Re-forming Initial Teacher Education in Wales: A Personal Review of the Literature

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ABSTRACT

The focus of this special issue is the changes to Initial Teacher Education (ITE) that have been instituted in Wales over the last two years. At the heart of the new approach is the insistence that in the future all programmes of ITE should be planned, led and delivered not by universities alone, but by universities working in close collaboration with a number of partner schools. But what is the justification for these radical changes? Why is a collaborative approach between universities and schools needed? This paper, which takes the form of a personal literature review, sets out the research evidence on which I drew in contributing the reform process. It considers evidence on three issues: the role of schools; the role of universities; and the ways in which they can effectively work together.

Key words: Initial Teacher Education, partnership, research

Introduction

The focus of this special issue is the changes to initial teacher education (ITE) that have been instituted in Wales over the last two years. As many readers will already be aware, the basis of those changes is a new accreditation process (Welsh Government, 2017) that was established following my report *Teaching Tomorrow's Teachers* published in 2015 (Furlong. 2015). At the heart of the new approach is the insistence that in the future all

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programmes of ITE should be planned, led and delivered not by universities alone, but by universities working in close collaboration with a number of partner schools. Rather than a university being an accredited provider, in the future it will be a partnership made up of one or more universities working with a number of 'lead partner schools' that will be accredited. Both partners will now be responsible for conceptualising the programme, developing the curriculum and both contributing to the teaching. Both partners will also be accountable for the quality of provision – to students, to the central university, to school governors and to Estyn. Of course in itself the idea of collaborative provision for ITE is not new. As Burn and Mutton (2015) have documented, over the years there have been a number of individual programmes in the UK and internationally that have been established on these principles. What is distinctive about the recent changes in Wales is that this is the first time a country as a whole has adopted this approach; it is the first time that collaboration has been made mandatory and enshrined in legislation.

But what is the justification for these radical changes? Why is a collaborative approach between universities and schools needed? After all, it is not the dominant approach in most parts of the world. In an earlier article for this journal (Furlong, 2016), I set out what I termed 'the rationale' for reform. As in *Teaching Tomorrow's Teachers*, I described what I saw as the weaknesses of current provision; as others had demonstrated (Tabberer 2013; Estyn 2013) there was an urgent need to improve the quality of initial teacher education across Wales. However, more important and indeed more challenging was the need to respond to the many other changes to education that are currently in train following the Donaldson Review (Donaldson, 2015; Welsh Government, 2018). In a whole variety of different ways – in the curriculum, in assessment, in professional development and in leadership and management – Wales is pioneering a very different approach to education. It is an approach where teachers themselves will have much more responsibility than they have had in the recent past. Indeed, taken together, I argued that the changes indicate a very different conception of what teacher professionalism actually is. As Graham Donaldson himself stated, no longer will it be sufficient for teachers simply to know the 'what' of education. Because in the future they will have a key role in devising curriculum and assessment strategies for their particular learners, because they will be involved in collaborative networks that reach beyond their individual schools, teachers in Wales will also need to understand the 'how' and the 'why' of education.

Given these changes, Wales therefore needs a very different kind of ITE. What it needs is a form of ITE that, in the words of the new Accreditation Criteria, is 'both rigorously practical and intellectually challenging at the same time' (Welsh Government, 2017:4). That, I suggested, is the rationale for a new more collaborative approach to provision; an approach where schools have far greater involvement and responsibility than in the past and where universities recognise and nurture their *essentially distinctive* contribution to professional learning. It also requires programmes to employ strategies such as 'lesson study' or 'teaching rounds' or action research that will help student teachers critically engage with forms of the professional knowledge made available by both partners. Only in this way will it be possible to ensure that ITE programmes are both 'practical' and 'intellectual' at the same time.

As I have indicated, there are two key documents that have supported the current reforms to ITE in Wales. The first is *Teaching Tomorrow's Teachers* (Furlong, 2015) and the second is the ITE Accreditation Criteria (Welsh Government, 2017) that I and a government 'Task and Finish' group of colleagues from across Wales developed following that initial report. But what neither of these documents nor my earlier article in this journal do, is explicitly set out the research evidence underpinning the reforms; the case for partnership is taken as self-evidently necessary, self-evidently a 'good thing'. The aim of this paper is therefore different; it is primarily to set out that research evidence.

