

Teaching as a Masters profession; the need for continued debate**Dr Alison Jackson – University of Cumbria****Dr Sandra Eady – University of Stirling****Paper presented at the British Educational Research Association Annual Conference,
University of Warwick, 1-4 September 2010****Abstract**

The research presented here builds on an original pilot project which reported on the introduction of PGCE (Postgraduate Certificate in Education) Masters level programmes in England. A major finding of the pilot project was that Masters was by no means embedded as a positive perception in the minds of student teachers or indeed teacher educators and one of the recommendations was to 'continue the M level debate'. This research concentrates on the continuing perceptions of a range of teacher educators from across the UK, sharing their experiences and working together to make sense of the challenges and opportunities faced in the quest to make teaching a Masters profession. Findings suggest that it remains difficult for teacher educators to propose a definition of 'Masters' which satisfies them on a personal or political level. There are hints of a 'jargon' of 'Mastersness' - expedience rather than conviction, assumption linked with confusion – and a lack of certainty over whether teaching should be a Masters level profession at all. This has led to the main finding of this research which is that the debate on teaching as a Masters profession needs to continue.

Background

This paper presents continuing research into teaching as an all Masters profession in England. The research builds on an original pilot project (Jackson, 2009) which reported on the introduction of PGCE (Postgraduate Certificate in Education) Masters level programmes in England. The change in validation of these programmes at Masters level was a result of the alignment of postgraduate qualifications across Europe (Bologna Agreement, 1999). This original research opened up the debate about M level study within the one year PGCE programme. However, it also, significantly, gave rise to questions concerning the whole notion of school teaching as a Masters profession and what that means in practice. What is the value and definition of Masters for the teaching profession? Is there a shared understanding amongst HEI (Higher Education Institution) teacher educators of what it means to study at Masters level on an Initial Teacher Education (ITE) programme?

Over time and from different perspectives, definitions of Masters are being created. Variety within these definitions is very much dependent on the stakeholders and their

perspectives. The FHEQ¹ (2001) defines Masters level study as ‘a critical awareness of current problems and/or new insights much of which is at or informed by the forefront of their academic discipline, field of study or area of professional practice’. However, for the Labour Government (1997-2010), Masters study was conceptualised in the form of the MTL (Masters in Teaching and Learning) and seen in practical terms as helping with the recruitment and retention of the best teachers and, as a consequence, having a direct impact on outcomes for their pupils. (DCSF, 2007:5 para 4.8) In addition, there was also the view that by making teaching a Masters profession the government would be able to:

ensure that every teacher will now be engaged in high quality performance management linked to continued practical professional development from when they first start teaching. This will represent a step change for the profession that will bring us in line with the highest performing education systems in the world. (DCSF, 2007:88)

Notably however, although the Labour Government provided a structure of three phases and four content areas for the MTL, there was little guidance as to what higher level skills would be evident in Masters level study. Like the PGCE Masters provision, this was left to teacher educators in HEIs forming various consortiums (for example the North West Consortium for the MTL) to devise a programme of study for the MTL which could be validated through their HEIs as worthy of Masters level.

Apart from these consortia, teacher educators from across HEIs have tended to work independently on the creation of their Masters courses and their definitions of what Masters is, and only gradually are research studies being shared across the sector, illustrating a mixture of similarities and differences, as well as challenges and uncertainties. Graham-Matheson (2010) found teacher educators perceived Masters level study to be about enabling student teachers to critically evaluate and reflect on theory and practice. Linked to this was the importance of critical reading, writing and analysis. Graham-Matheson (2010) also found that the way teacher educators perceived Masters level study was significantly influenced by their own background and experiences of Masters level. Those with Masters level were more enthusiastic about the opportunities for student teachers. However, Graham-Matheson’s research reports on one experience in one HEI and opens up questions of consistency of practice across the sector, and even the question of whether consistency at Masters level is something to be sought or left to the individual.

It could be argued that the normal pressures faced by student teachers during the teacher training course, and indeed on into the NQT (Newly Qualified Teacher) year, present too many tensions and unknown contexts for Masters study to feature as a priority. Indeed, Stronach (2009) argues that not only have Newly Qualified Teachers (NQTs) got to ‘juggle with economies of performance and ecologies of

