

Re-Conceptualising the Boundaries of Networked Learning: The shifting relationship between learners and teachers

Liz Beaty

Pro Vice Chancellor, University of Cumbria, liz.beaty@cumbria.ac.uk

James Howard

Centre for the Development of Learning & Teaching, University of Cumbria, james.howard@cumbria.ac.uk

Abstract

Networked learning has the potential to change the perceptions and practice of those engaged in learning within both networked and traditional environments. At the heart of such change is the nature of the relationship between learners and teachers as their roles and responsibilities are transformed. Recognising this, the *E-Quality in e-Learning Manifesto* (2002) proposed key aspirations for this relationship, identifying a model based on collaboration and co-construction of knowledge. This model was seen to be supported by the concept of the learning community and to have implications for the professional development of H.E. practitioners. We argue that the ideas contained within the Manifesto can be advanced to fully capture the shifting roles and relationships inherent within networked learning. To this end, this paper focuses on a core set of boundary definitions, central to the way networked learning is conceptualised and experienced. Firstly, we revisit the concept of expertise within learning. While we agree that the expert-acolyte dichotomy is no longer pursuant within networked learning, we argue for a new understanding of the role of expertise defined by transient boundaries. Expertise becomes a quality that moves between members of learning networks, dependent upon time, activity and focus. This raises questions for the traditional boundaries drawn between teachers and learners. If we begin to view teachers as fellow learners in a communal process, we must consider how such learning communities are to be defined. A partial answer lies in the dialogue and communication that connects network members, yet this potentially ignores the relevance of content within networked learning. As such, the boundaries between content and communication are considered and found to be less defined than previously presented. The communication that distinguishes networked learning communities forms the basis of the content members both utilise and collaboratively create. Finally, the implications of these boundary discussions for the professional development of H.E. practitioners are addressed. We note the significant challenges faced in preparing practitioners for their changing role, especially in relation to how they re-conceptualise their place in the learning process and the professional values they associate with it. Finally, we argue for the use of networked communities of professional practice as the means to support the development of diverse H.E. practitioners.

Keywords

Networked learning, expertise, learning communities, professional development

Revisiting the E-Quality Manifesto

In 2002 the E-Quality in e-Learning Manifesto stated that:

In our view of networked e-learning, the relationship between teachers and learners is based on collaboration and co-construction of knowledge rather than on that of expert and acolyte. Such a view of the relationship between learners and teachers is one that is supported by the idea of the learning community. Networked e-learning can contribute to the establishment of virtual learning communities and enhance existing face-to-face learning communities.

The implementation of rich forms of networked e-learning also requires support for and the legitimisation of work done by academics towards the sharing of practice through both case study accounts and networks of practice.

If networked e-learning is to become a rich and robust educational practice providing quality learning environments, practitioners need to engage in critical and reflexive evaluation of their own practice. Any shift in tutor role as proposed here needs to be supported through professional development. Such professional development should mirror and be consistent with the principles underlying networked e-learning.

The following discussion aims to evaluate the currency of this aspirational vision eight years after its inception. In particular, we will revisit the assertion that the relationship between learners and teachers is one of collaboration and co-construction as opposed to one of expert and acolyte. The definition and role of learning communities will be considered against the reality of networked learning as experienced by both students and teachers. Finally, we end with a discussion of the implications for the continuing professional development of teaching within H.E. Questions are raised on the definition and parameters of 'practitioner' in the context of networked learning.

Defining Boundaries

We wish to draw attention to four sets of boundary issues through which to explore the experience and theoretical focus of networked learning. These are the issue of expertise, the boundaries of the learning community, the boundary around content and finally the boundaries that define the role and development of H.E. practitioners. The chosen boundaries provide an opportunity to consider the relationships between those within educational networks, the nature of their activity and how these can be augmented by networked professional development.

