teaching Sociology, Vol 42, Issue 1.

Stein, S. Isaacs, G. & Andrews, T. (2004) Incorporating authentic learning experiences within a university course. Studies into Higher Education, Vol 29, Issue 2.

Teacher Development Agency. (2011) Languages in training English as an additional language, Manchester, Teacher Development Agency.

Teacher Training Agency. (2005) Handbook of guidance. Cambridge, Teacher Training Agency.

The British Educational Research Tool: Integrating Engagement (BERTIE)

Kate Reynolds, Joe Fort and Linda la Velle (Institute for Education, Bath Spa University)

Rationale:

BERTIE is a web-crawler that only searches pre-defined websites that have been curated through academic moderation. Working within a protective 'walled garden', users benefit from searching education research, policy and comment while being confident that their results have assured academic rigour guaranteed through the curation process. This tool is being developed in light of government priorities around professional development for teachers, including:

- DfE consultation 'A World Class Teaching Profession' (2015) that specifically recommends the development of online platforms for teachers.
- Education White Paper 'Educational Excellence Everywhere' which further defines the need for high-quality CPD input for teachers.
- McKinsey's 2007 and 2010 calls for the improvement of the quality of teaching
- BERA/RSA's (2014) challenge to improve access to educational research as a keystone of professional development.

Relationship between research and teacher education (select one or more):

This case study is:

- Informed by pedagogic / professional learning research
- Informed by other education research
- Engaging students in school-based research / enquiry
- Developing students' understanding of research processes

Moderators are able to choose which URLs are included in the BERTIE archive. These sites are then crawled on a daily basis to produce the most up to date results. Moderators can re-title or flag specific web resources or pdfs for users and can also 'boost' certain URLs. This allows moderators to affect which results appear first in any given search. BERTIE can export selected web resources in Harvard Reference format into csv. files.

Recipients and where, context:

A prototype of BERTIE was trialled with 1st year undergraduate student teachers. In a pre-test survey, students were asked:

- How would you rate the quality of your current research skills?
- Does BERTIE sound like a useful tool?
- What modes of research do you currently engage with? (Library, Google, etc)

What, when, how long/much:

Students were then invited to access BERTiE in relation to their courses and assignments and after two semesters, a post-intervention survey asked them:

- Has BERTiE improved the quality of your research skills?
- How often did you use BERTiE?
- Would you recommend BERTiE to other education students?
- How would you describe BERTiE in one or more words?
- Are there any particular resources/references that you referenced in your work/study outside of BERTiE; please provide an example so we can include it in the BERTiE database.

Summary of key outcomes/benefits/challenges:

Evaluation of the small data set indicated the following outcomes and areas for further development:

- Further user testing is needed to refine and expand prototype and flush out errors.
- Refining the search database based on user feedback.
- Exploring ways to utilise the tool in practice, and explore synergies with other systems and stakeholders.
- Develop BERTiE working practice with partnership schools to encourage teaching staff to inform best practice by 'dipping their feet' back into research with BERTiE.
- Develop the platform to make available and to market nationally/internationally.
- Find new collaborators!

Links to websites/literature/papers for further details:

www.bertiesearch.org

Appendix

Building research-informed teacher education communities: a UCET Framework

Exemplary Case Studies

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2	Outstanding Practice in Mathematics	Jo Skelton	Oxford Brookes	5
3	Thinking It Through: Using lesson study approaches to engage with effective pedagogic strategies	Rachel Lofthouse	Newcastle	7
4	Partnership Approaches to Research-Informed ITE	John Thornby	Warwick	9
5	Advancing the learning of research-informed practice through authentic learning experiences.	Kimberley Hibbert-Mayne	Worcester	12
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