The Twist or the Tango? Strictly . . . Comparing Two Approaches to Educational Research Capacity Building which Have Been Funded by the Welsh Education Research Network

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ABSTRACT

The Welsh Education Research Network was funded to build the capacity of the educational research community in Welsh universities. Its strategy, based on theories of situated learning, was to support education researchers in the development their skills by enabling them to work alongside more experienced colleagues who were engaged in a shared project. The paper evaluates the effectiveness of two WERN initiatives – a mentorship scheme and a method for supporting collaborative co-working – with reference to key organizational factors identified in the literature focused on situated learning. The study, which interrogated survey, interview and external evaluation data, found that participant opinion supported both types of activity as a means to develop the research capacity of individuals; however acknowledging the limitations of the study there was insufficient evidence to clearly indicate which had been more effective initiative. It is suggested that a diversity of approaches to capacity building is needed in order to tailor situated learning opportunities to the needs and circumstances of participants. The paper concludes by discussing factors that were identified that support the organization of effective collaborative research capacity building.

Introduction

In recent years there has been a growing acknowledgement of the need for urgent action to address the decline in educational research capacity (Pollard, 2008a). The ageing demographic of many researchers (Mills et al., 2006); the progressive erosion of research funding for some institutions as a consequence of successive Research Assessment Exercises (RAEs) (Gilroy and McNamara, 2009) and the consequent increasing differentiation between more and less research intensive institutions (Pollard, 2008b) is threatening the maintenance of a broadly based research field which includes teacher-educators as active researchers. A response to these concerns has been to identify ways in which capacity might be developed and then to explore how these can used most effectively.

The aim of this paper is to compare and evaluate two methods for capacity building that were implemented by the Welsh Education Research Network (WERN). The loss of educational research capacity has been particularly acute in Wales (Furlong and White, 2001; Daugherty and Davies, 2008). Following the 2001 RAE in education there remained only one institution that could be termed 'research intensive'; all the others struggled to maintain or develop their capacity. The result of the 2008 RAE has confirmed a continuing downward trend – only 37 full time equivalent researchers being submitted to the Exercise and the 'low average quality profile for Welsh institutions' was noted in the report of the 2008 RAE Education Sub-Panel (RAE, 2008). However some institutions who did not receive funding in 2001 have been beneficiaries to a very limited degree in 2008 (Tanner and Davies, 2009). WERN began its work in 2007 (Davies and Salisbury, 2008) and following a successful external evaluation (Gardner, 2008), its funding was extended for a second year.

WERN aimed to build a capacity by funding and supporting a research environment in which researchers could learn and gain benefit from working alongside more experienced peers. The rationale for this approach will first be described with particular attention to aspects of the literature that inform the scrutiny and evaluation of the two strategies being compared.

Rationale for WERN

The meaning of the term 'capacity building' can be variously interpreted to include: skill enhancement at the level of individual researcher; or the development of the skill sets held by the research community as a whole, or the improvement of the interface between research and policy and practice (Leitch, 2009). WERN's focus was to build both the skills of individual researchers, and the networks between researchers in order to create research groups with sufficient collective expertise and critical mass to have the prospect of future self sustainability. In essence WERN's approach was to offer a funding lifeline which would buy time for less experienced colleagues from one institution to research alongside more expert peers from another. In this way, it was expected that researchers could 'learn on the job'. The rationale for this can be found in the literature which underpins what has been called a 'social practices' method (Baron, 2005) for educational research capacity building.

According to this model, individual capacity is developed by the observation and practice of methods and techniques alongside colleagues who are engaged in the same work or project. 'Communities of practice' enable the transmission of tacit forms of knowledge and skill to beginners when working with experienced peers in real and authentic work based activities (Lave and Wenger, 1991; Wenger, 1998). Steadman et al. (2005: 2) describe how situated learning can give access to '*knowledge in use*', which includes not only academic knowledge but *'personal knowledge'* that people use to think, interact and perform, such as values, beliefs, cognitive strategies . It is also a creative space where the learner can test theory in practice and evaluate practice using theory (Evans et al., 2006). Rees et al. (2007: 773) found that workplace based opportunities for acquiring research skills were viewed by participants as 'crucial to their development as accomplished researchers'.