The boundaries placed around ideas and expectations of expertise are questioned by networked learning. The original Manifesto aimed to move away from the taken-for-granted relationship between learners and teachers, in which teachers were viewed as experts, in favour of co-creation and collaboration. We seek to argue that expertise within networked learning remains, but defined and exhibited differently. Expertise is held by both learners and teachers as a shifting quality dependent on the activity, the roles taken by participants and the technological context within which learning is facilitated.

Similarly, the role of communities of learning, as embodied within networked learning, is now seen to be more problematic than originally assumed. The implications of terms such as 'community' lead to questions about the boundaries that can be placed around those engaged in collaborative learning via technology enhanced processes. Indeed, collaboration and the aligned term cooperation suggest particular forms of experience and activity that may only partially capture the reality of networked learning. This issue is accentuated given the diversity evident within networked practice. Learners and tutors are increasingly members of multiple networks, some of which may be formalised and focused on shared learning outcomes while others may be organic and self-perpetuating, developed in non-formalised structures where the participants fully dictate the nature, level and purpose of engagement.

Although the view of networked learning embodied in the Manifesto supported co-construction, it nevertheless fore-grounded communication over content. Emphasis was placed on how those engaged in networked learning were connected by the technology. We put forward the proposition that as networked learning has developed the boundaries between communication and content are now less defined. It may be preferable to view them as dual elements of one continuum, in which both teachers and learners are engaged in the creation and communication of content as the basis of true networked learning. This becomes clear in the focus on dialogue within networked experiences. Dialogue, built on social-constructionist pedagogies, may frequently define the content of networked learning environments (Guldberg 2008)

The conclusions drawn from this discussion present a final set of boundaries. As outlined in the Manifesto, the changes to expectations, practice and role initiated by networked learning have implications for the continuing professional development of practitioners within H.E. Central to these is the potential to break down the

continuing distinction between learners and teachers and view both as practitioners. If expertise, practice, content creation and communication can now be argued to shift between learners and those who support them, our approach to training and professional development must equally be re-conceptualised. This is particularly pertinent within a H.E. environment in which learners increasingly occupy a dual role as professional practitioners and students who can draw on expertise from their professional practice as well as academic scholarship.

Re-Defining Expertise within 21st Century Networked Learning

When placed within the context of new types of learner, part-time, work-based and professionally motivated, the opportunities of networked learning create a fertile environment for co-creation and collaboration. Networked learning design has increasingly foregrounded pedagogies that rest on shared responsibility and group ownership of learning activities, combined and peer-led assessment strategies and communal problem solving (Goodyear 2005; Hodgson & Reynolds 2005). Furthermore, the parameters of what constitutes learning and the underlying communication channels and dialogue that enable it, frequently involve negotiation between the teacher and the learner(s). Alongside this, the technologies that facilitate networked learning and the philosophies which underpin them promote user-generated content, synchronous and asynchronous communication, collaborative creativity and instantaneous feedback and review.

While the ideal in relation to formalised networked learning focused on shared learning objectives, the concept of collaborative practice has been contested both theoretically and in relation to experiential perspectives on networked learning. Jones & Esnault note that collaboration suggests 'a moral imperative for close forms of coordination and cohesion rather than looser relationships' of the sort which often arise in networked environments, or in response to networked communication technologies (2004, p.318). While reviewed and countered in later work (Hodgson & Reynolds 2005), the relevance of such loose ties and weak links need to be considered, particularly in relation to organic, non-formalised networks of 'learners'. The nature of these less defined and more transient links between members of learning networks is returned to in the following section. However, the debate on the status of collaborative practice indicates that the relationships between teachers and learners, and learners and their peers, requires further consideration.

Within this, it is necessary to look again at the place of expertise in the relationships facilitated by networked learning. Rather than jettisoning expertise as an irrelevant concept, as is perhaps the unintended result of a focus on co-creation and collaboration, it is timely to reconsider how expertise may fit within the wider jigsaw of networked learning as coloured by collaborative approaches. Our assertion is that networked learning has indeed removed the conception of learners as acolytes, or attendees at a learning event delivered by the teacher-expert. But in doing so, there is no associated imperative to remove the concept of expertise from the networked learning process. Rather, expertise becomes something that is increasingly relevant, as a way of highlighting what is inherently different about networked learning, within the modern, changing context of higher education.

