

*A Close-up on Close-to-practice Research:
Reflecting On Teacher Educators' Experiences
of and Engagement with a Classroom-Based
Research Project*

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ABSTRACT

Recent drives to improve initial teacher education in Wales identify the need to build professional capital and to develop and sustain research capacity within the sector (Furlong, 2015). However, such capacity, and the integration of research into teacher education remains underdeveloped (Leat et al., 2014; Furlong, 2016). This paper reports on the experiences of three teacher educators who are novice researchers. They engaged in a small-scale close-to-practice research project with primary and secondary schoolteachers, under the guidance of a more experienced research colleague. Using evidence from self-study (Lunenberg and Willemse, 2006) and reflective enquiry (Lyons, 2006) the paper discusses how collaborative engagement in research allowed the participants the opportunity to reclaim a 'sense of wonder' (Berry, 1998) about their practice (where we define a sense of wonder as a sense of inquiry into their practice). The paper's central argument is that whilst a national policy drive has necessitated a change in research culture within initial teacher education, reasons for involvement go beyond a feeling of 'because we have to'. The participants regarded involvement as key to their professional growth. Time and opportunity to research pedagogical practices in other teacher's classes opened up space for the participants to 'wonder' about their own practices. They also felt that the experience supported a shift towards adopting the identity of

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'researcher'. The paper considers why this is so important in the current climate of educational change in Wales.

Key words: reflective engagement, self-study, research capacity, teacher educators, close-to-practice research.

Introduction

The BERA-RSA Inquiry into Research and Teacher Education identifies that working within 'research-rich' settings is beneficial for teachers and students (Leat et al., 2014: 3). Currently within Wales there is a focus on research capacity building, with numerous shortcomings in the sector identified (Furlong, 2015). Successive research assessment exercises indicate that the number of academic outputs and number of research active staff in Wales has declined over the last decade (Power and Taylor, 2016). For example, in the previous Research Excellence Framework entry, only one return for education in Wales was entered (Furlong, 2015).

However, this is only one measure of research activity. Power and Taylor (2016) also found that within teacher education departments in Wales, 95 per cent of respondents to a national survey self-reported that they were engaged in some kind of research activity. These activities included reading about educational research, drawing on research to inform teaching, undertaking research of personal interest and writing and publishing for academic audiences. Whilst the sample size of this survey was small, it nevertheless indicated that there was a strong commitment to research from those who responded – 90 per cent felt that research was important to improve the quality of teacher education, and nearly 80 per cent expressed a desire to become more research active (Power and Taylor, 2016: 4).

Yet there are challenges facing teacher educators wishing to become active in research, one of which relates to professional identity (Lewis, 2017; Murray and Male, 2005). The role of a teacher educator has a number of associated identities. For example, individuals can view themselves as schoolteachers, teachers of teachers, teachers of student teachers and as researchers (European Commission, 2013). At any point one of these identities may be perceived as the most prevalent or the most valuable – or individuals may identify with several identities simultaneously. For the

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participants in this study, assuming the role of researcher was generally a new and unknown identity. Therefore, by exploring their experiences, it is possible to gain insight and understanding into how to support teacher educators to see themselves as researchers. This is important if we are to develop sustainable and effective models of research within the sector.

In this paper, we define capacity building as any activity undertaken which leads to individual and institutional development, which in turn improves skills and the ability to perform appropriate, relevant research (Trostle, 1992). Opportunity to engage in small-scale, close-to-practice research should be advantageous in this quest, as it supports a process of systematically 'investigating our own practice ... in ways that are critical, rigorous, and intended to generate both local knowledge and knowledge that is useful in more public spheres' (Cochran-Smith, 2005: 220).

However, whilst building research capacity is recognised as important to produce a sound evidence-base for decision-making in policy, but also in practice (Cooke, 2005), there are challenges in creating research cultures within initial teacher education. It is important to establish both institutional and individual development processes for these cultures to be successful and sustainable. Teacher educators need to be informed consumers of research, need to develop expertise in conducting research, and need to be aware of how this research can lead to improvements in their practice and programmes. To be able to conduct research on their own practices, teacher educators, just like teachers, need the opportunity for professional learning and development.

