

Researching and learning together: inter-institutional collaboration as a strategy for capacity building
Reflections based on the evaluations of the Welsh Education Research Network

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Introduction

There is growing awareness of trends in educational research capacity that give cause for concern: the increasingly elderly demographic of education researchers (Mills et al., 2006), the increasing concentration of education funding and research in a small number of research intensive institutions (Pollard,2008), and the possibility that education training might become divorced from its research base. All of these concerns are rapidly becoming manifest in Wales, and it was for this reason that the Welsh Education Research Network (WERN) was formed in order to increase educational research capacity across the principality. The focus of this paper is the social practices model that has been adopted by WERN as the method to develop capacity, how this has been developed through inter-institutional collaboration, and the impact it has had at the individual and institutional levels. The evaluation data that we discuss has been gathered as a part of the of internal evaluation process (a fuller account of this can be found in Davies &Salisbury (in press), or is the result of the external evaluation conducted by Prof. John Gardner, Queen’s University, Belfast (Gardner,2008). The paper will conclude with a summary that reflects on what we have found out about building capacity-in particular what has worked and what has created obstacles – and what we can draw from this for future capacity building initiatives

Background

WERN was funded by the ESRC and HEFCW for a pilot period between 1st October 2007 and 30th June 2008; this was then extended to July 2009; however the contents of this paper are based on an evaluation of the initial pilot phase. The aim of the Network is to develop educational research capacity, by building a collaborative partnership, which shares expertise, between all the higher education institutions (HEIs) with education and related departments in Wales. Its membership comprises Aberystwyth University, Bangor University, Cardiff University, Glyndwr University (formerly North East Wales Institute), The Open University in Wales, Swansea Metropolitan University, Swansea University, Trinity University College ,

University of Glamorgan, University of Wales Institute Cardiff (UWIC) and University of Wales Newport.

An important starting point for this collaboration was mutual respect between institutions and a willingness to work together. The leadership of WERN is distributed and democratic involving all partner institutions who come together in an Executive which makes all the important decisions about the organisation's development. This non-partisan and inclusive style of operation has contributed to the maintenance of institutional commitment to, and participation in WERN. Thinking about the future of WERN one Executive member reflected,

"If WERN could continue in the same spirit with its outsider role and its participatory and non-elitist ethos it may well be one of the most important change agents for departments like mine....somehow I see the WERN model having more effect in creating actual research activity than the internal, home-grown strategies and structures that we have. I used the word 'baggage' just now and WERN has no baggage. It has no hierarchy and no deeply rooted preconceptions or personal agendas held by powerful gatekeepers. That seems so important and should be maintained."

The members of the Executive are all active researchers, who are sensitive to the demands of research, the needs of their institutions and their colleagues and who can also play a grassroots role in building support for WERN initiatives in their institution. Their effort and energy has been essential in maintaining the momentum of the pilot.

WERN's strategy uses a social practices model of work based learning to build capacity by inter-institutional collaborative research activity. In the next section we will describe the evidence from the literature that provides support for this type of model, and how this has contributed to the rationale for the WERN programme.

Rationale for WERN Activity

Educational research is in serious decline in the majority of HEIs in Wales (Rees and Power, 2007) as a result expertise is mostly fragmented and isolated, and researchers lack important opportunities to develop expertise by working alongside more knowledgeable peers. In order to ameliorate the situation WERN aims to build capacity by facilitating collaborative research activity between educational researchers located in different institutions. By providing opportunities for joint activity and social learning between partners with various levels of expertise and experience, educational research capacity across Wales may incrementally be improved.

It is helpful to consider research capacity building in terms of the professional learning undertaken by educational and other researchers. Research capacity building initiatives have mainly used approaches which build up on formal training provision; typically such provision offers classes, workshops, sample data and written, audio, film and other visual materials. Experienced researchers with proven track records in research are usually the very credible leaders of these training events where they transmit knowledge about the how and why of doing research. Such activities, as Rees et al (2007) point out "embody a pedagogy which is most

closely attuned to the communication of propositional knowledge... with the emphasis upon transmitting knowledge about how to do research, rather than doing research itself. "(p 765). Insufficient attention to date has been given to forms of professional learning based upon the conduct of research ie.- learning by doing it "on the job " as it were.