However, workmate interaction and workplace circumstances and are complex, dynamic and often spontaneous; and by their informality may not lend themselves to pre-planning and prior organization.

> Learning cannot be designed. Ultimately, it belongs to the realms of experience and practice ... And yet there are few more urgent tasks than to design social infrastructures that foster learning.(Lave and Wenger, 1991: 225).

Although it must be acknowledged that learning outcomes may be diverse and sometimes unexpected, an understanding of the organizational

characteristics of social situations that facilitate learning is essential in order to promote more efficient use of resources as well as increase the likelihood of more favourable consequences for the participants. This is an aspect of situated learning which has received less research interest (Eraut et al., 2005). However this has been remedied in part by subsequent studies of the conditions for learning of workplace learners who include engineers, nurses, accountants (Eraut et al., 2005) industrial apprentices (Evans et al., 2006) and teacher-educators (for example Murray and Male, 2005). The evaluation of educational research capacity building networks have also contributed important insights (e.g. Fowler and Proctor, 2008; Murray et al., 2009).

Is it a contradiction to suggest that informal learning should be pre-planned and organized, or can it be assumed that learning will occur as an inevitable outcome of shared activity? Much of the potential of situated learning comes from the immediate real life application of new skills and knowledge. However it is important that some planning takes place to personalize the experience to include the right combination of challenge, support and confidence building (Eraut et al., 2005). Evans et al., (2006) suggest that a considered judgement also needs to be made about how far formal training should also be included as part of the learning experience. Some learning is more situated than others – therefore formal training can be more important for some skills more than others. Furthermore, people are different in how far they 'elect to engage', each learner has their own, unique 'learning territory' (Evans et al., 2006: 42). This is the result of previous experiences, personal dispositions (Hodkinson and Hodkinson, 2004; Sikes, 2006) and personal knowledge (Eraut, 2000). There can also be conflicting work pressures that compete for the learners' attention, for example the struggle for teacher-educators to find time to develop research skills and activity as well as fulfilling their teaching commitments (Murray and Male, 2005; Cochran-Smith and Zeichner, 2006).Therefore an individual's response to new learning depends on both their prior experiences and perspectives, and the context in which learning is taking place (Sikes, 2006). How informal learning is organized can reduce the impact of negative workplace influences. What conditions have been identified that support situated learning and counteract contrary pressures at either the individual or contextual levels?

Networking between professional learners has been identified as effective because collaboration provides mutual support and the stimulus for joint reflection (Ainscow et al., 2006; Day, 2004; Howes et al., 2009) as

well as bringing together skill sets that can be different but complementary, for example researchers with practitioners (Hulme et al., 2009). However it has been suggested that the networks per se may be less useful than the practices that networks have developed which can help to handle complex and changing relationships (Carmichael and Taylor, 2009).

The presence of a mentor who can provide expert knowledge and advice can also be a crucial support feature. A community of practice will include many individuals who may be more experienced than a particular learner and who will be able to share knowledge through co-working on a task. So what distinguishes a mentor, and what are the mentors' particular role(s)? A master or mentor will be an experienced and skilful member of the community but their mastery will also be manifest in how they organize the learning community (Lave and Wenger, 1991). Evans et al. (2006) recognize that this manifests itself in a diversity of possible roles – mediator, coach, advisor – so flexibility is required to adapt the role of mentor to varying circumstances. Fowler and Proctor (2008: 28) with regard to educational research, add 'gate keeping' to this list, and suggest that all of these roles perform a catalytic function by 'increasing the value that an individual researcher can derive from capacity building structures'. Some roles dictate the need for a greater hierarchy than others (Evans et al., 2006) and so when organizing capacity building this suggests that it is important to consider the mentor roles that are most effective and their implications for 'top-down' or more horizontal group structures.