Obviously, there is a very extensive literature available on all of the issues involved here. In this paper, I am going to take a somewhat personal approach and prioritise the research evidence that has informed my thinking in contributing to the development of the new model. I have therefore drawn first and foremost on research on this topic in which I have participated over the last 35 or so years and research which has been undertaken by my closest colleagues in Oxford – one of the leading institutions in pioneering collaborative provision.

The nature of teachers' professional knowledge

Perhaps the first question to ask is what kind of teachers should we be trying to develop in Wales? How can we understand what is required? That, I would suggest, involves a consideration of the *nature* of teachers' professional knowledge; that in turn should give us some clues as to what

sort of ITE is needed. As was noted above, Donaldson in his report talked about the need for teachers who are able to understand the 'how' and the 'why' of education as well as the 'what':

> Sound pedagogy will be an integral part of the successful implementation of the Review's proposals on curriculum and assessment. It means much more than the implementation of a pre-determined repertoire of methods and requires high-quality teachers with a sound understanding of the 'why' and 'how' of teaching as well as the 'what'. The implications for the formation and subsequent growth of teachers as reflective practitioners are considerable. (Donaldson, 2015:71).

This I would suggest is what many years ago Eric Hoyle characterised as 'extended professionality' (Hoyle, 1975). But if that extended professionality is to be the focus of initial teacher education in the future, what does it actually mean and how does it differ from other current visions for professional education?

For me, the clearest exposition of what is involved here comes from the work of Chris Winch and his various collaborators (Winch 2014; Kuhlee and Winch 2017), especially in his paper with Oancea and Orchard (Winch *et al*., 2015) that formed part of the BERA–RSA review into the role of research in teacher education that I chaired (BERA–RSA, 2014). Winch argues that there are three fundamentally different conceptions of teaching that circulate in both the academic and policy world, each of which would imply a different model of ITE. The first is the idea that the excellent teacher is a craftsperson; their expertise is primarily based on situated or tacit 'know-how' which teachers can undertake in practice, but which can not necessarily be put into words. As Winch *et al.* (2015) point out, there are links here with the work of Polianyi (1958) and his concept of 'tacit knowledge' and the work of Ryle (1949) and his distinction between 'knowing how' and 'knowing that'. There are also links to the Aristotelian concept of *Phronesis* which 'refers to a capacity to grasp the salient features of a situation, deliberate imaginatively and holistically and to make ethically and practically sound judgments in specific situations' (Winch *et al*., 2015:205).

From this perspective, learning to be a teacher is seen as primarily a process of students developing the relevant 'know how' through observation of experienced practitioners. As Michael Gove famously put it when he was the English Secretary of State for Education: 'Teaching is a craft and it is best learnt as an apprentice observing a master craftsman or

woman. Watching others, and being rigorously observed yourself as you develop, is the best route to acquiring mastery in the classroom' (Gove 2010) .

While such a conception of teaching, and indeed teacher education, is in part self-evidently true, Winch *et al.* argue that it overplays the value of situated professional knowledge at the expense of other forms of professional knowledge such as technical know-how and critical reflection. What is often characterised as 'common sense' within the craft model may in fact 'denote little more than distilled theoretical knowledge and values derived from popularisations, the source of which might be research filtered, whether directly or indirectly, through staffroom conversation rendered into homilies, maxims and reactive attitudes'(Winch *et al.* 2015:209). What is needed, Winch *et al.* argue is not 'commonsense' but 'good sense' and that necessarily involves much more than a simple copying of existing practice.

A second model involves conceptualising the good teacher as what Winch *et al.* call an 'executive technician', applying protocols that have been developed elsewhere. The strength of this model is that it recognises the importance of research and other forms of evidence that can help to inform teaching. It is an approach to teacher knowledge that is currently widely proselytized with the rise of what Geoff Whitty and I characterized as 'the new science of education' (Furlong and Whitty 2017), where rigorous research evidence, particularly from randomised control trials, is intended to provide definitive evidence of 'what works'. Such technical knowledge is, as Nassbaum (2001) has argued, intended to be universal, teachable, and precise.

And at one level, this approach again seems self evidently sensible. As Winch *et al.* state:

> Technical knowledge and its skilled application helps teachers to exercise sufficient control over the contingencies of their work (Nussbaum, 2001) to be able to achieve goals and define standards for success and measures of progress. They can articulate procedures for attaining these standards, explain what intervention worked, in what circumstances, and they can train others in the application of this procedural knowledge. (Winch *et al.* 2015:206).