Some writers have drawn upon Lave and Wenger (1991) and Wenger (1998) in accounts of 'situated learning' where tacit forms of knowledge and skill are acquired through legitimate peripheral participation in 'communities of practice' which involves beginners in real and authentic work based activities. Individuals learn through 'doing' with expert guidance. Drawing on the evidence from an analysis of participation in the research activities provided by the RBCN Rees et al (2007) found that work place based opportunities for acquiring research skills were viewed by participants "as crucial to their development as accomplished researchers" (p 773) Contract researchers interviewed by the research team did not report any shortcomings in their access to situated forms of professional learning but valued them. The authors recommend the exploration of an apprenticeship model in which different forms of professional learning "are embedded in the everyday practices characteristic of the work of researchers and the wider social organisation of educational research within which these are located" (p 776).

Trowler and Knight (2000) maintain that new academics can begin to absorb and enact the often taken for granted features of university work by working alongside and with others. This facilitates and supports the development of a shared set of norms, values and discursive practices. In contrast to this view however, Harrison and McKeon (2008) assert that experiential learning and learning by participation is an inadequate model which does not fully account of the complexities of becoming a scholarly teacher educator in a new HE setting. Their longitudinal study draws attention to the fact that developing meaningful research can be an isolated experience particularly for second career entrants in teacher education. Accessing tacit knowledge may be challenging as Eraut and Hirsch (2007) point out.

Indeed numerous commentators on the nature of professional learning have emphasised that the acquisition of expertise and the capacity for making judgments is achieved through combinations of both formal and informal learning (Eraut 1994; Eraut et al; 2000). The early career learning of engineers, nurses and accountants described by Eraut and Hirsch (2007) reported that the quantity and quality of learning can be enhanced by increasing opportunities for consulting with, and working alongside others in temporary groups or more permanent teams. This notion of situated learning recognises the social dimension of learning and that inside a "community of practice" participants learn and benefit from interaction with each other (Wenger 1998).

It is perhaps possible that both formal and informal modes play complementary roles when experienced in various combinations appropriate for diversely experienced individuals. Drawing upon Bernstein's (1996) critique of the treatment of research methods in the research capacity building programmes , numerous commentators (Brown, 2006 and Rees et al; 2007) have warned of how abstracting methods from the actual social practices of research and from their theoretical and philosophical traditions may be detrimental to the diversity of methodological perspectives that

characterises educational research. Collaborating participants in the Wales based network will be able to learn "through the conduct of professional activity itself, critical reflection on professional experience and perhaps most importantly, interacting with professional colleagues both within and outside of the workplace'(Rees et al 2007p766)

The need to further understand the occupational socialisation/learning of researchers, their journeys from novice to expert, the infra structures and support required and to be able to identify what Eraut and Hirsch (2007) call a "learning trajectory" is imperative. Developing a better understanding of researcher transitions for eg, how becoming confident as a researcher, becoming recognised, being more productive and increasingly more rigorous and sophisticated, might inform HEI policy and strategy and inevitably university and research funding. Fowler's (2008) BERA symposium paper makes an important contribution and usefully reframes the expansive – restrictive learning environments continuum (Fuller & Unwin 2004; Evans et al., 2006) to explore the working practices and contexts of research projects which inevitably shape researcher learning.

In the section which follows the significant features which shape the research context within Welsh HEIs are outlined. This is of relevance because educational research is a form of activity that is shaped by the social life and cultural influences of the workplace and its institutional and organisational contexts.

The Context for Research in HEIs

We have demonstrated that there is evidence to support a social practices model as an effective method for capacity building. Further, we would argue that if new capacity is to be developed and *be sustained* it must occur at both individual and institutional levels. To build the capacity of an individual means to progressively increase the skills and experience of a researcher to produce high quality research. In an institution the task is to incentivise and enable that institution to undertake strategic and organisational changes in order to support the growth of a research culture and research infrastructure. Change at either level is dependent on, and has a complex interplay with, change at the other; but change is needed at both levels to build research capacity that is long term and sustainable.

WERN has built inter-institutional collaboration with the aim of building capacity at both the individual and institutional levels. There have been sound pragmatic reasons for developing a pan-Wales network, not least, as described earlier, the small number of educational researchers in some institutions. The extent to which an individual, or institution is able to participate, or benefit, from the opportunities that have been provided by WERN is either constrained or enabled by its existing research orientation. Therefore to understand capacity building within a community of institutions it is important to recognise the features of institutional organisation and social practice that frame participation in research.