The values, attitudes and traditions linked to the definition of expertise within learning and teaching contexts suggest a transmission model of a central point from which knowledge is distributed and received by the learners. It symbolises the perception of knowledge as something to be obtained from another, at their behest, a relationship that embodies particular forms of power relationship and status.

A new definition of expertise is suggested within networked learning that rests on shifting and transient boundaries. Indeed, a focus on expertise casts into sharper focus the unique nature of learning in a networked environment, within which participants take responsibility for content generation, initiate communication and work in new ways facilitated by developing technologies. Furthermore, expertise incorporates the notion of autonomy, not least in terms of the person who makes a pronouncement on what is valuable and worthy. Such autonomy is a core element of the vision for networked learning outlined in the Manifesto and central to the desire to support the development of independent, motivated learners. This is not to say that democratic autonomy is a given within networked environments. Rather the potential for learner autonomy that networked learning provides should be viewed against the continuing backdrop of status, disciplinary knowledge and the resulting power relationships, not least as a result of socialised behaviours of both teachers and learners (Cousin & Deepwell 2005).

Expertise should be seen as something which moves between members of learning networks, neither residing solely with the tutor or something to be written out of networked learning design. In effect, the ideal of networked learning creates an environment in which expertise is a quality that moves between boundaries, dependent on time, activity and focus and in turn questions our existing definitions of teacher and learner. This becomes clearer when we consider how expertise might be constituted within such contexts and demonstrated by those who participate within them.

From the learners' perspective, expertise can be defined and demonstrated on a number of levels within networked contexts. To draw on Action Learning theory, the learners are, as a base point, experts in 'why they want to know it'. Tutors need to recognise 'that every learner is the world's expert on their problem' (McGill & Beaty 2001 p.53). Modern H.E. learners are increasingly engaging in formalised learning as a means to achieve clearly identified and articulated ends. Networked learning provides them with the opportunity to autonomously pursue these ends, while taking responsibility for their levels of participation, the form it takes and the eventual outcomes. Furthermore, the focus on work-based learning and professional education means that learners are now frequently experts in their professional vocation. As such, their participation is seen through and shaped by this lens; it is played out against the learner's experiential context and, at least partly, made up of all the things they already bring to the learning situation. Embodying social-constructionist pedagogies, the co-creation and collaboration inherent in networked learning facilitates this process of drawing on existing knowledge and, via the technologies involved, provides a means for it to be captured, shared and enriched by the other participants (de Laat & Simons 2002). Within this, the tutor can be viewed as another participant, a definition supported by the increasing use of peer-led assessment strategies and pedagogies. In relation to non-formalised networks of learners, which may coexist and run parallel with formalised environments, the members that form and participate in networks (no matter how loosely) are experts in why they are engaging and in the reality of the network itself.

The technology underpinning such networked experiences presents a further way in which the learner(s) may assume the role of expert. Learners increasingly begin their studies with higher levels of expertise in the use of ICT and particularly Web.2.0 and social networking applications. As such, tutors within networked learning environments, particularly where new to the role or approach, may have less expertise in the use and potential of the technologies being utilised. This learner-expertise can take a number of forms, from a basic familiarity with the hardware and software, to knowledge of the processes and strategies required for collaborative writing using a wiki, for example.

An additional feature of learner-expertise within networked learning is the capacity for what might be called group-expertise. The networks between learners enable the development of communal expertise, building on the individual experiences and backgrounds of those involved. Such expertise is what networked pedagogies (and all group led pedagogies) aim to facilitate and unleash, but this in turn highlights the learners, in union, as the experts rather than the solitary tutor.