Initial teacher education from this point of view would therefore involve the mastery and application of such a body of rigorously evidenced protocols for effective teaching.

However, the weakness of this conception of teacher expertise, as many have pointed out, is that it does not recognise the importance of the process by which teachers themselves need to contextualise this knowledge if it is indeed to be any use to them in their own teaching. On its own, research, however rigorous, never can actually *guide* practice and initial teacher education can never be adequately understood as simply the mastery and application of such evidence-based strategies.

The third and final model described by Winch and his various collaborators sees teaching as a 'professional endeavour' where the best teachers are seen as engaging in some kind of 'critical reflection' on their teaching with the aim of improving their practice in the future. There are a number of different formulations of what 'critical reflection' actually means here. Some authors, for example Schön (1987), prioritize forms of personal reflection; others, such as Stenhouse (1975), insist on more systematic enquiry through forms of action research. But however it is characterised, from this perspective, the professional teacher is able to draw on all three forms of knowledge in the development of sound judgement. They must certainly develop a wealth of practical understanding and know how. They also need to be able to draw on research and other types of evidence about good practice. But crucially, they also need to be able to engage with both of these forms of knowledge in a critical way.

In this model, research and other forms of evidence do not replace practical judgement; rather they feed into those practical judgements, they help to 'frame' concrete problems and help teachers authenticate or indeed challenge their unfolding practical understandings (Oancea and Furlong, 2007). Again, to return to Hoyle (1975), learning to teach is more than acquiring a craft, it involves more that the application of rules as to 'what works'; rather it involves the development of a form of 'extended professionality'.

And it is this vision of a teacher, a teacher who is able to draw on both practical and intellectually based conceptions of professional knowledge that underpins the current reforms to initial teacher education in Wales. This, I would argue, is what Graham Donaldson meant when he said that in the future Wales would need teachers who understand the 'how' and the 'why' as well as the 'what' of teaching. This is the type of professionalism that is going to be essential if the wider reforms currently in train in Wales are to be a success. And this is why the Accreditation Criteria insist that all new programmes need to aim for by being 'both rigorously practical and intellectually challenging at the same time'.

The contribution of schools

As I have already indicated, the new Criteria have very significant implications for the contribution of schools to ITE. They insist that schools, and particularly what are called 'lead partner schools' take an equal part with universities in the management, the planning and the teaching of ITE programmes. They in turn have to accept that they are now equally accountable for the quality of those programmes. This inevitably involves a very significant cultural shift for schools where they are required to see the preparation of new teachers as a core part of their mission. Engaging in ITE no longer simply requires schools to open up their classrooms so that students can engage in 'teaching practice'; rather it is an active process where schools see themselves as fully involved in professional education.

But if that is the vision, then two questions emerge. Firstly, what forms of professional knowledge are schools uniquely placed to contribute; what is it that students can learn and only learn from direct experience in schools? Secondly, how should schools support that learning; what 'teaching strategies', broadly conceived, should those in schools employ?

Again there is extensive research evidence on both of these two questions. In relation to the first question, my own work began in the early 1980's before devolution when Wales and England had a united educational system. At that time, I led an evaluation of four 'school-based' teacher education programmes – programmes that involved substantially greater engagement of schools than was common at the time. Announced in the London Government's White Paper *Teaching Quality* (DES 1983), both the evaluation and the four experimental programmes were generously funded as part of the government's attempt to encourage greater school participation in teacher education. The then Secretary of State for Education, Sir Keith Joseph (one of Margaret Thatcher's key advisers), was convinced that what was wrong with teacher education (as so much of the public sector at the time) was that it suffered from what many Conservatives called 'producer capture'; that it was run entirely by and in the interests of Higher Education rather than schools. In his view, what was needed therefore was to open up teacher education to the 'market of schools'; that he believed would, in a stroke raise both the quality and relevance of teacher education. In reality Keith Joseph did not wait until the results of our evaluation before making the greater involvement of schools mandatory through the infamous Circular 3/84 (DES 1984); nevertheless, the

evaluation (Furlong *et al*. 1988) did provide a number of key insights into the potentiality of a more school-based approach.