Changes that have occurred in the last twenty years in the organisation of higher education and research funding have played a strong part in shaping the status of research in universities. The outcomes of successive Research Assessment Exercises(RAEs) starkly document the declining fortunes of Welsh educational

research (Rees and Power, 2007). This has been confirmed by the latest 2008 Exercise (Research Assessment Exercise, 2008). Acute differentiation has occurred between Cardiff University (where education research takes place within a social science department in receipt of high levels of funding that follow the RAE) and the other universities that receive no core education research funding. Some of these others, which were part of the now increasingly disaggregated University of Wales, have formerly had good levels of research activity that have gradually reduced; others are former higher education colleges who although now universities do not have a substantial history of research activity. As a result it is clear that there is considerable diversity between the different institutions in Wales, and the historical role and remit of an institution continues to exert an influence on its present research aspirations and culture.

The RAE continues, at present at least, to act as a strong influence towards concentration of education research in fewer, more research intensive institutions (Pollard, 2008) that conduct high level social science research. However, it can be argued that the value of education research lies in the application of its results to the improvement of educational provision. Many of the institutions in Wales that have low research capacity have high levels of connectedness with educational policy and practice through delivery of initial and continuing teacher professional development and mentoring of practitioner research. Unfortunately applied and pedagogical research that is likely to be most relevant to these universities often struggles to achieve funding and this may contribute further to a lack of funds to finance research activity. Therefore another factor that might differentiate institutions is the type of research that might be attractive to an institution, and its potential to attract funding.

The composition of the workforce in an institution is also influenced by its past and present culture. The capacity building priority for research intensive universities is developing new career researchers – bringing on new doctoral students, creating post doctoral opportunities for research activity, having a career's structure that will retain promising new researchers. The world is quite different in many institutions which are more orientated to teacher training – they may or may not offer doctorates, they struggle to provide opportunities that will attract promising new researchers and for many of the researchers, working in a university will be a second career after many years as a teacher or other work in education.

The prioritisation given to research by an institution will have an impact upon the personal experience of working and engaging with research. Teaching load and dedicated time for research varies quite considerably between institutions, although it is probably safe to say that unless an institution has generous core funding, staff will have little time to engage in research activities, such as write a proposal to submit to a grant awarding body. Accordingly, the potential for individuals to engage with capacity building activity, especially in institutions where research has at present low priority, is likely to be influenced by the willingness of an institution to facilitate a more flexible approach to the use of staff time for research.

More generally, if you are part of a learning community that values research-that shares and reflects upon research experience -then this provides practical, social and emotional enrichment that will enable researchers to develop. This will not be the case for researchers, or would be researchers, in less research rich

environments. In particular, they will lack opportunities for formal or informal mentoring and ‘learning alongside’ experiences.

Perhaps the most significant feature that differentiates between institutions is the presence or absence of a viable and active research infrastructure. The key infrastructural features include a research strategy, planning and implementation body that has some dedicated funding and investment; a research training and staff development programme; finance and personnel that are equipped to support grant applications, awards and projects; and a careers structure that will retain and promote good researchers. Certainly, in this regard, there is a great deal of variation between institutions in Wales-some institutions have all or most of these elements in place, and this will support and sustain capacity building; others have little or none and researchers in these situations are faced with far less conducive circumstances. It is clear that the context for research activity in a HEI is complex and multifaceted and that capacity building activity will be mediated by many social-cultural factors that will vary across institutions. In the next section we will describe and evaluate the strategies, based on social practices model of workplace learning, which WERN has used to develop capacity.

What WERN has done to build capacity

The principal method of developing capacity has been the provision of bursaries to support groups of colleagues from different institutions to work together to write a proposal for research funding. The thinking behind this strategy was that it would bring together expertise from different institutions centred on a task that requires thinking, discussion and sometimes implementation of essential research skills – reviewing the literature, identifying a research question, making decisions about, and trialling appropriate methodologies etc. There was also the added bonus that the proposal could be successful in attracting further funding if an award was made. An essential criterion for receipt of bursary funding was to demonstrate that within the group there was a mix of skills and experience that had the potential to build the capacity of the group members. Groups were also expect to find a mentor- a researcher with high levels of expertise and of high academic standing in their field-who would provide occasional supervision sessions for the group. The involvement of the mentor meant that even for the bursary group leader (generally an experienced researcher) there would be opportunities for learning from a more expert peer. Applications for funding were able to propose to use funding to pay for costs such as the expenses of the mentor, ‘buy out ‘staff time, pay travelling and subsistence costs for meeting (these can be prohibitive when institutions are on different sides of Wales), buy materials or pay for the services of a research assistant (although they had to be included in the team).