The evidence that emerges from this literature is that the organization of situated learning needs to be fashioned according to two key parameters:

- Learner centred factors – the personal disposition of the learner(s), the work and life circumstances of the learner(s), the specific skill and knowledge needs of the learner(s).
- Practice centred factors – the informal or formal training structures, organization and mentorship roles that need put in place to achieve effective learning.

This paper uses this suggested framework to explore the effectiveness of two strategies for research capacity building implemented by WERN during 2008–9.

WERN's methods

In its first year (2007–8) WERN focused solely on supporting inter-institutional groups to prepare a bid for funding (Davies and Salisbury, 2008). In 2008–9 a broader range of strategies were used by WERN to support capacity building and are shown in Table 1:

Table 1 WERN funded activities 2008–9

Type of funding	*Nature of research activity*	*Number of awards*	*Total number of researchers involved*
1) Cross institutional Group Bursary	1) Either to write and submit a funding proposal to a research funding body 2) Or carry out small-scale research project	8	37 researchers (16 early career; 9 mid-career; 12 experienced)
2) Medium scale study	To explore the relationship between academic and local authority research	1	3 experienced researchers (joined by 2 Collaborative Fellows)
3) Collaborative Fellowship	Fellows developed a specified research skill with a mentor	5	5 early career researchers
4) TLRP In Wales Review	Cross institutional teams to review findings of the TLRP	6	14 researchers (6 experienced researchers and 8 early career researchers)

This paper focuses on a comparative examination of the implementation and impact of initiatives one and three for individual researchers. Activity two has been excluded because the capacity building impact of activity two was primarily as a result of researchers funded through activity three. At the time of writing the Teaching and Learning Research Programme (TLRP) Review (activity four) is only just nearing completion, as a result it has not been possible to gather full evaluation data and so it has also not been included in this analysis.

The Bursary was awarded to a cross institutional group of colleagues to enable them to meet and *either* develop, write and submit a funding

proposal to a research funding organization, *or* carry out a small scale research project. The groups had a lead researcher; the exact nature of this role was not pre-specified for the groups by WERN therefore interpretation of the role varied across groups. Responsibility for the mentorship of less experienced colleagues was generally coordinated by the lead researcher as part of their leadership role. However the support and guidance needed by less research experienced colleagues was frequently shared throughout the group according to the demands of the primary research task. Each group also had an external mentor, who was required by WERN to be a very experienced and respected researcher in the appropriate field. The external mentor provided occasional advice and guidance, and their involvement created the opportunity for even the most experienced group member to learn from a more knowledgeable colleague. Groups were funded for a diverse range of projects including gender roles in early year's settings, dialogic teaching, rural schools and adult education.

The Collaborative Fellowship was awarded to early or mid-career researchers to support a research placement with a mentor (based in another institution) in order to develop a specified research skill(s). The five early career researchers funded for this activity aimed respectively to develop research skills in (i) project management (ii) questionnaire development (iii) the assessment of early years pupils (iv) the study of development of thinking skills (v) data analysis.

Methodology

The data for this paper was gathered from three sources: first, questionnaire responses from a survey of researchers funded in the second year of WERN activity; secondly, interviews conducted with a sub sample of participants who had engaged in both the Bursary group and Collaborative Fellowship schemes; and thirdly, relevant data from the external evaluation of WERN (Gardner, 2009).

Survey data

At the end of their period of funding, all researchers who participated in WERN were requested by e-mail to complete an exit questionnaire. At the time of writing this request had been made to researchers funded in the

first three categories of WERN activity (as shown in Table 1) and did not include those engaged with the TLRP Review because their work was still on-going.

The questionnaire was adapted from one developed by the Teacher Education Research Network (Murray et al., 2009). It asked participants to record their perceptions of how their skills had developed; communication methods used by participants; facilitators and constraints on learning and collaboration; and the impact and networking opportunities that resulted from the activity. Responses to all of these questions, except those concerned with skill development were open ended with respondents free to record their thoughts; the items on skill development required the completion of a rating scale indicating the degree of skill development with a range from none (rated 0) to very significant (rated 4). Informed consent was secured from all participants, and anonymity and confidentiality of the data in its use and storage was guaranteed.