This re-drawing of the boundaries around expertise might be seen to push the specific purpose of the teacher out of our definition of networked learning. However, what is called for is a further re-defining of expertise in relation to the role of the teacher within formal educational networks. In the latter, the teacher can be seen as a fellow holder of expertise, bringing a distinct suite of skills and knowledge to the communal process. The teacher becomes the navigator of the content and the learning process, guiding learners through the potentially bewildering range of resources and interactions and providing compass points that highlight how relevant knowledge should be valued and used in academically sound ways. This conceptualisation maintains the unique significance of the teacher, enabling their participation to take the dual role of both participant and guide, their role shifting dependent on the particular learning activity and situation. In addition, it is legitimate within this conceptualisation to view the teacher as a fellow learner, benefiting from the individual and group expertise of the participants as a fellow traveller on their learning journey.

The tutor learns about the specific context of the learner(s) in order to focus the subject and activity specifically to their needs. The learner(s) teaches the tutor about their context, both individually and as a peer group, in order to specify more directly what they want to learn in this particular instance. The relationship is now transactional rather than hierarchical.

Boundaries of Networked Learning: Communities of Learners

This reconsideration of expertise has repercussions for the aligned concept of communities of learning as outlined in the Manifesto. If we begin to view teachers and learners as fellow learners in a communal process, we must consider how the boundaries around such communities are to be understood and defined. This is necessarily intertwined with the continued development of the technologies, systems and pedagogical approaches that form the environment for networked learning. The latter provide the experiential parameters through which interpersonal relationships and ways of working are created and the lens through which they must be evaluated.

It is clear that there are no easily identified boundaries to communities of learning within networked environments. The technologies that enable networked collaboration and co-creation also diffuse the arbitrary boundaries we may want to place around those participating in such activities. These same technologies and practices enable the organic development of networks that exist outside of the formalised learning processes initiated by tutors, and yet integrally link to the former in the way in which learners navigate and move through these boundaries. As a result, we may identify hybrid networks, where learners participate via multiple connections in accordance with their own needs, interests and objectives. In such instances, the degree of collaboration or shared purpose will vary in accordance with the individuals involved and the activity in which they are engaged, what have been usefully termed ‘tight-loose’ structures of engagement and participation (Jones et al 2000, p.21). Some have questioned the continued relevance of the concept of communities within networked learning. Jones & Esnault (2004) replace the concept of communities by foregrounding the metaphor of networks themselves, noting that the latter ‘doesn’t privilege the closeness of community rather it serves to encompass all kinds of links and relationships’; an approach they link to Castells’ ‘networked individualism’ (2004, p.318). They argue that the concept of community misses the weaker ties that may well colour the relationships between learners and tutors within networked learning, something accentuated in non-formalised or hybrid networks.

Such ideas align to Wenger’s concern for ‘constellations of practice’ in which the ‘intensity of interaction between people distinguishes between a community of practice and a personal network’ (Wenger 1998 in Jones & Esnault 2004, p.320). In the view of Jones & Esnault, we should work towards a definition of the boundaries around networked learners that covers ‘not only very distant relationships but also relationships that have varying degrees of proximity but do not have the degree of cohesion required for a community’ (2004, p.320).

These debates on community as a metaphor for the relationships facilitated within networked learning promote a needed critique of the blanket use of this concept. Issues of implied consensus between members of networks, and the potential paradox of imposing democratic processes on learners as part of a community (Cousin & Deepwell 2005) highlight the need to approach our interpretation of learning communities more tentatively. A greater regard for the diversity of experience, interaction, engagement and ownership over networked practices that learners and teachers exhibit is required. Furthermore, a recognition of the distinct differences between ‘learning in social interactions’ and ‘collective learning’ focused on shared outcomes (de Laat & Simons 2002) will more genuinely reflect the multiplicity of experiences embodied within networked learning.

A solution is offered by Hodgson & Reynolds (2005) in their discussion of multiple communities within networked learning. Here the concern for representative, democratic conceptions of community allows the associated benefits of this concept, cooperation, collaboration and shared endeavour to be captured. At the heart of such an approach is a recognition of the value of discourses that promote and give voice to sub-communities. This recognition of the multiplicity of ‘memberships’ experienced by those engaged in networked learning, and the importance of their voice as a cornerstone of genuinely democratic networked practice, underlies the boundaries we place around learning communities within the Manifesto. We recognise that communities of learners are emergent and shaped by the activity within which the members are engaged, as this engagement takes place (de Laat & Simons 2002).