Despite the very short period for the preparation of applications, 24 applications were received. Table 1 (Gardner,2008) shows the high degree of inter-institutional collaboration in 23 valid applications (a single institution bid was withdrawn as partners could not be found for that particular research focus).

HEI	Aber	Bangor	Cardiff	Glam	NEWI	Newport	Swan Met	Swan U	Trinity	UWIC
Aber			✓							

Bangor			✓	✓	✓	✓	✓		✓	✓
Cardiff	✓	✓		✓		✓	✓	✓		✓
Glam		✓	✓			✓		✓	✓	✓
NEWI		✓								
Newport		✓	✓	✓			✓	✓	✓	✓
Swan Met		✓	✓			✓			✓	✓
Swan U			✓	✓		✓			✓	✓
Trinity		✓		✓		✓	✓	✓		✓
UWIC		✓	✓	✓		✓	✓	✓	✓	
Totals	1	7	7	6	1	7	5	5	6	7

Table 1: Degree of inter-institutional collaboration in bursary applications (Gardner, 2008)

Of the total number of applicants (N=93), 57 early career researchers (13 male, 44 female) were involved and named in the applications. These ranged from those totally new to research such as ex-head/deputy head teachers, ex-local authority advisors, new initial teacher education (ITE) lecturers to HEI lecturers with one or two internal departmental working papers or a recently acquired doctorate. Many of the ITE applicants had Masters degrees or were still studying them. All the applications fulfilled the basic criteria of being cross institutional, having the potential to develop capacity and being relevant to Wales.

In order for the competition to be fair the WERN Advisory Group (comprised of impartial academics and stakeholders of high standing) reviewed and selected the successful eight applications. They did so on the basis of the potential of the membership of the group for capacity building, the quality of the embryonic outline proposal, its value for policy and practice in Wales, and the likelihood of the subsequent application to attract an award from a funding body.

The eight funded bursary groups included in total 27 early career researchers (5 male and 22 female) and as shown in Table 2 there was an even spread of experienced and less experienced researchers.

	Years of research experience			
	0	1-5	6-10	11+
Number of staff	15	12	9	15

Table 2 Research experience of bursary group members

Each funded application received a budget of £13,000 for the bursary period from 1st January to 30th May 2008. All but two institutions had members of staff participating in bursary groups, with a total of 51 academics in Wales being involved in bursary activity. The mentor, for three of the groups came from Welsh HEIs but the remaining five worked in English universities. The range of funded bursaries gave coverage to substantive research issues across all education phases from the

Foundation Phase to Further and Higher Education though the majority (n=7) were focussed upon primary and secondary sectors.

All of the funded groups were expected to have completed the preparation of their formal funding application by the end of the bursary period. By the time of the external evaluation (May 2008) all groups had proposals underway but only one award had been achieved. However other tangible written outcomes have been achieved by the groups: for example, papers had been prepared and were being presented at six conferences during that year.

Impact of WERN

Inter-institutional collaboration has been our focus. This is not to suggest that the methods that we have used could not be used effectively in one institution, but as we argued earlier a distinctive feature of Wales' problem is the fragmented nature of its capacity with a few isolated researchers in many of its institutions.

What has been the impact for individual researchers? The external evaluation reported that 26 of the 37 interviewees said that they had achieved a gain in professional learning, and the majority of these specified improvements in research skills such as methods for data collection and analysis. 32 respondents viewed the WERN initiative as good or better, some comments were effusive such as 'profound experience', 'brilliant'. Five respondents were more circumspect and made comments such as 'a curate's egg – potentially good but too ambitious', and 'pleasing but may be too late' (Gardner, 2008).