Twenty responses were received from researchers funded as part of a bursary group (54 per cent of those funded by this means). Four Collaborative Fellows also made a return (80 per cent of those who received Fellowships) one of whom was also a member of a bursary group. Responses were analysed across cases to identify perceptions that were held in common by more than one respondent about the perceived value of each activity for building individual capacity and the reasons for this. Responses to items on skill development were ranked as 0=none; 1=little significance; 2=moderate significance; 3=significant; 4=very significant.

Interview data

Three WERN researchers who had been funded for both types of activity during WERN's two years of funding, and therefore were in a position to reflect on their comparative efficacy, were selected for interview. In relation to the Collaborative Fellowship, two were mentees, one was a mentor. To increase the sample size, a fourth researcher was interviewed who it was felt might have additional insights to contribute because s/he had been funded both as a mentor and a mentee within the Collaborative Fellowship scheme. Two of the interviewees, one as mentor, and one as mentee were working together; therefore the interviews generated feedback about three Collaborative Fellowships in total.

Informed consent was secured from all interviewees, and confidentiality and anonymity was guaranteed. The interviews were conducted face to

face. During the semi-structured interview participants were asked to reflect in turn on each type of activity and were asked: the aim of their involvement and whether it had been accomplished, the methods by which learning (if any) had been achieved, the advantages and disadvantages of the activity. The interview concluded with an opportunity for interviewees to take stock and compare the two different types of activity. Responses were recorded by written and electronic means; however only material that was to be quoted was transcribed from the electronic recording.

The responses were collated and visually inspected in order to identify views that differed or were held in common by the interviewees.

External evaluation

A wide-ranging examination of the work of WERN was conducted by Professor John Gardner, Queens University Belfast, at the end of each year of WERN activity. Aspects of the evaluation relevant to this paper from the 2007–9 period will be reported.

The external evaluator collected data from a wide range of sources which included interviews with a range of WERN II participants, an electronic survey of participants, minutes and other papers from meetings of the Executive and Advisory groups, and the reports and other outputs from the individuals and groups that undertook WERN research activities. (Gardner, 2007; Gardner, 2008)

Limitations of the study

The response rate to the participant questionnaire was just under half of the total number of WERN participants surveyed; however the present paper focuses on only a subsection of this group and therefore the numbers of responses on which these findings are based is low, particularly for the Collaborative Fellows. The participant survey was a generic instrument, which was intended to sample many aspects of the experience of capacity building, and was not designed to examine directly the particular foci of this paper. The interview was specifically designed to encourage interviewees to compare and evaluate the two methods for capacity building. However, although the conversations with interviewees did allow deeper interrogation of issues than had been recorded in the survey, the number of interviewees was very small, and this will only allow tentative conclusions to be drawn on the basis of these limited reports. Therefore great

caution will be exercised in making claims or generalizations on the basis of the data presented.

Findings

Survey

The Collaborative Fellowship mentees all reported levels of significant or very significant skill development in an average of ten (range nine to eleven), out of a potential twenty skill areas. All regarded the activity to have provided them with opportunities for networking. Face to face meetings were the preferred method for communication, although one acknowledged the usefulness of technology as a supplement. One respondent perceived teaching/tutorial sessions as the greatest support to learning, the other three made reference to experience of colleagues as an essential feature. One of these acknowledged the value of combining training and experience:

> Formal mentoring days in various research techniques, followed by ad hoc, in situ training and mentoring from which I gained considerable skills and knowledge.

Constraints on learning were reported by two mentees. These were heavy workload and lack of time.

The researchers who had worked in Bursary Groups were much more varied in their reports of the skills that they had acquired. On average the respondents considered that they had made significant or very significant progress in five skill areas however the range of individual responses was wide (nought to seventeen). This would seem to indicate that there was considerable difference between the perceived value of the bursary group experiences for participants. One factor may be that those who rated no or very little change were group leaders who were mostly experienced researchers and so may have not further developed their skills.

All reported increased networking resulting from their activity. Likewise all who responded (two nil response) preferred face to face to other forms of communication.