Projects that are close-to-practice in nature and design offer teacher educators the time and space to engage in reflective thinking. This process involves the deliberate and intentional of examining of our own practices to 'interrogate or inquire into them systematically and to heighten one's conscious awareness of one's practices ... and using that consciousness to redirect one's practice and actually acting to change' (Lyons, 2006: 166).

The inquiry process and subsequent reflection allows those who undertake research the chance to reclaim a sense of wonder about their own practice (Berry, 1998) – through considering the taken-for-granted in a new, and more informed way. This article explores three teacher educators' reflections and feelings on close-to-practice research activity.

Context

The research project was undertaken in three schools in south-east Wales: one primary, one secondary and one 3–16 all-through school during one school term. The broad focus of the project was an exploration of assessment for learning practices, in order to investigate strategies to:

- decrease teacher workload (in terms of written marking);
- improve learner engagement and understanding of feedback.

Within this overarching framework, each school developed their own lines of enquiry that were relevant to their individual contexts and strategic development priorities. These included considering the effectiveness of verbal feedback, consideration of technologies to support feedback, and the use of specific strategies such as assessment and progress ladders.

The project was funded by the local regional consortia, who were responsible for selecting the schools involved. The findings of the project in relation to these foci are reported elsewhere, as this article focuses on the experiences of the teacher educators who were involved.

Each school was assigned a research team of two teacher educators, overseen by the lead researcher. In order for the project to support the development of research capacity, those involved were relatively new to the research process. They were experienced teacher educators, working in the sector for at least four years, in several cases far longer. All had volunteered to be involved.

The project began with the process of developing the research questions specific to each school, and this was done collaboratively, involving the university research team and the school senior managers as equal partners. The research framework was ‘close-to-practice’ in design, where this is defined as:

- research based on problems in practice;
- research involving researchers working closely with teachers;
- research addressing issues defined by the teachers as relevant or useful;
and
- research which supports critical thinking and the use of evidence in practice (Cooke, 2005).

Each school and associated research team identified a problem that they wanted to explore – these related to assessment processes and associated teacher workload. These were identified as highly relevant to the strategic priorities of all three schools, and there was interest in exploring strategies and techniques to improve assessment but also decrease workload. This article does not report on the findings from the school. Rather it focuses on the experiences that the teacher educators had whilst conducting the research.

Methodology

The project design itself contributes to research capacity building in several ways. First, developing stronger collaborations between consortia and higher education institutions is a useful strategy to develop research capacity within Wales (Power et al., 2010). In this project, the consortia nominated two of their staff as research links. These staff members themselves gained first-hand experience of the development of research questions and research design, and gained a greater understanding of the process for gaining ethical approval.

Secondly, Furlong (2015: 32) identifies ‘an urgent need’ for capacity to be developed in pedagogical research. He identifies research on teaching, learning and assessment as areas that would be especially valuable to conduct research in. This project had a clear focus on research into assessment strategies.

Thirdly, the BERA-RSA report (Leat et al., 2014: 5), indicates that teacher educators need to be ‘discerning consumers of’ research, but also be equipped to conduct their own research – individually and collectively. The design of this project allowed the teacher educator participants opportunity to research classroom practice with their peers, but also to research the experience of undertaking the research process through individual self-study.

The institution’s ethical processes and those of BERA (2011) were followed throughout. The research team were offered the opportunity to reflect upon their own experiences in more detail as part of the research process. Three of the team volunteered to reflect more deeply on their research journey, and their experiences are reported on in this paper. They shared a similar professional profile, they were highly experienced classroom teachers, who are relatively new to the higher education context

– having worked in the institution for an average of four years. All three were new to close-to-practice research. These three teacher educators undertook the role of both researcher and researched. They acted as research assistants – gathering and analysing data from the schools. As participants, they reflected independently on being involved in the process of research, capturing thoughts in a reflective journal. Pseudonyms are adopted for the three teacher educators – Sam, Chris and Ceri – to maintain anonymity.

A mixed-method approach was adopted for the project, and research tools included:

- semi-structured interviews;
- non-participant observation;
- video reflection involving semi-structured dialogue;
- analysis of learner attitudinal scales pre- and post intervention;
- scrutiny of pupils' work; and
- learning walks during school visits.