Our starting point was to consider the nature of professional practice itself. Drawing on the work of Donald Schön (1983) we argued that professional practice is always an interpretive process; a process whereby the professional draws on their existing knowledge to 'frame' problems, to impose a structure on them and therefore make them understandable. That, Schön argues, is an active process; the professional imposes an interpretation on events by taking action and then monitoring the outcomes and, if necessary, re-interpreting the situation. As we said 'Professional practice is therefore a constant process of interpretation, action, reflection and adjustment. As such, it is very different from the rule-governed application of scientific knowledge to produce predictable results' (Furlong *et al*., 1988:123).

But if that is what skilled professional practice looks like, how do student teachers learn the skills, knowledge and understandings they need to do that effectively? Our analysis argued that there were four fundamentally different 'levels' to training visible in the programmes we evaluated. The first of these, (a) *direct practice,* involved the development of those types of practical understanding, judgement and skill that can only be acquired through direct experience in the classroom. That practical expertise we argued did not come about as a result of the 'application of theory' – however defined. On similar lines to the arguments put forward later by Winch *et al*. (2015), we argued that it had an existence of its own which could only be learned in the specific context of classrooms themselves. However, we suggested that practical expertise could be developed and strengthened by students engaging in three other forms of learning that were typically made available through higher education. These were (b) *indirect practice* where student teachers also concentrate on those practical understandings, judgment and skills but do so in a much simplified context, separate from the world of practice itself i.e in the university seminar room. In university, they could also be introduced to (c) *practical principles* – knowledge of the evidence (from research, from practice elsewhere) behind the practical expertise of teachers; and to the ways in which (d) *disciplinary theory* (psychology, philosophy etc) can help critically examine and make explicit the values and theoretical assumptions behind those professional practices. All of these different forms of professional learning, we argued, need to be involved in any well founded teacher education programme. And in different ways, they are all now visible in the Welsh Accreditation Criteria.

Where we were wrong in our work was in employing the language of 'levels'. As McIntyre (1991) rightly said, that implied a very traditional hierarchy of knowledge with theoretical, university-based knowledge at the top. This was certainly not our intention but clearly was implied by the language we used. But if our characterisation of levels was wrong, what was correct was that for the first time in the research literature we made it clear that teacher education involved a number of different forms of professional knowledge that could not be reduced one to another. And, most importantly, that practical professional knowledge, what others have described as 'craft knowledge' or 'tacit knowledge' is a vitally necessary, if not sufficient form of professional knowledge that can only be learned through direct practice itself. We also recognised that its development needs to be addressed systematically in schools.

This brings us to the second question about the role of schools in supporting that learning. Here a whole body of research on the role of school mentors is relevant. My own work on this issue began in Swansea University in the mid 1990s with Trisha Maynard (Furlong *et al.*, 1994; Furlong and Maynard 1995). Parallel work was also taking place in Oxford University at the same time and in different ways has continued since (McIntyre *et al.* 1993; Hagger and McIntyre 2006; Burn, Mutton and Hagger 2016).

My research with Maynard was based on our observation that student teachers seemed to go through a number of different 'stages' in learning to teach, each of which implied a different role for mentors. First there was the 'Beginning teaching' phase where students would focus mainly on the 'surface features' of teaching – on the rules, rituals and routines of teaching and where their most overwhelming concern was to establish authority. At this stage the most important role for the mentor, we argued, was to act as a role model, modelling and then observing and providing feedback on those rituals and routines. Second was 'Supervised teaching' – where the student begins to focus on the specific competences of teaching. At this stage the mentor needs to work more as an explicit trainer or coach; systematically observing the student and providing feedback on their performance of key teaching tasks.

The next stage we called 'From teaching to learning'. From our research we found that student teachers could only really begin to focus on their pupils' *learning* rather than their own *teaching* once they had mastered the basics – particularly classroom management. But that change of focus was essential if they were to become effective practitioners. In order to support this change of focus we suggested that mentors, at a certain stage, need to

move from being a 'trainer' to becoming a 'critical friend', helping the student re-examine their lesson planning and providing careful feedback on pupil learning. The final stage we called 'Reflective teaching'. We argued that as they grow in confidence students need to learn how to reflect on their teaching in the light of other sorts of evidence – from research, from theory and from knowledge of good practice elsewhere. This, we suggested involved mentors changing their role once again to that of a co-inquirer, perhaps returning to collaborative teaching but now with the aim of both mentor and student deepening their understanding of the teaching and learning process.