Internal evaluation of the bursary groups was gathered on three occasions – all group leaders provided interim and final reports during the course of their bursaries, and individual group members completed a short, individual questionnaire after the bursary had finished. Feedback from the group reports indicates that opportunities for working with more experienced colleagues and a mentor were valued and in particular the groups were a supportive and non-threatening environment that nevertheless provided a space for intellectual stimulation and challenge. Following this up further, all group bursary members were asked to complete a questionnaire which asked them to rate their skill and confidence levels for ten different types of research activity (ranging from identifying a research question to research management and leadership) before and after their involvement in the bursary group. 33 bursary group members (65%) returned the questionnaires and these provided a good cross section of new, second career, mid career and experienced researchers. 32 (97%) respondents felt that they had improved their skills in more than one research area, most in at least six areas. The exception was an experienced researcher who considered himself to be already very knowledgeable, however he still viewed the bursary as a very valuable opportunity to bring together and support a research group with a shared common interest. The results of the questionnaires are in agreement with the findings of the external evaluation that the bursary group members perceived the bursary group experience as having provided an effective method for developing research skills.

The respondents were also given an opportunity to compare (advantages and disadvantages) the 'learning on the job' provided by the bursary group, with more formal types of research training. Although not asked to indicate a preference 47% of

those who responded felt that a social practices approach offered a more worthwhile experience, and in support of this view most frequently cited the benefits of hands on experience and the opportunity to learn from more experienced peers. The challenge of finding time for this type of activity was the most frequently mentioned disadvantage:

'Training usually carries with it some time for the activity whereas 'learning on the job' can put great constraints on the time available as workload does not decrease to allow for the learning...However the learning advantages of working on a 'real' research bid with experienced colleagues and an inspiring mentor cannot be replicated by a training environment. In the model adopted new learning was used and put into practice immediately rather than, as can be the case with new training, new skills are not practiced and have to await until an opportunity for use presents itself. [Second career researcher]

The time-scales for funding provided for the pilot were short, however one aim of the funding provided to bursary groups was to buy out time for research activity. This does not always seem to have happened and reason most often cited was the lack of readily available and appropriate supply cover. A frustration over time was experienced by some group leaders because they felt there was competition between dedicating group time to developing the skills of less experienced group members and pressing on directly to producing the required output-the funding application. Nevertheless one group at least found the time pressure could be enabling,

'In a sense the bursary award was ideal for learning by doing except for the very compressed timescale (not enough time to value and experience/report and reflect on the process or for learning) .Between your Award and our Team, we created a JIT(just in time), just enough, just for us environment that seemed energising and productive [second career researcher]

When describing the institutional contexts we argued that sustainable systemic change cannot be achieved unless there is change at both the individual and the institutional levels. So what change has WERN managed to achieve at the institutional level? The external evaluation reports that support for WERN, and its objectives was strong amongst all the HEI representatives that were interviewed (Gardner,2008). However the greatest difficulty for the HEIs was making time available for research activity. This returns us to the predominant interrelated issues of funding and time, and their importance in enabling research capacity development to take place. Our model at the outset of the pilot was that if capacity building using a social practices model takes place as part of funded research activity (as bursary activity was) then this provides a training method that can be affordable and effective. However evaluation findings suggest that funding alone is not in itself sufficient to guarantee time. There must also be in place an infrastructure that can support research activity, for example one group suggested the need for a supply list of teachers, as is often used in organising schools' cover, to enable lecturers to be freed up from their other commitments.

In order to try and find out if change has begun to occur at this level, the authors conducted interviews with a sample of six representatives who sit on the WERN

Executive. All interviewees were united in the view that small scale changes had taken place at the individual level and that it was perhaps too early to gauge the full impact of WERN and in particular the group bursary scheme.

“To date, the impact of WERN has been one of enthusing colleagues and in particular members of staff who have not had a chance to do research because in their heavy teaching workloads there has not been the space and time to do so.”

Typical vocabularies used to refer to temporal issues included “punitive timeframes”, “unrealistic timescales”, “the test of time,” and “crystal ball gazing into the future”, “real impact outcomes over time”

Of course, the acid test will be we are we are and what has been achieved in about one year’s time. Hopefully the network and subgroups will be running under their own steam that it may be that a “cog” to keep momentum like WERN is needed.

Executive representatives from less research intensive institutions spoke of how line managers were able “to flag up the available WERN funding to incentivise colleagues” and how, though modest, the funding available had resulted in “some fruitful clustering of colleagues “ from within and without their HEIs..