These were new techniques for Sam, Chris and Ceri in a research context. Although they were all experienced at classroom observation in their role as teaching placement tutors, and had all conducted work scrutiny and learning walks when working as teachers these methods were unfamiliar as research tools.

Sam, Chris and Ceri were encouraged to engage in self-study (Cochran-Smith and Lytle, 2004) whereby they explored their own practices, beliefs and behaviours. They were asked to keep a personal record of their experiences in school. There was no required way in which to record these reflections, although all three kept informal notes. They used this self-study approach to scaffold discussions of their experiences that took place regularly with both their research partners. Summaries of these discussions were provided for the lead researcher at regular points throughout the study. These were later analysed for common themes.

The lead researcher met with the research teams at regular intervals throughout the course of the project. The ensuing discussions focused on how the research process was impacting on the participants' professional learning and view of themselves as researchers. These discussions were kept informal, but had three main strands of inquiry – how the participants felt about the research experience to date, what they had enjoyed/learnt and what they were finding challenging. The lead researcher kept written

notes of these discussions and these were analysed and themes identified. The following section presents the results and discussion of the results according to four broad themes which were identified in the analysis.

Results and Discussion

Reflections indicated that at the start of the project there were common feelings of uncertainty in undertaking research amongst all three participants. 'Research' was not seen as something that was necessarily part of their role. For Sam, research was something undertaken by 'academics', rather than by them. This feeling of research as being someone else's role is common, and is reflected in the literature around teacher educator identity (Boyd and Tibke, 2012). Ceri felt the same – it was hard to move away from being the teacher. Ceri explained that, 'after a successful teaching career where your experience is valued, it is difficult to join a similar but inevitably different profession where you are on the bottom rung in some senses'.

This seems to be a common dilemma within the sector: for instance one study of teacher educators found that they tried to hold onto their teacher identity because they sought to maintain their credibility with other teachers. In many cases this impacted on engagement with scholarship and research activity (Boyd and Harris, 2010).

For Chris, research was something that they simply 'hadn't had the opportunity to engage with at the moment, Chris did not feel that there was an institutional structure to allow them to take part in research, or many opportunities to engage with the research agenda. Chris did recognise that this was changing within the institution saying that 'I know that there are seminars and research groups – I guess it is just how do I get involved with these – I feel I don't yet have much to share.'

There were feelings amongst all three that the research process itself was 'complex, complicated and mysterious'. All three wanted to become involved in research, but initially they were wary of the implications and commitment that becoming research active would bring. In order to be able to engage, Ceri explained that they wanted the mysterious idea of 'research with a capital R' to be unpicked and re-examined so that it became research *for* us – 'with a lower-case r' because in their opinion they felt that this meant it would be non-threatening, meaningful and manageable.

Despite identifying some potential challenges to becoming research active, Ceri, Chris and Sam were all very keen to get started. They wanted to get involved, although they all felt a little nervous about what this would entail. There were some common reasons for wanting to be involved that were shared by the three participants.

1. Developing knowledge and experience of close-to-practice research

First, all saw involvement as a way of developing their knowledge of research and what was happening in school, which would benefit their understanding of current classroom (or lecture room) practices. They wanted to be able to examine current issues and debates in their areas of expertise in a structured and detailed manner, and felt that this was best done if they were research active themselves in these areas. Sam was clear on the matter:

I want to try things out, and see for myself – I don't want to give advice if then it isn't going to be worthwhile. Researching for myself, and by myself will help me keep up-to-date, relevant and also informed. Things change quickly – I don't want to be someone who is not well informed about new and effective – and interesting – things to do in the classroom.

All three were keen to explore the lived experiences of current practitioners as they acknowledged that even after only a few years out of the daily classroom context things change. Being in a position to talk to teachers and children was viewed as 'a luxury', an opportunity to ask some key questions relating to practice and to gather a range of views and perspectives. This was felt to be different to the school visits they made to observe students because that was about making observations about teaching standards. It was perceived by all three participants that that had a different agenda to the research visits, because that there was not always time to sit and observe learners in great detail. Ceri explained:

The attention during school visits is on the student and how they are progressing. The learners are vital of course but my role is primarily about supporting the student. The conversations about learning and teaching that I have are focused on their development first and foremost. Of course, that has an impact on the children, but it is slightly different in focus and aims. And at that time that is right – it is about them and their impact. But research visits, well they open different doors don't they?