At the time, some critics argued against our model, suggesting it is too structured, too linear to capture the complexities involved, and perhaps that criticism is correct. But what this early analysis of mentoring does demonstrate clearly, is that student teachers do have multiple different learning needs and that this in turn has important implications for the complex and changing role that mentors need to play in supporting that learning. If they are to develop in both their practical skills and what Hagger and McIntyre (2006) call 'practical theorising', where student teachers 'draw critically on diverse kinds of knowledge in order to develop valid teaching expertise' (Hagger and McIntyre, 2006: 158), then mentors have a critical and complex role to play. This again is a key insight underpinning the new Accreditation Criteria which insist on a radical strengthening of mentor training across the whole of Wales.

The role of Universities

The new Criteria also have implications for universities. Given that so much of the practical preparation of student teachers must now directly involve schools, then the Criteria insist that universities need to develop a much clearer understanding of what their *distinctive* contribution to professional learning actually is. What the Criteria specify is that the task of universities is to make available forms of professional knowledge that are not necessarily available in all schools; that is knowledge from research, from theory and from good practice across Wales and internationally. They must also be committed to a particular 'critical' approach to the educational process that is different from what may occur in schools. These two factors, both a distinctive body of knowledge and a commitment to a distinctive educative process are what makes universities vitally important

partners in ITE. But in order to contribute those things, universities need to ensure that they have the right culture, the right staffing structures and the right staff development policies in place. No longer will be it appropriate, the Criteria insist, for 'front line' teacher educators to be on part-time, casualised contracts. If their core responsibility is to contribute those forms of knowledge that are not universally available in schools, then university tutors themselves need to be fully embedded in the 'scholarly culture' of the university; they need qualifications at least one level higher than the courses on which they are teaching and they themselves need to be 'research active'. As I documented in *Teaching Tomorrow's Teachers,* in many cases these conditions were far from being met in Welsh universities at that time. But again, what is the research evidence underlying these prescriptions?

Research on the role of universities in initial teacher education is something that has been a core interest of mine throughout my career. It was stimulated firstly by Sir Keith Joseph and his scepticism of the contribution of universities in the early 1980s; criticisms that were later endorsed by others such as O'Hear (1988) and Lawlor (1990). Taken together, those criticisms amounted to what Ball (1990) would have called a 'discourse of derision'; so much so that scepticism of universities' role has become the 'new common sense' in many sectors of society, including the teaching profession.

But is that scepticism correct? One key question I have wanted to pursue is to understand what the nature of the knowledge that universities profess in the field of education actually is – is it always remote and 'academic'. This is a question that I pursued most explicitly in my recent research with Geoff Whitty (Whitty and Furlong 2017). In our book we bring together a range of contributors from across the world, each of whom examines the knowledge traditions in the study of education in their own countries – China, the USA, France, Germany, Latvia, Australia and England. Then, in an extended introduction, we synthesise these into three broad knowledge traditions which are in different degrees visible in most of those countries.

Thus, we argue that there are some knowledge traditions that are primarily academic, governed by epistemological and methodological assumptions shared with other disciplines within the academy. Examples here include those knowledge traditions based on the 'disciplines' of education – psychology, philosophy etc. And there is what we call 'the new science of education' which prioritizes rigorous statistically based research methods such as randomised control studies.

Then there are knowledge traditions that are primarily practical. Examples here include the 'normal college tradition', where there is a strong emphasis on the craft of teaching that dominated teacher training colleges in England and Wales right up until the 1970s. Such craft based conceptions of teaching have never been entirely absent from most ITE programmes and are now in the ascendency in models of ITE in England. They also survive strongly in other countries such as China. Another practical knowledge tradition is the competency-based movement where complex tasks are broken down into a list of skills or behaviours – an approach which has been particularly influential in vocational education.

Finally there are knowledge traditions that are integrated – where there is an explicit attempt to bring together both academic and practical concerns. The most widely understood example here is action research which has a long tradition in education. But also relevant is the recently developed 'learning sciences' model of research which draws on theoretically based knowledge from cognitive science and artificial intelligence but then utilizes an engineering model of research and development where teaching innovations are continuously designed, field tested and then re-designed. The aim here is both to improve teaching and learning and also to contribute to the theory of learning as well.

What this analysis reminds us is that not all systematic knowledge of education is what we might term purely 'academic' knowledge; neither is such systematic knowledge based only in universities. It also makes clear that within the world of the university there are many different intellectual traditions some of which are much closer, and therefore more directly applicable to the world of practice than others. Nevertheless, it also makes clear that universities do have something *distinctive* to offer in terms of knowledge that they can bring to professional learning; knowledge from research, theory and good practice elsewhere that is not uniformly available in schools.