Content and Communication

Our re-conceptualisation of networked learning has presented a renewed definition of the role of expertise within increasingly diverse communities of learners. It has recognised that such communities will be defined by shifting boundaries, emerge in the process of learning and move between formal and organic networks. Within such networks, the expression of expertise and the way it is utilised will rest on the dialogue between the individual members, learner and tutor alike. The technologies that facilitate networked learning and the

approaches that are utilised promote this focus on communication, to the degree that dialogue has been viewed as the pedagogy of networked learning (Guldberg 2008).

Dialogue has, of course, always been central to teaching practice. A ‘good teacher’ can in part be defined by their awareness of the role of dialogue in learning and their ability to facilitate dialogue at the required level in order to engage rather than disadvantage the learner. However, the vision of networked learning put forward takes this further. Dialogue becomes richer; its start-point is negotiated between the members of the network and it becomes the basis of the learning as opposed to the means to impart knowledge. Yet this does not mean that the concept of ‘content’ need be written out of networked learning. Rather, the communication that distinguishes networked learning communities forms the basis of the content that members utilise. It is both intentionally co-created, via collective activity based in and enabled by dialogue and a by-product of this dialogue, as the technologies allow the members’ participation to be captured, archived and repurposed. In essence, we argue that the boundaries between communication and content are now less defined. As a result, the nature and value of content within networked learning can be restated and not lost in a focus on the communication that underpins its creation and dissemination.

Professional Development within Networked Learning Contexts

Each of the boundaries considered so far have implications for our understanding of H.E. practitioners and the role they fulfil in networked learning. The tutor’s responsibility has traditionally been to support the learning process via the provision of knowledge (within didactic models) or the facilitation of learning opportunities. Yet within networked learning, even within formalised networks, the range of expertise, peers, sources of guidance and information upon which learners can call is increased exponentially. Communication is multi-directional and based in negotiation, content is co-created and expertise is a shifting quality shared between participants. As a result, the distinct role-definitions of the tutor-learner and the expectations placed on each, which were formally the start-point for the ongoing relationship, are no longer a sound dichotomy. The boundaries between tutor and learner, between the holder of expertise and those who benefit from it, are now permeable. As noted above, learners are increasingly professionals and practitioners in their own right, bringing discipline knowledge and diverse experience to the learning situation and being informed by these attributes in their network peers.

As a single node in potentially multiple networks, the teacher is re-conceptualised as a fellow learner, including within the formalised networks they initiate. They will, as argued, provide a particular form of expertise, enabling learners to navigate the potential of the network, identify learning outcomes and develop academic scholarship, but from a position of equality rather than hierarchy. Tutors may also take a role in structuring the interactions that enable the learning community to form (McLoughlin 2002), while recognising that the members of the network will also take on this role. Similarly, while accepting the freedom of network members to direct their learning, tutors will continue to take responsibility for the development of specific learning outcomes and competencies within some formalised networks. However it is clear that this description presents an ideal. While promoted by the pedagogies and potential of networked learning, the actual experience of learners and tutors will be coloured by the realities of the contexts they inhabit and the experience of prior learning and teaching upon which they build.

There is then a significant challenge in preparing H.E practitioners for their changing role as exemplified in networked learning. A feature of this new role will be the ability to manage the expectations and practice of their fellow networked learners, while adjusting to these changes in their own expectations (Jones et al 2000). It is clear that for many this will not be an easy transition. It will involve not only the development of new skills and practical approaches, but new ways of thinking aligned to the development of fresh identities. The reluctance of some staff to embrace networked learning will be based in a number of understandable reservations. Technology can be seen as a barrier rather than an enabling device, which distances the tutor from engagement with the student. Sometimes network learning is seen as a threat, as content online may reduce the employability of those who have built their profession on delivery of material to students. Releasing control over time and place while giving choice to learners may at first appear to give tutors extra workload. Certainly the power to control the cohort of students evaporates or radically changes. Similarly staff can find many reasons to defend their hard earned expertise in subject knowledge and the wish to profess their subject in their own logical sequence. Networked learning which puts the learner in the driving seat can be a thoroughly unsettling experience for these staff.