They all felt that becoming research active would allow them to move beyond their own knowledge and experience to bring a broader perspective

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on pedagogy. For these teacher educators, first-hand experience gained through research was seen as valuable and vital to their role. They agreed that research would lead to better outcomes for learners. For example, Ceri recorded in her reflective diary:

I agree that underlying my desire to be more research-focused is a belief in 'the positive impact that a research literate and research engaged profession is likely to have on learner outcomes' (Leat et al., 2014: 6). This has to be the guiding principle – to improve learner outcomes – behind any drive.

All three participants felt that involvement brought personal benefit to them as a professional learning activity. The process of research was seen as allowing the participants the opportunity to develop a new set of skills. The need to develop confidence in research skills is recognised as a key part of capacity building, with research indicating that skill development increases research activity (e.g. Carter et al., 2000). At the end of the project all had identified that they felt more knowledgeable in terms of gaining research expertise. They developed basic research literacy skills in an appropriate context that they would not have done without participating in the project. For example, they gained an understanding of ethical procedures and protocols by working with the lead researcher to complete and submit the institution's ethics form to the University Ethics Committee. They benefitted from discussing the content and meaning of the different requirements of this form, and felt that in doing so a barrier to becoming research active had been raised. Ceri noted:

Undertaking the ethics approval process collaboratively allowed me to understand the university's ethics process as well as BERA guidelines and it allowed me to question each stage of the research design process. Before it seemed a huge undertaking, but now I am more confident that I could have a go myself. I understand what each section is referring to. This means I can support students better too.

The idea of supporting students more effectively as role models was a second theme.

2. *Credible role models*

Secondly, the three participants all felt that they needed to become confident researchers because they expected their students to become confident researchers too. As Sam said: 'I am keen to establish that enquiry culture in my students – so I need to establish it myself too.' An indirect benefit of the project then was that it enabled the participants to feel more confident

in supporting trainee teachers at each stage of the research process, including the formation of research questions, designing interview schedules and the seeking of ethical approval. Chris noted that: ‘I am keen to model good practice in my own self-development and also encourage my students to “self-evaluate and self-improve, through an on-going process of professional reflection and enquiry”’ (Leat et al., 2014: 6).

The three participants all felt that they should be involved in the process so that they could model, demonstrate and also empathise with the journey that their students were on. This notion of professional obligation was shaped very much by national and local political rhetoric over the importance of teacher educators becoming more research active. They felt that it was important that they remembered what it was like to have deadlines and ethics forms to complete. Being able to share their own experiences with the students was seen as building their credibility. Chris commented: ‘We can’t afford to be left behind – really we should be leading the move, the momentum, the drive to enquire about practice. Not catching up with others.’

They also felt that visiting schools in the identity of researcher not teaching practice tutor gave them an additional identity. It helped them to be seen by the schools as researchers which they felt meant that schools would also view them as up-to-date and credible practitioners. The process of research engagement allowed them the opportunity to learn, which was the third theme to emerge from the data.

3. Collaborative professional learning

Thirdly, the participants saw benefits from being involved in a collaborative research community. The design of this project meant that a more experienced researcher supported the newer researchers in designing and carrying out their investigations. We expected that this would support the newer researchers, and indeed, all three felt that this was beneficial. They felt that having a more experienced colleague available – even if this was via e-mail or phone as opposed to being with them in person was very important. Chris noted that ‘even though I didn’t contact the lead while I was out getting data, just knowing I could meant I felt better’.

The participants also all felt that they benefitted from working in pairs, there was a feeling of ‘safety in numbers’. Going to the schools with a trusted colleague in order to carry out the data gathering was a very

important part of the research design, and all felt that they gained confidence because of this. They would have been more apprehensive if they had been required to work alone. During their school visits to gather data, peers supported one another. They stepped out of their comfort zone – tackling new methodologies, working with new and unfamiliar professionals and working in new and unknown contexts. Certainly all three participants in this study report feeling keen and enthusiastic to engage in future projects, and felt that they were refreshed and more in tune with current classroom practices.