But is it only a range of distinctive forms of knowledge that universities can contribute? I would argue that it is much more than that; their distinctiveness is also based in the *processes* of higher education as well as its content. In my first foray into this field in 1996 (Furlong 1996), I asked whether student teachers really needed universities any more, since so much of their learning can and should be based in schools. My answer was that 'yes' universities did have distinctive bodies of knowledge to contribute but that they had much more than that; they had or should have a

distinctive approach to engagement with that knowledge that comes from the university's distinctive purpose in society.

In my argument, I drew on the work of Barnett (1990) and his analysis of 'the idea' of higher education in its contemporary form. Barnett (1990) argues that traditionally universities have based their claim to distinctiveness on the idea of the certainty of knowledge and academic autonomy – ideas which today seem very out of date. He argues that the contemporary university has been compromised on both counts; they are no longer certain about much of their knowledge and their independence has been profoundly challenged. However, Barnett argues that whatever the current challenges, the essential nature of the university is not compromised in its contemporary form if it maintains its commitment to what he calls the 'the pursuit of truth'. Following Habermas, Barnett goes on to argue that 'truth' is not an end point. 'Rather truth is a description we give to a particular kind of human transaction' (Barnett, 1990: 59). It is a conversation, but not just any sort of conversation. It is a conversation where participants can say what they want, as long as they are trying to get at the truth, provided that they are sincere, that they mean what they say and their contributions are internally coherent and intelligible to the other participants in the discussion. Most importantly participants in these conversations need to be willing to expose their view point to the critical gaze of others. As Barnett says:

> Intellectual debate is not cosy or permissive; it is critical, judgemental and stern. Higher education cannot simply be a matter of *truths disseminated* to the student; it is a much tougher and more demanding process. Through it, the student emerges able to begin to take up an informed position of his or her own or at least to have some awareness of what that involves. (Barnett 1990:60, emphasis added).

Significantly, Barnett argues, this is a discipline that is or should also be imposed on lecturers as well as those they teach. Through their research, their publications and other forms of public engagements, lecturers should themselves be willing to take part in these sorts of conversations; conversations where they are challenged, questioned and where there is a commitment to the process of 'pursuing truth'.

What is clear is that it is in this regard, with this critical approach to knowledge, universities are very different from schools. The 'essential' purpose of universities, what makes them distinctive as institutions in society, is their commitment to these critical conversations. Schools are a very different type of institution, based on different essential purposes.

While such conversations may on occasions happen in schools, teachers' essential contribution to professional learning stems first and foremost from the skills, knowledge and understandings that derive from the *need to act*; teachers' expertise and the strength of their contribution to students' learning is by definition contextually based. Universities should offer something different, something complementary both in terms of the content of the knowledge they bring and in terms of the educative processes to which they are committed.

It is for these reasons then that the Accreditation Criteria insist that universities must prioritise the forms of educational knowledge that are not universally available in schools; and that university lecturers must themselves be fully immersed in the 'scholarly culture' of the university. Only in this way will ITE programmes be able to guarantee that their university staff will be in a position routinely to contribute knowledge from research, theory and good practice elsewhere. Only in this way can they ensure that those lecturers move beyond the mere 'dissemination of truths' and realise the potential of universities as key partners in the sort of professional education that Wales now needs.

Bringing different forms of knowledge together

The final and in some ways the most challenging requirement of the new Criteria is that programmes have to devise ways of helping student teachers bring the different forms of professional knowledge available through schools and universities together. How programmes do that is necessarily left to them, but there are many examples in the literature and in practice elsewhere that do that. These include forms of 'lesson study' (Teacher Development Trust (2019), 'learning rounds' (Philpott and Oates, 2015) or action research all of which provide students opportunities to engage critically with both the practical and intellectual dimensions of professional practice. It is through this process of what McIntyre (1990) called 'practical theorising' that they begin to articulate their own understandings, their own 'theories' of professional practice and come to recognise that there are no simple or 'right' answers. But what do we know about how courses of ITE are actually designed and what does that teach us about how they should be designed in the future?