> I think face to face working [is more effective] because of the team building that occurs and the energy that is created when everyone is simultaneously focused on an idea and subsequent depth of dialogue and speed of progress.

However a majority also recognized the value of e-mails, video conferencing and other technology enhanced methods as useful additions.

> Of course face to face meeting are preferable, but not always practicable. I feel that our project utilized technology to facilitate inter-institutional collaboration in a very effective manner. We had several conference calls and made full use of the TLRP's VRE for sharing and editing data.

The chief facilitator to learning was perceived to be collaborative support and enthusiasm (44 per cent of responses):

> Being involved with WERN and the research project exceeded all my expectations and I believe this was due mainly to working as part of a team which provided support for the novice researcher
>
> The whole is greater than the sum of the parts definitely! With five people, four different department, and three HEIs [Higher Education Institutions] this is not simple, yet it is a nice size and mix of people/groups.

Although linked to the issue of collaborative support, a number of respondents (28 percent) specifically mentioned the asset of other colleagues' experience:

> Just being part of a team demystified many aspects of what being a researcher involves. In particular, having the opportunity of being observed when administering a formal interview and subsequently receiving feedback on my delivery was invaluable.

Other responses that were mentioned by more than one respondent were conference experience (17 per cent), enabling support of WERN (17 per cent) and buy-out time (11 per cent). Factors mentioned by only one respondent were meetings, prior interest in a theme, knowledge of each others' work and the pursuit of a research training course.

Demanding workloads and lack of time hindered learning for 72 per cent of the sample. Other constraints identified were other pressing institutional agendas (17 per cent) and long distances for travel (11 per cent). Overlarge group size, the varying expertise in the group and low levels of institutional support were each mentioned by one respondent.

Interviews

Collaborative fellowships

Aims were similar for all three mentees to use the Collaborative Fellowship as an opportunity to develop specific skills or achieve particular goals. All replied positively about the achievement of their aim. How did they perceive this learning to have occurred? Facilitation of reflection was

considered very important by all three. However this had come about in different ways, for example one had viewed and evaluated video clips of pupil behaviour alongside his/her mentor, another reflected on the use of a methodology with his/her mentor after practice with it in the field. Direct instruction also featured for two mentees who reported useful learning and discussion at seminar presentations by their respective mentors. Finally peer co-working provided a crucial element in one Fellowship. Mentor and mentee worked together to develop research initiatives and the mentee felt strongly that:

> We contributed ideas on an equal basis. However he [the mentor] is a 'brand' and knows how to navigate around the landscape, he knows the game and how to do it.

Two interviewees were mentors – their reasons for participation were similar to each other – they wished to develop the skill base of their mentee. In terms of methods used, their responses confirmed the reports made by mentees.

Bursary groups

Two interviewees were group members, and two were group leaders (one interviewee had been both a member and a leader). One interviewee had not participated in a bursary group.

The aims of the group members were primarily to 'try out' research in a 'safe' environment, and acquire some of the skills needed from working with more experienced colleagues. They also both viewed it as a possible way in to studying for a doctorate. Both reported their expectations had been met, and although one did not yet feel ready to embark on postgraduate study, it was still an aim that s/he was working towards. The aims of the leaders were not that dissimilar, with a strong emphasis on the acquisition of new skills. One who was an experienced researcher commented:

> We are all in the same boat, all a community of learners, you never stop trying to learn and develop your skills.

However in addition this leader was also attracted by the prospect of support to develop a bid for further funding.

Comments about the methods used to develop skills focused on four groups, as one interviewee offered information about two groups that s/he had been part of. The use of direct instruction was reported in three groups

including formal training on specific techniques such as NVivo, and the issuing of direct instructions about how to carry out research processes (*'Telling me how to do it and I would do it!'*). Coaching from more experienced peers while 'working alongside' them also occurred in three groups – talking an inexperienced peer through the use of new equipment, going out into the field to collect data. One mentee reported learning by talking through parallel practice with an equally inexperienced researcher.

Comparative reflection

Looking across all interviews, the views expressed can be grouped into two major themes as shown in Table 2.