As with many technological innovations the challenge is to allow transformation rather than simply to couple developing technologies to existing pedagogy. Networked learning questions the traditional approaches of formal education and asks the tutor to reflect on the power relationships and processes involved. Furthermore, as with all aspects of technology enhanced learning, these changes need to happen against a backdrop of H.E. institutional structures and cultural values of academic staff that too often hinder rather than promote such transformations (Schneckenberg 2009). In addition, the development of such practitioners is not something that can be delimited to purely networked practice. Networked learning is changing the boundaries between learners and teachers in all learning and teaching contexts, including face-to-face teaching. Networked technologies and practice are stretching the learning process as well as changing its nature, creating links between formally distinct learning activities and processes that present further opportunities. In parallel, the increased role and importance of networks to the learning experience is questioning the physical space and infrastructure that underlies Higher Education. International dialogue on the future of Higher Education is beginning to focus on the potential of 'above campus' models of provision, in which access supersedes ownership of resources, facilities and expertise. Such models are, to a significant degree, a response to the potential and impact of networks and the increased efficiencies they offer (EDUCAUSE 2010).

Approaches to continuing professional development are therefore required that start from the basis of a fundamental re-thinking of the role of H.E. practitioners and learners. Such approaches must challenge practitioners to re-conceptualise their role and the professional values upon which it is based. This will need to be coupled with strategies that support the identification and development of core competencies and skills, focused on both the technological basis of networked learning and the dialogic pedagogies it requires. This fundamental transformation in the identity and practice of H.E. practitioners can only be achieved via the opportunities for dialogue, interaction, autonomy and collective practice that networked learning itself provides.

Professional development that utilises the pedagogies and technology of networked learning to develop these same approaches in H.E. practitioners therefore presents a double challenge. Strategies are required that convince staff of the need for such development and the benefits it can bring, while practically engaging them in the process by facilitating networked communities of professional practice. Such communities will need to recognise and facilitate sustained, rigorous support for such professional development (Coto & Dirckinck-Holmfeld). They will need to allow participants to experience the transient boundaries described above in order to motivate the required re-conceptualisation of their role, values and professional approach. Within this, institutions will require a clear vision for the changing role of their H.E. practitioners, while recognising that this will need to be owned by those practitioners and will be modified by their collective activity. The relevance of these changed roles will be judged against a more detailed understanding of the networked learners staff will be asked to support and their status as fellow practitioners with specific expertise.

Furthermore, institutions will need to adapt their approach to such professional development to take into account the increasing diversity of H.E. practitioners. The latter are increasingly defined by a multiplicity of responsibilities, contractual arrangements and backgrounds. They may be based in partner organisations that lie outside of the educational sector and they will frequently come from professional backgrounds rather than academic disciplines. Networked communities of professional practice will need to allow this richness of perspectives to inform the sector's approach to continuing professional development. They will have to respond to the educational, professional and demographic differences of the members of such networks (Dirckinck-Holmfeld 2006). This will embody the genuine transformative value of networked learning and ultimately benefit all those within higher education.

Conclusion

Our discussion highlights that networked learning has indeed initiated shifts in the role, responsibilities and experiences of learners and teachers. However, these are seen to be more nuanced than the original Manifesto suggested. The nature of these shifts re-emphasises the requirement to instigate new forms of professional development for those who teach and support learning. Such development will need to utilise the power of networks in order to enable the reciprocity, collaboration and multiplicity of relationships 21st Century networked learning promotes. In the light of our paper we encourage the Symposium to consider the following questions: 1. Are the boundaries we have described appropriate are there others we should consider? 2. We

argue that new approaches to professional development should be designed to utilise the power of networks to enhance practice. How might this be achieved? 3. How can diverse HE practitioners be supported in re-thinking their role, values and responsibilities in relation to networked learning? 4. What are the new forms of expertise that networked learning will demand of learners and teachers and how can these best be supported?