One of the most comprehensive studies of teacher education programmes in England and Wales in recent decades was the Modes of Teacher

Education (MOTE) study (Furlong *et al*., 2000). Its findings present something of a cautionary tale. The project, conducted over nearly 10 years, was designed to monitor teacher education as it changed during the 1990s in response to new government requirements to involve schools more systematically.[1] Appropriately the book we wrote was called *Teacher Education in Transition*. However, what we discovered from our extensive surveys and fieldwork was that in reality very little transition was actually taking place. Yes, students were spending substantially more time in schools than they had in the past and there were attempts to introduce more systematic approaches to mentoring, but we concluded that the overwhelming majority of programmes were still HEI-led. By that we meant that the underlying philosophy of most programmes was still one of 'theory into practice' where it was the universities that tried to define what had to be learned; schools were merely required to provide opportunities for students to undertake that learning. Partnership, a term that was widely used, was in reality a hollow promise.

Of the small minority of programmes that were not HEI-led, some we characterised as 'complementary' – where the HEI and the school recognised that their conceptions of professional knowledge were different but made no explicit attempt to help the student bring these different perspectives together. Yet others were school-led rather than HEI-led. In these instances, it seemed that universities had simply delegated programmes to schools, with little attempt to work closely with them. As happens today in a number of School Direct programmes in England, universities had largely been reduced to validating bodies.

Only in one or two instances did we identify courses that were based on principles of collaboration; where there was an explicit recognition that both universities and schools had something different to offer and that they therefore needed to work collaboratively to help students critically engage with the different forms of professional knowledge offered by each type of institution. The most well-developed of those programmes was the Oxford Internship Scheme (Benton *et al*., 1990). As McIntyre (1990), one of the main architects of the programme described it, in this programme, partnership was expressed in the joint planning of the programme. There was:

- 'A single coherent programme, with explicit relationships and short time intervals between connected elements in the different contexts;
- Carefully graduated learning tasks intended to permit rational analysis;
- Explicit encouragement for interns to use ideas from diverse sources;

- Explicit assertion by both partners that consensus is not expected; and
- Emphasis on testing all ideas against the different criteria valued in each context.' (McIntyre, 1990: 32–3).

More recently, in a contribution to the BERA–RSA enquiry into research and teacher education, Burn and Mutton (2015) characterise the Oxford model as an example of 'research informed clinical practice' where the intention is to 'facilitate and deepen the interplay between the different kinds of knowledge that are generated and validated within the different contexts of school and university' (Burn and Mutton, 2015: 219).

In their review of the international literature, Burn and Mutton focus on those small numbers of programmes based on these principles; where 'beginning teachers are encouraged to interrogate each in light of the other, bringing both to bear on interpreting and responding to their classroom experiences' (Burn and Mutton, 2015: 209). From Scotland they particularly discuss the Glasgow West Teacher Education Initiative; a programme that was influenced by two significant American initiatives – firstly the Professional Development Schools movement and the subsequent Carnegie-funded Teachers for a New Era (TNE) programme. Similar developments have taken place in Australia with the University of Melbourne's two-year Master of Teaching (MTeach) programme.

Important though they are, all these different initiatives are relatively small scale, focused on a limited number of programmes. The final two examples explored by Burn and Mutton are more universal. The first is the Netherlands, where there is not a single system as such but a common drive nationally towards more 'realistic' or 'authentic' teacher education where clinical practice is undertaken in special 'opleidingsscholen' (training schools) which have additional resources for coaching teachers and a commitment to providing appropriately graduated learning opportunities.

The final and perhaps best-known national system based on such principles comes from Finland. As Burn and Mutton note, although there have been no specific Finnish initiatives to achieve more effective integration of university- and school-based contributions and no increases in beginning teachers' time in school, the coherence of the entire education system and its emphasis on the research training and orientation of *all* prospective teachers, means that its approach is characterised by many key features of 'research-informed clinical practice'.

Overall, Burn and Mutton therefore suggest that the principles of 'research-based clinical practice' initiatives can be summarised in the following way:

1. Acknowledgement of both the profound value and the inevitable limitations of de-contextualised research-based understandings of practice for beginning teachers;
2. Appreciation of the rich seams of knowledge, understanding and skill which beginners could potentially access in the practice of experienced teachers;
3. Understanding of the complexity and context-specific nature of experienced teachers' knowledge and of the processes by which it is developed within particular communities of practice;
4. Explicit recognition of the fundamental importance of experience within teachers' learning, and of their need to test all ideas offered to them;
5. Awareness of the poor conditions for professional learning that tend to prevail in schools where ITE is only a marginal concern;
6. Concern about equipping teachers to work effectively in educational contexts very different from those with which they have been familiar; and
7. Ambition to produce teachers committed to life-long learning and capable of generating the new professional knowledge that they will need to adapt to different contexts and changing demands within the educational system (Burn and Mutton, 2015:225).