External evaluation data

In this section a brief account will be provided of external evaluation data that is directly relevant to the focus of this paper.

The external evaluation of WERN in 2007–8 (Gardner, 2008) commended Bursary Group activity, which was the only funded activity in the first year, as effective in the promotion of professional learning; and particularly singled out the involvement of an external mentor for positive comment. A result of this assessment was to seek more opportunities to develop and extend the mentor role in WERN's second year, and this was one reason why the Collaborative Fellowships were introduced.

The external evaluation of WERN 2008–9 (Gardner, 2009) identified that Bursary Groups in the second year were less multi-institutional than in the first. Groups were on the whole smaller in size and did not have representatives from as many different institutions.

The evaluation did not attempt to seek out the impact of different types of capacity building activity. It recorded that a wide range of professional development had been reported by all respondents to the survey; however the Evaluator did single out the Collaborative Fellowship Scheme for positive comment:

> The collaborative fellowships were particularly successful in promoting the professional learning of the individuals involved. The quality of the support from the mentors was unanimously appreciated and praised, with a variety of outputs and opportunities (off-campus meetings, conference attendance, collaborative writing, 1-to-1 training and so on) spinning off what was a relatively modest amount of funding.
>
> (Gardner, 2009: 12)

Table 2 Themes

Theme	*Collaborative Fellowship*	*Bursary Group*
Ratio of more to less experienced researchers	Ratio 1:1	Ratio 1: Many
	Advantage: tailor made approach can be designed for the single mentee.	**Advantage**: The less experienced researcher has many colleagues with greater experience which can be a resource.
	Advantage: the intense 1:1 relationship can be more challenging	**Disadvantage**: Group may be too big to provide sufficient attention to specific individual needs.
	Disadvantage: The mentee can only rely on the availability of just one person	**Disadvantage**: Diverse institutional situations can cause additional complexity.
Breadth of skill set to be acquired	Fellowship aimed at capacity development of a specific skill or goal (with a limited number of specific skills)	Bursary group is task orientated, and the multi-faceted task is not primarily about capacity building.
	Advantage: Acquisition of a specific skill is a manageable in a limited time frame.	**Advantage**: Experience all aspects of a project.
	Advantage: Better manageability can result in greater flexibility.	**Disadvantage**: Diverse task and diverse needs within the group can be challenging in a limited time frame.

A further relevant conclusion concerned issues of institutional involvement and support- and how for some researchers this had not been sufficient,

> Some respondents argued the need for institutions dominated by teacher education programmes to recognize the benefits of research-informed teacher education and to ring changes in their workload policies and general disposition to research activity.
>
> (Gardner, 2009: 4)

Discussion

The findings from the data will be discussed for each strategy in turn, using the framework described in the rationale. The efficacy of the two approaches for the development of research expertise and experience will then be compared, and whilst acknowledging the limitations of the study, tentative conclusions will be drawn.

The literature suggests that the organization of situated learning is dictated by two inter-related concerns: the circumstances, disposition and needs of the learner (learner-centred factors); and the creation of structures to maximize the opportunities, and minimize limitations that may be present in situated learning (practice-centred factors).

Bursary Group members were for the most part volunteers, well motivated (Davies and Salisbury, 2009) and eager for the opportunity for 'hands on' experience of research activity in an academic area of particular interest. However many of them lacked experience and confidence. There were also conflicting pressures from time poverty and high workload, issues familiar to researchers, particularly in teacher education (Murray and Male, 2005). A lack of institutional support also featured in some respondents comments.

Structures created by cross institutional networking provided new opportunities for working alongside more experienced researchers around a shared interest. Collaboration and enthusiasm were reported to be empowering. The mentoring role was distributed – there was an external mentor, a group leader, and experienced group members – and all played a role in supporting the learning of their colleagues. Formal mentorship in this situation could be described as *1: many*, but the role of group peers in offering coaching and co-working meant that support for learning may be more accurately described as *many: many*. The range of skills and experience, including practitioner know-how, in the group had the potential to be a huge resource. However an over-reliance on informal coaching by group members can invite the possibility that the quality of the learning experience could be variable and or become sidelined when project issues become more urgent or of greater priority. Multi-institutional collaboration was also found to create challenges: the size of the group, the extent of their geographical dispersal and the differences between the research intensiveness of member institutions could make it more difficult and time consuming to plan and organize activity effectively.