“ [...] middle management seized it [bursary funding] as an opportunity to bring less experienced staff into a research project and to afford the opportunities to work alongside and learn from confident researchers and expert mentors.”

Heads of faculty, heads of school and several vice-chancellors lent active support and encouragement to the operationalisation of WERN and in response to an advisory letter from the Chief Executive of HEFCW, authorised the freeing up of time and some resources for those participating in research capacity building activities.

“My VC is 100% behind WERN and was really disappointed when it looked as if the Assembly was going to fund a centre of applied educational research located in one institution only. Our VC and senior management believe in the aims of WERN and realise that building up research capacity will require a steady programme of activities and initiatives to help create a culture of research.”

“Our VC here at [name] wants to further develop a culture of scholarship and saw further WERN pilot as a vehicle for this.”

Institutional representatives from contexts where educational research is the norm and a routine and expected activity spoke of the way the WERN pilot had contributed to a “shift in attitude” or “consciousness raising “ on the part of colleagues who were now,

“ much more mindful of the work situations and constraints of those working in non QR funded places and more aware of the luxury of being able to carry out research.”

Working in a group bursary team in the mentor role or as an experienced researcher may have afforded hitherto unavailable insights into working conditions in HEIs across Wales. Joining in and engaging in collaborative research work with

academics of widely different, little or no research experience, it was felt may have contributed to,

“ the development of a crucial empathy on the part of those of us working in research intensive settings. [...] Those executive members who also rolled their sleeves up and got involved in bursaries became aware that something very special was happening and that WERN was out there and something to be reckoned with!”

The wider role of the institutional representatives was to ginger up support, offer advice and mobilise activity. Those who got involved reported many positives and most interestingly, were willing to acknowledge that they themselves had experienced professional learning albeit of varying kinds;

“I wasn’t conscripted. I was flattered to be invited in and felt valued. It was the best staff development I’ve experienced in a long while because I learned skills too. It was real research, real data. Collaborative scholarship of a very different kind giving something to each of us.” [Executive and Bursary group member]

One of the clearest messages to emerge from interviews with WERN executive members who represented their institution, was not about the beneficial gains and modest outcomes achieved to date, but rather the need for the Wales Assembly Government to put a stronger steer for all Welsh HEIs to engage in inter-institutional collaboration.

“ If growing and training up education researchers for the future and developing individuals already on the lower rungs of the research ladder is a real objective , then some sort of compulsion is required at several levels. I don't really know how this can be done but I suppose I'm thinking of institutional staff training policies requiring all education staff to upskill, this has serious implications for time and money. Then- and this is probably more difficult,- a requirement that the more research intensive institutions involve and partner academics from the less research active institutions and departments.”

“Wales does have expertise amongst its Education staff -they may have an older profile and may not have had the luxury of research training given to PhD students, and yes, the demographic review [Mills et al., 2006] is alarming but there is a depth of knowledge and experience on pedagogy and classroom contexts. With a couple of firm imperatives from the Assembly and HEFCW, this could be harnessed in and developed for well focussed research which could properly inform policy”.

The challenge for WERN is to maintain momentum, and stimulate continued inter-institutional research collaboration, whilst creating opportunities to foster sustainability. A tall order for a modestly funded pilot initiative. The question arises of the extent to which WERN, using a social practice model of research capacity building, is able to motivate the continued participation of all Welsh HEIs and actually influence professional learning to enhance research capacity in education. Lessons from the internal and formative evaluations the larger Scottish AERS programme can be learnt (Baird and Baron,2008; Taylor et al; 2007) Without doubt

considerable efforts are needed over the next few months for succession planning and identifying future viable stewardship of the network.

Conclusion

WERN is a network of Welsh HEIs who are working and researching together, using collaborative methods to share expertise and develop research capacity. Desforges (2006) has defined capacity in this memorable way:

Capacity = Expertise x Motivation x Opportunity

WERN has during its brief pilot existence provided these essential ingredients by using a social practices model of capacity building. WERN's activities, particularly the Group Bursary Scheme have given researchers in Wales the *motivation to engage in research* by providing an *opportunity to develop expertise* in a supportive and stimulating co- learning environment. The results of internal and external evaluations show this method to have been an enabling and effective strategy for capacity building.