They reflected on the benefits of a collaborative approach particularly with regard to helping to understand the ethical approval process, for receiving guidance on practical issues when gathering data from interviews and also in seeing how to design a project in a step-by-step manner. There is no formal measure of knowledge transfer, but all three reported increased confidence with the research process in general, and with specific techniques.

All three participants also valued the chance to reflect upon classroom pedagogies with one another. It made the process of research less threatening, and allowed them to talk about any concerns. The structure of peer-peer teams was seen as beneficial as it supported reflection and discussion. This also allowed the sharing of expertise between the research team. One participant was experienced with using online surveys with their postgraduate students and was able to teach the rest of the research team about the resource, which was then used to gather weekly attitudinal data from learners and teachers. This not only boosted the participant's confidence and sense of bringing value to the project, it also helped the other participants engage with new ideas. All then decided to use the idea in their own day-to-day teaching, benefitting the programmes that they teach on, and their students.

Involvement in the project added a sense of enrichment – all three felt that they were using their research journey to revitalise and re-energise aspects of their practice. Although all three were experienced teacher educators, they all gained new ideas from being in school in a research context with a colleague. It helped them to wonder about their pedagogy and practices in different ways – about things they could try and things that they wouldn't try. It introduced them to new and innovative ideas, and they all felt that this would inform their own teaching and lecture content. This sense of continuous inquiry into practice was seen as being a valuable research disposition to develop amongst the group.

The schools were also interested in finding out more about some of the research tools – such as attitudinal scales, and the online survey system. They thought that it could offer useful data on students' attitudes to learning, or other school-related matters, from the learner voice perspective. This meant that the project encouraged teachers and teacher educators to use research activity to inform their practices.

Reconceptualising One's Role

The final benefit related to how the project supported all participants to reconceptualise their role, expanding it to include the identity of 'researcher'. Ceri noted that

The two biggest impacts for me have been the greater understanding of the ethical process and how to collaborate on writing an academic article. This has given me huge confidence and it will have a positive impact on my activity profile and how I am viewed by peers. Previously, I had felt that I was succeeding in all areas of my role other than research, but this has now helped me develop my identity. The confidence I feel will have a positive impact on my teaching and my standing with colleagues.

One aspect of the project that helped with this was the process of data gathering. This was not just about accessing and trialling new research tools, it was about using them in a new context. Although experienced with many of the strategies, such as interviewing and observing, adopting these in a research context was a new experience. It was not without challenge. One participant felt that it was very hard to step away from the role of adviser – and wanted to give feedback on the content of sessions observed and offer advice to the teacher as if she were in the role of visiting teacher educator. Taking a research stance of being a non-participant, non-judgemental observer was very difficult.

It was also difficult at first for Ceri to feel confident in the role of researcher. She commented that when carrying out interviews, she felt that there were specific challenges. In particular:

I found it interesting that I was much more comfortable interviewing pupils, having only recently left the classroom, whereas interviewing teachers was initially more difficult and I did struggle to assert my authority as a researcher. I automatically related to teachers as a recent teacher myself but I felt conscious of the need to establish myself in my new role. Having had recent classroom experience, I was able to relate to the issues that teachers faced and this did allow for a very positive

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dialogue. However, on reflection I wondered if I needed to be more formal and script a project outline so that teachers were reassured about the research process.

The design of the project acted as a scaffold, and at the end of the project Ceri reported far greater confidence – and indeed eagerness to engage with more research.

There was a fear that in the data-gathering process they may ‘miss something important’ – and at the start of the project Chris and Sam said that they noted everything – just in case they missed something vital from their observations. Gradually they became more confident. Through self-study they realised that the research process they were engaged with was about the interpretation of events, as well as gathering data. That realisation brought greater feelings of confidence, and this grew throughout the process. By the end they were clear about their role, and so they felt that they could assume a role as researcher more convincingly.

The participants also valued the opportunity to contribute to the formal outcomes of the project. Whilst peer-reviewed and conference presentations are the most traditional models, strategies for dissemination of close-to-practice research need to be fit for purpose (Smith, 2001). Contributing to this paper, but also to the summaries of the project in terms of research reports, contributing to publicity about the project via the institution’s website and information sharing via social media were dissemination tools the participants engaged with. This was a new experience and for the three participants there was a sense of excitement about seeing their work in print, and being disseminated more widely.