Collaborative Fellows were personally well disposed and motivated towards research in order to apply for this activity. They were required to

target a specific skill area for action, and explain how this would contribute to their research capacity development. However because they were early in their career as researchers they could be vulnerable to a lack of confidence. Time and workload pressures could also act as a disincentive to engage with research.

The structure of the Collaborative Fellowship was based on a 1:1 mentoring relationship. This was a closely focused relationship of generally tailor-made sessions, using formal and informal training, each one having a specific learning goal. Mentors facilitated learning for the mentees through a range of approaches which required flexibility in the implementation of their role. This observation is in agreement with previous findings (Evans et al., 2006; Fowler and Proctor, 2008) that mentor roles can be various; however the data reported in this study places greater emphasis on the mentor's role as a facilitator of reflection. The Fellows also received formal training experiences as part of the individualized approach to their skill development.

Comparing the two approaches, the profile of learner disposition and work-based constraints is similar for both groups. However the breadth of skill set that is the goal of the trainee is different – Bursary Group members were seeking experience of all aspects of a research project; Collaborative Fellows had identified one or a very limited number of skills that they wished to acquire. Both types of funded activity were structured around peer supported learning, inter-institutional networking and included elements of formal and informal learning. Mentoring experiences were different-in the Bursary Group they were more distributed, diffuse and followed the needs of the group project; Collaborative Fellows experienced less diversity and received more focused sessions over a shorter period of time. Collaborative Fellowships were 'top-down' being mentor led. They made frequent use of formal training methods to develop a specific pre-determined research skill. In these ways the Collaborative Fellowship more closely resembled a traditional formal training model than the Bursary Group which developed a variety of skills depending on the research practices needed by the project, with teaching/mentoring a shared group responsibility.

Direct comparison of the perceptions by participants of skill acquisition suggests that the Collaborative Fellowship was more successful in achieving professional learning with a gain on average in ten research skill areas as opposed to an average of five for Bursary Group members. However, only five academics were funded as Collaborative Fellows, and only four

returned the exit survey – this is a far too small a number of cases on which to base any strong conclusion. In addition the larger sample of Bursary Group members was, in comparison with the Collaborative Fellows, more heterogeneous with regard to their research experience and this may explain the much wider range between the lowest and highest gains reported by Bursary Group respondents. Some members reported benefits in excess of those reported by Collaborative Fellows, others recorded nil gain in professional skill.

The external evaluation and the views of Collaborative Fellows suggest that the Collaborative Fellowship was an effective method for capacity building. This might be explained by the close match between learner centred factors (for example: specific skill set required, limited work-time available) and practice centred factors (focused, time-limited programme of skill development combining formal training and hands-on experience). In contrast the Bursary Group was task-orientated, and the multi-faceted task was not primarily about capacity building. There is evidence that some groups experienced a tension between the conduct and completion of a research project and capacity building which was an additional and possibly competing demand. The funding was provided by a *capacity building* organization to carry out a *research project* – so which should be the primary focus? The aim of a social model of capacity building is that they happen 'alongside'. However if both cannot be easily accommodated, which takes precedence? This may create conflict over competition for limited time resources and expertise.

Although this complexity creates challenges that are formidable, if the correct organizational structures are in places, can it be bring benefits? The Bursary Group enables large groups of often isolated researchers and their institutions to experience the impact of research activity and networking. The study provides evidence of the gains that were attributed by many participants to come from networking. And some groups have achieved sufficient critical mass to sustain activity post WERN and/or achieve other research funding. This offers further support to a substantial body of literature that argues that networking is an effective method for supporting engagement by new researchers or practitioners with research (Ainscow et al., 2006; Day, 2004; Howes et al., 2009). When networks function with funded support, the amount of funding relative to the number of participants funded must be considered. Although it is tempting to have large group sizes to spread the benefits more widely, overlarge groups (the data would suggest more than 4–5 members?) particularly as they become more

diverse are administratively, and organizationally difficult to coordinate. The reduction in average group size between the first and second year of WERN may be a tacit acknowledgement of this experience by researchers engaged in WERN activity.