Burn and Mutton recognise that not all of these principles are to be found in each of the examples they consider. Nevertheless taken as a whole, they do capture the core features that are needed, features that insist that schools and universities work collaboratively together if those ambitions are to be achieved. For me, perhaps the most significant of these principles is Point 4: 'Explicit recognition of the fundamental importance of experience within teachers' learning, *and of their need to test all ideas offered to them*'. It is this requirement that brings us back to the insistence of the Accreditation Criteria that all programmes design spaces (through strategies such as lesson study, teaching rounds or action research) where students can indeed test out their emerging ideas; where they can test what they are learning in school against other forms of professional knowledge made available from their university and vice versa. Only in this way will they have the opportunity to develop the 'extended professionality' that they need. Only in this way can we ensure that programmes are indeed both 'both rigorously practical but intellectually challenging at the same time'.

Conclusion

As a review of the literature, this has been a very personal one and that was my intention. What I have tried to do is to set out, for myself as well as for others, the research evidence on which I drew, often implicitly in my report *Teaching Tomorrow's Teachers* and as chair of the government Task and Finish Group that drew up the new Accreditation Criteria. In neither instance did this involve the application of research evidence in a systematic way. In both cases the analysis of problems and the development of solutions was driven first and foremost by pragmatic concerns. In policy work as in teaching, the answers to complex problems do not come about by the simplistic application of science. To repeat Donald Schön's (1983) insight, professional practice is always an interpretive process, a process whereby the professional draws on their existing knowledge to 'frame' problems, to impose a structure on them and therefore make them understandable. This paper has tried to set out the existing research based knowledge that I brought to that process. Other members of the Task and Finish Group brought their own, somewhat different existing expertise.

But the key question now is whether the new system work? Will the firm establishment of a collaborative, 'clinical' model of ITE in Wales raise standards and develop the sorts of extended professionality that teachers in Wales will need in the future? As Burn and Mutton (2015) point out in their paper, there is in reality very little robust international research evidence on the efficacy of *any* particular model of ITE – particularly if one defines 'effectiveness' as the impact on pupils' learning. At one level that is understandable: 'proving' that one approach to ITE is more effective than another is an immensely complex research task. There are so many different factors affecting pupils' learning that establishing causal connections to the way in which an individual teacher was originally trained is, many would argue, virtually impossible (Cochran-Smith & Zeichner 2005).

Nevertheless, Burn and Mutton conclude that there *is* evidence on the positive benefits of clinical experience on a number of specific new teacher attributes: on their ability to integrate theoretical and practical knowledge; on their preparedness for their first teaching post; on their overall confidence and growing commitment to teaching as a long-term career. Perhaps even more encouraging is that in sharp contrast the situation in ITE, another paper from the BERA–RSA review of research and teacher education by Cordingley (2015) demonstrates that in the area of teachers continuing professional learning there is robust evidence of 'what works';

evidence of what approaches to professional learning do lead to increased outcomes for pupils. What is significant here is that many of these features (collaborative learning strategies, the use of external 'experts' to help learners question existing practices, the effective use of evidence, the importance of a whole school approach to supporting professional learning) are precisely the features that are central to the partnership model of ITE that is now in place in Wales.

Over the last two years, university and school-based teacher educators across the whole of Wales have undertaken huge amounts of work to develop and implement the new model; they have embraced the reforms with enthusiasm. Schools have readily accepted their new responsibilities providing time and resources for key staff to become involved; universities too have invested heavily in the scheme, particularly financially in order to provide funds to be transferred to schools and to meet the new requirements of university lecturers in terms of staff development. But what is self evident is that there is now a pressing need for publically funded research to monitor the impact of these reforms. Wales urgently needs a systematic programme of research that will ask the hard questions about the quality and commitment of the new generation of teachers that it is preparing. Complex though it is, that does mean considering the impact of the reforms on the learning experiences of children and young people and it means exploring the ways in which the reforms are contributing to making schools themselves more effective 'learning institutions'. Only in this way can we really have any confidence in the changes that have been made; only in this way can the educational community itself carry on learning how best to prepare the new teachers that Wales needs.

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Note

[1] An updated version of the MOTE study has recently been undertaken by Whiting *et al.* (2018).