Involvement in the project helped the participants see how they could align their work with some of the recommendations for initial teacher education reform (Furlong, 2015). For example, Ceri identified a shift from being a critical consumer of research (which was acknowledged to be important) towards becoming an active participant in research, with a clear sense of ownership of the research agenda.

What Were the Challenges?

There were of course some pragmatic challenges to overcome. Teachers and teacher educators are busy people. Arranging meetings with school-based staff at a mutually convenient time was a difficulty. But on reflection, the participants could identify some useful strategies – such as the importance of holding early face-to-face meetings with school

participants – that they felt were beneficial in establishing relationships. Setting clear timelines, and identifying roles and expectations early in the project eased the process – ‘everyone knew what they had to do’. The fact that the project involved collaboration with schools, with practice-facing research questions based upon the school’s development needs was seen to be highly beneficial. The participants felt that the schools valued their engagement as we were all carrying out the project for the same purpose – we all wanted to find out what worked well in classrooms. The schools gave feedback to indicate that they appreciate involvement in a project that matched their own school development agendas – they felt that the focus was therefore relevant and meaningful, not imposed. They also valued the opportunity to talk about their own future research journeys with the team.

However, time does remain an issue and Ceri noted that:

Whilst I agree that ‘in a research-rich, self-improving education system: Teachers share a common responsibility for the continuous development of their research literacy’ (Leat et al., 2014: 7), this is the same for ITE teacher educators, it does need to be acknowledged that time for research needs to be allocated as well as training and opportunities to work with a ‘more knowledgeable other’.

In discussion, it was evident that there had been a shift in how Sam, Chris and Ceri viewed the challenge of time. They acknowledged that whilst they could not create more working hours, they could prioritise how they spent these hours. In the past getting started with research and scholarly activity was perceived to be a challenge. Because of their increased level of confidence and feelings of researcher identity, all three felt that perhaps they would be able become research active more frequently. As for time constraints, these were viewed as less of a barrier. Sam felt that ‘where there is a will there is a way’. This was a shift from views held at the start of the project.

Conclusion

Capacity building, whether at a sector or institutional level, is dependent on a number of factors. At a team and individual level there are several reasons why teacher educators wish to develop their knowledge and understanding of the research process, and numerous ways in which this can be done. In this paper, we have explored why providing collaborative experiences for teacher educators to develop understanding, confidence

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and skills in research is valuable. Not only does it build on research skills, in our study it also helped participants develop their professional identity, and reflect upon and re-engage with their practice. Cochran-Smith and Lytle (2004) argue that the division between being a researcher and a practitioner is a blurring of enquiry, action, analysis and theorising – not a division. In our small-scale study three teacher educators new to research experienced this ‘blurring’ first-hand – and used their own reflections as a learning process. In doing so, one outcome was that they reported being able to identify with the role of researcher, whereas before this seemed something done by ‘others’.

Research needs to be viewed as a way of knowing about teaching which extends across the whole of the teacher’s professional career (Cochran-Smith and Lytle, 1999). It should enable participants to talk and enquire about practice. In our study, establishing a research community whereby participants were supported by more experienced researchers, and also by peers, was viewed positively. For example, Ceri noted that:

I would recommend that any fledgling teacher educator work with an experienced partner to develop their research skills. It is enlightening to learn about each stage of the research from an experienced professional who is not competing with you but working with you for a shared goal.

All three participants reported increased confidence in undertaking research activity, increased knowledge and skills regarding the research process itself, and ideas to take their own practice forward. This is important, since any capacity that is developed needs to be sustained. The three participants in this project now report feeling increased confidence in seeing themselves as researchers. They are excited about involvement in future projects and would enjoy collaborating with others – including less experienced researchers. Challenges of time are still viewed by the participants as a barrier, but a barrier that is no longer insurmountable.

Wales has a clear national education mission to raise standards. Research indicates the importance of high-quality teaching in order to do this (e.g. McKinsey and Company, 2007). As such, our teacher educators need to continually develop and improve their practices. According to Berry (1998), once we stop asking questions we are no longer agents of our own learning or action. In this article we have seen how involvement in small-scale collaborative research can encourage teacher educators to wonder about and ask questions of their own, as well as others’, practice.