Conclusion

Evaluations of two strategies for building educational research capacity, both based on a social practices approach have been compared. There is insufficient evidence to clearly indicate which has been more effective. The opinions of participants suggest that engagement in both types of activity has led to gains in their research capacity. The Collaborative Fellowship demonstrates a clear correspondence between learner-centred factors and the structures put in place for situated learning. It was narrow in focus; aimed at developing a specific skill and so more manageable and achievable when there is limited time and resources. This may be particularly important in an institutional environment characterized by heavy workloads and numerous competing agendas. The Group Bursary was more complex and the task focus more dominant, and this created a danger that if there were insufficient or inadequate structures in place for capacity building that the training needs of inexperienced researchers might be neglected. However both types of activity have achieved some successful outcomes, each have different strengths and each might be the best fit for an individual researcher depending on their needs and circumstances.

> It's like I really don't know if it is better to be doing a tango in a twosome or the twist with a group of friends – they're a different experiences but they're both fun.

This was the way one WERN participant made the comparison between the two approaches – s/he saw the Collaborative Fellowship as like the tango – a closely controlled and synchronized activity for two people; whereas the twist (the Bursary Group) was a more freeform spontaneous dance that could be just as enjoyable when it's performed in a crowd. One way is for capacity building initiatives to offer access to a variety of approaches to learning, so that the participants have the flexibility to select an approach that will deliver results according to varying demands of their context. This view accords with previous research which concluded that a diversity of approaches is needed in educational research capacity building (Fowler and Proctor, 2008).

The Bursary Group offered powerful opportunities for inter-institutional research collaboration, a chance to experience all aspects of the real-life research process and had the potential efficiency of *1 : many* or *many : many* mentoring. It maybe that different mechanisms for selecting, developing and structuring collaborative Bursary Groups may improve the 'fit' between learner and practice related factors. On the basis of the issues identified in this paper, what suggestions can be made about how to develop the efficient functioning of collaborative capacity building research groups?

First, evidence suggests that a group needs to be large enough to have sufficient members with relevant expertise to sustain and complete the research task, and to undertake capacity building. Groups with up to four or five members were most effective and did not have the complex and time consuming issues of organization experienced by larger groups.

Secondly, great care and attention should be given to the characteristics and composition of the group. Prior knowledge of a member's knowledge, skills and areas of deficit, allow the leader to build a team of complimentary expertise and experience. The balance between skill and deficit within the group needs to be carefully managed in order for the group to be able to respond to the twin goals of research and capacity building; especially if the resources of time and funding are constrained. Geographical distance between potential group members and degree of shared academic interest are also issues for attention.

Thirdly, effective inter-institutional collaboration requires intra-institutional support by managers of each one of the institutions for their particular staff members. Evidence from the interviews and external evaluation suggest that members whose institutions share similar or complimentary perspectives on research are more likely to able to find that working together proceeds more smoothly. However, a social model of capacity building rests on more (usually from more research intensive institutions) and less experienced (usually from less research intensive institutions) researchers working together. Therefore it is crucial that group leaders ensure that all institutions involved are committed. Will they enable collaboration at an institutional level? Will they support the individual researcher? Alongside this, capacity building organizations need to have in place structures that hold institutions accountable for how support has been provided and for how funding has been used to enable this to happen.

Finally, we consider the role of a capacity building organization as a source of support for the process of collaborative activity. WERN decided

to adopt a light touch. It did provide optional research support structures, for example a VRE, but did not dictate the programme or timetable for a group's activities after funding was granted, except for the date for completion. Most groups struggled to fully finish their research in the allocated period, and to prevent time for research falling victim to the many other institutional priorities. It could be that a stronger steer and increased support from the capacity building organization can enable groups to better manage the huge combined demands of inter-institutional collaboration, research activity and capacity building.

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