The challenges and affordances that have been described will be summarised using a conceptual framework, the 'expansive-restrictive continuum', which has been developed to analyse the features of workplace learning environments (Evans et al., 2006). Expansive contexts open up possibilities for transformational learning and changes in the system to occur; restrictive contexts, as the label suggests, reduce the opportunity for this type of learning. Table 3 is an interpretation of the HEI context in Wales, using this continuum, based on the data that has been described. There then follows a brief discussion of each of the features of the HEI environment identified in the table.

Expansive	Restrictive
Opportunities to learn through 'doing' with expert guidance	No, or few, opportunities to 'learn alongside'.
Institutional support and infrastructure that enables take –up of, and full benefit from, these opportunities.	Limited institutional support or infrastructure
Sufficient time to engage, and gain full benefit from these opportunities.	Insufficient time available time to engage and gain full benefit
Funding streams available which would support research that would build capacity and incentivise participation.	Little availability or likelihood of achieving funding for research that will build capacity and incentivise participation.
Commitment to collaboration between colleagues/institutions with different levels of research expertise.	Lack of commitment to collaboration between colleagues/institutions with different levels of research expertise

Table 3 An expansive-restrictive continuum, based on WERN evaluation data, for HEI engagement with collaborative research capacity building

As capacity declines, many researchers and aspiring researchers in Wales are remote from others and lack opportunities to be mentored by more experienced peers. WERN has targeted resources at giving isolated researchers the chance to

find partners; giving researchers at all levels of expertise the opportunity to share their skills (whether in research or practice) and learn by 'working alongside' others. This has been perceived by participants as providing an effective environment for skill development.

However, some researchers were working within institutions unused to supporting research and with few elements of infrastructure in place. It was evident that although supported by funding from WERN, some participants in less research intensive struggled to marshal the resources to gain full benefit. Chief amongst these resources was time. Meaningful and enduring collaboration does not happen overnight, it takes time to get to know people, to develop trust and mutual respect. Working in a group will always take longer than working alone because of the need to discuss, find consensus, and even find times in the diary when everyone can meet! The network and bursary groups, for the most part, worked well at both the personal and institutional level, but lack of time did present challenges. For example learning can and will take place incidentally as part of a co-working situation; however many bursary group leaders found that they could improve the learning of less experienced colleagues by supplementing day to day activity with some enhanced input or additional training. This requires additional time, and if there is not to be a tension between achieving a research output and facilitating capacity building, then institutions must protect sufficient time for their staff to undertake research and capacity building activity.

This returns us to the need for cultural change within some institutions. This is part of the problem that WERN's mission seeks to address and if WERN continues, and progress results, then changes in institutional culture and infrastructure will evolve and become part of the solution. One of the important aspects of institutional change is institutional motivation to collaborate. What incentive is there for research intensive institutions to participate in a network with other less research orientated HEIs? Capacity building activity will always be a low priority relative to research work that will attract a high rating in the RAE . Ensuring that all funders of education research include capacity building as a criteria for receiving an award would go a long way to removing this tension. Additionally the opportunity to work alongside researchers from institutions who are often strongly connected with practitioners/research users may provide some encouragement. Failing these incentives we must perhaps resort to appeals to the social responsibility of well funded research rich institutions to the wider educational community and civic society.

There may also be few reasons why institutions with little research tradition would want engage and collaborate to enhance research capacity. The present funding arrangements for HE provide very little likelihood that significant funding can accrue from research activity for them. However these institutions are becoming aware that there is a danger of a separation of training from research. Competition for prospective students may provide some incentive because it is recognised that new recruits are more likely to be attracted to institutions where teaching is informed by scholarship and research. A commitment to research is also an essential requirement for HEIs who wish to gain prestige and income from the right to award their own undergraduate and higher degrees.

What of the future? Ideal and longer term outputs for WERN's endeavours with the social practices approach will be to professionalise social scientific research in

education and help to embed a set of self-sustaining research cultures and coalitions of interest and expertise across HEIs in Wales. We have tried *not* to underestimate the difficulties which may influence or thwart the professional learning of those academics who want to engage in or become more expert in educational research. For Wales in particular there are tensions between the long-term development of education research and more immediate, short-term demands of education academics' particular work situations (especially those in teacher training.) Only a fundamental restructuring of these institutional contexts is likely to resolve these tensions. Solutions to the short comings of educational research practice and which address the paucity of research expertise in Wales are urgently needed. Trialling approaches to identify urgent solutions is WERN's core mission.

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