References

- BERA (2011). *Ethical Guidelines for Educational Researchers*. Available at: www.bera.ac.uk/wp-content/uploads/2014/02/BERA-Ethical-Guidelines-2011.pdf?noredirect=1 (accessed 17 October 2017).
- Berry, K. (1998). 'Reclaiming wonder: young students as researchers', in S. Steinberg and J. Kincheloe, *Students as Researchers: Creating Classrooms that Matter*. London: The Falmer Press.
- Boyd, P. and Harris, K. (2010). 'Becoming a university lecturer in teacher education: Expert school teachers reconstructing their pedagogy and identity'. *Professional Development in Education*, 36 (1–2), 9–24.
- Boyd, P. and Tibke, J. (2012). 'Being a school-based teacher educator: developing pedagogy and identity in facilitating work-based higher education in a professional field'. *Practitioner Research in Higher Education*, 6 (2), 41–57.
- Carter, Y. H., Shaw, S. and Sibbald, B. (2000). 'Primary care research networks: an evolving model meriting national evaluation'. *British Journal of General Practice*, 50, 859–60.
- Cochran-Smith, M. (2005). 'Teacher educators as researchers: multiple perspectives'. *Teaching and Teacher Education*, 21, 219–25.
- Cochran-Smith, M. and Lytle, S. L. (1999). 'The Teacher Research Movement: A Decade Later'. *Educational Researcher*, 28 (7), 15–25.
- Cochran-Smith, M. and Lytle, S. L. (2004). 'Practitioner inquiry, knowledge, and university culture', in J. Loughran, M. L. Hamilton, V. LaBoskey and T. Russell (eds), *International handbook of research of self-study of teaching and teacher education practices*. Dordrecht: Kluwer, pp. 602–49.
- Cooke, J. (2005). 'A framework to evaluate research capacity building in health care'. *BMC Family Practice*, 6 (1), 44–55.
- European Commission (2013). *Supporting Teacher Educators for better learner outcomes*. Available at: http://ec.europa.eu/education/policy/school/doc/support-teacher-educators_en.pdf (accessed 21 November 2017).
- Furlong, J. (2015). *Teaching Tomorrow's Teachers: options for the future of initial teacher education in Wales*. Cardiff: Welsh Government.
- Furlong, J. (2016). 'Initial Teacher Education in Wales – a Rationale for Reform'. *Wales Journal of Education*, 18 (1), 45–63.
- Leat, D., Lofthouse, R. and Reid, A. (2014). *Research and Teacher Education: The BERA-RSA Inquiry: Teachers' Views: Perspectives on Research Engagement*. Oxford: BERA/RSA.
- Lewis, H. (2017). 'Professional Development for Teacher Educators: the missing link?'. *Welsh Journal of Education*, 18 (3), 160–70.
- Lunenburg, M. and Willemse, M. (2006). 'Research and professional development of teacher educators'. *European Journal of Teacher Education*, 29 (1), 81–98.
- Lyons, N. (2006). 'Reflective engagement as professional development'. *Teachers and Teaching: theory and practice*, 12 (2), 151–68.

- McKinsey and Company (2007). *How the world's most improved school systems keep getting better*. Available at: http://mckinseysociety.com/downloads/reports/Education/Worlds_School_Systems_Final.pdf (accessed 17 October 2017).
- Murray, J. and Male, T. (2005). 'Becoming a teacher educator: evidence from the field'. *Teaching and Teacher Education*, 21, 125–42.
- Power, S., Taylor, C., Lewis, J., Connolly, M., Thomas, G. and Jones, S.W. (2010). 'Realizing the "Learning Country"? Research Activity and Capacity Within Welsh Local Authorities'. *Contemporary Wales*, 1 (23), 71–92.
- Power, S. and Taylor, C. (2016). *Educational research in higher education in Wales: Findings from a national survey*. Cardiff: WISERD.
- Smith, R. (2001). 'Measuring the social impact of research'. *BMJ*, 323, 528.
- Trostle, J. (1992). 'Research capacity building and international health: definitions, evaluations and strategies for success'. *Social Science and Medicine*, 35 (11), 1321–4.