References

- Cousin, G. & Deepwell, F. (2005). Designs for network learning: A communities of practice perspective. *Studies in Higher Education*, 30(1), 57-66.
- Coto, M. & Dirckink-Holmfeld, L. (2008) Facilitating Communities of Practice in Teacher Professional Development. In *Proceedings of the Sixth International Conference on Networked Learning 2008* (eds V.Hodgson, C. Jones, T. Kargidis, D. McConnell, S. Retalis, D. Stamatis & M. Zenios). Available at: http://www.networkedlearningconference.org.uk/past/nlc2008/abstracts/PDFs/Coto_54-60.pdf [Viewed 17 January 2010]
- De Laat, M. F., & Simons, P. R. J. (2002). Collective learning: Theoretical perspectives and ways to support networked learning. *European Journal for Vocational Training*, 27, 13-24.
- Dirckink-Holmfeld L. (2006) Designing for Collaboration and Mutual negotiation of Meaning – Boundary Objects in Networked Learning Environments. In *Proceedings of the Fifth International Conference on Networked Learning 2006* (eds S. Banks, V. Hodgson, C. Jones, B. Kemp, D. McConnell & C. Smith). Available at: <http://www.networkedlearningconference.org.uk/past/nlc2006/abstracts/pdfs/01LDHolmfeld.pdf> [Viewed 17 January 2010]
- E-Quality Network (2002) *E-quality in e-learning Manifesto*, presented at the Networked Learning 2002 conference, Sheffield. Available at: <http://csalt.lancs.ac.uk/esrc/>
- EDUCAUSE (2010) The Future of Higher Education: Beyond the Campus, Joint CAUDIT, EDUCAUSE, JISC and SURF White Paper, January. Available at: <http://www.educause.edu/Resources/TheFutureofHigherEducationBeyo/194985> [Viewed 17 January 2010]
- Goodyear, P., Avgeriou, P., Baggetun, R., Bartoluzzi, S., Retalis, S., Ronteltap, F. & Rusman, E. (2004) Towards a pattern language for networked learning, in: S. Banks, P. Goodyear, V.Hodgson, C. Jones, V. Lally, D. McConnell & C. Steeples (Eds) *Networked learning 2004*, Lancaster: Lancaster University, 449–455.
- Goodyear, P. (2005) Educational design and networked learning: patterns, pattern languages and design practice, *Australian Journal of Educational Technology*, 21(1), 82–101.
- Guldberg, Karen (2008). Adult learners and professional development: Peer-to-peer learning in a networked community. *International Journal of Lifelong Education*, 27/1, 35-49.
- Hodgson, V., & Reynolds, M. (2005) Consensus, Difference and Multiple Communities in Networked Learning. *Studies in Higher Education*, 30(1), 11-24
- Jones, C., Asensio, M., & Goodyear, P. (2000). Networked learning in higher education: practitioners' perspectives. *Journal of the Association for Learning Technology*, 8(2), 18-28.
- Jones, C., & Esnault, L. (2004). The metaphor of networks in learning: Communities, collaboration and practice. In S. Banks, P. Goodyear, V. Hodgson, C. Jones, V. Lally, D. McConell & C. Steeples (Eds.), *Proceedings of the fourth international conference on networked learning*. 317-323: Lancaster: Lancaster University
- McGill I & Beaty L. (2001) Action Learning. Revised 2nd edition London: Kogan Page
- McLoughlin, C. (2002). Learner support in distance and networked learning environments: Ten dimensions for successful design. *Distance Education*, 23(2), 149–162
- Schneckenberg, D. (2009) Understanding the real barriers to technology enhanced innovation in higher education. *Educational Research*, 51(4), 411-424.