¹ The Framework for Higher Education Qualifications in England, Wales and Northern Ireland

practice', but they also have to deal with the 'emotional chronology' of becoming a professional, 'of learning to think, act and feel as one' (Stronach, 2009:173). However, it could be argued that Masters level study may help to provide the appropriate structure and support to enable critical reflection and give an opportunity to make sense of the busy and pressurised life of becoming a teacher. Jackson and Eady (2008) have suggested that students do not immediately see the benefits of Masters study early on in their training, nor how it can link to either improvement or development in learning and teaching in their Induction year and beyond. Indeed Eady (2010) found that PGCE students perceive career enhancement to be just as important a driver for studying at Masters level as improving the quality of teaching and learning in their classroom. It is interesting therefore to consider whether teacher educators have positive conceptions of Masters level which they share with their students. Previous research by Totterdell et al (2004; 2008) reporting on evaluations of the Induction Year suggested that highly effective classroom practice could be encouraged through regular support given to the novice teacher by experienced mentors in terms of time for meeting and collaborative planning. However, there is little to suggest that this can only happen through Masters level study. Similarly, The State of the Nation (Pedder et al, 2009) suggests that 75% of teachers perceived school and class based CPD (Continuing Professional Development) which focused on improving pedagogy and learning processes as of greater value than accredited courses, including Masters accreditation. Thus a key question is; does Masters level really contribute anything to teacher development and retention?

A major finding of the original pilot project which preceded the research in this paper was that Masters was by no means embedded as a positive perception in the minds of teacher educators. Therefore one of the recommendations of the pilot was to 'continue the M level debate' (Jackson, 2009: 55). Through discussions generated by ESCalate ITE (the Education Subject Centre, Initial Teacher Education) and its successor TEAN (the Teacher Education Advancement Network) that debate has continued. The research presented here reports on the continuing perceptions of a range of teacher educators from across the UK, sharing their experiences and working to make sense of the challenges and opportunities with which they are faced in the quest to make teaching a Masters profession. Many of these teacher educators were drawing on their own experiences of their own Masters study or experiences of teaching on existing Masters programmes at their HEIs. By 'problematizing' the concept of 'Masters Study', teacher educators were able to uncover the contradictions and tensions they perceived. The focus of this enquiry is: to go deeply into teacher educators' personal understanding of what Masters is and its relevance to the teaching profession. Therefore the questions asked were drawn from the following list:

What has Masters got to do with teaching?
What is your definition of what Masters level is?
How do/should you teach it?
Should teaching be an all Masters profession?

Research methods

The research is based on findings from three events; an ESCalate Masters colloquium (June, 2009), a presentation and workshop at the UCET (Universities Council for the Education of Teachers) conference (November, 2009) and a TEAN workshop (March, 2010). Delegates at these events were asked if they would give permission for the outcomes of the debates to be used for the research. Written data was collected from participants in three ways: individual reflection on the question 'What is your definition of what Masters is?'; focus group responses for the other three questions, collated by one member of the group; plenary debate and feedback. The data was constantly analysed using a basis of elements from Participatory Action Research (PAR), as described by Wadsworth (1998) and Horton and Freire (1990). This approach suggests that all relevant parties are engaged in actively examining together current action (which they experience as problematic) in order to change and improve it. This method allows a large group of teacher educators to have a voice in this debate whilst actively engaged in developing/changing their approach to considering teaching as a Masters profession. There are limitations to this approach as findings are not necessarily generalisable to all teacher educators. However, its strength lies in the unique and significant body of data which has been collected which encourages conversation about teaching as a Masters profession to continue across the sector.

The chosen participants were teacher educators who could be said to form a particular 'community of practice' within teacher education institutions in the UK. Wenger (1998) describes communities of practice as members who are brought together by joining in common activities and by 'what they have learned through their mutual engagement in these activities'. The common activity was engagement with the notion of teaching as a Masters profession. Wenger (op. cit.) goes on to explain that the communities' joint enterprise is understood and continually renegotiated by its members; the intention to continue the debate on teaching as a Masters profession fits this definition of joint enterprise. As reflection and critical engagement are key to Masters level study, so reflection and critical engagement were key to the process of the research as participants were invited to reflect on and critically engage with the importance of Masters level study.

The research is based upon grounded theory techniques in order to ensure that there are no preconceived ideas determined in advance. It is therefore hoped that the theories, or more especially questions, which arise from the data collection 'are likely to offer insight, enhance understanding, and provide a meaningful guide to action' (Strauss and Corbin, 1998:12)

Findings

What has Masters to do with teaching?

The question of 'What has Masters to do with teaching?' raised further questions. One group of teacher educator delegates objected to the phrasing of the question, suggesting that it would be preferable to turn it around and ask 'What has teaching got to do with Masters?' There was then the question of what people's perceptions of teaching are in the first place before any serious contemplation of the original question could be considered. As far as the other main element of the question – Masters – was concerned, an acceptable definition or perception of what this is was not seen as cut and dried. Some wondered 'Have we got a very narrow perspective of Masters?' or 'Is it just a qualification or a way of looking at the world?' With uncertainties concerning the definitions of both Masters and teaching acknowledged, delegates went on to ask that, if Masters is to be considered as having something to do with teaching, 'How can we engage schools?' and 'How do we convince Ofsted (the Office for Standards in Education, Children's Services and Skills) about the importance of Masters level study and/or thinking?' The debate retreated to the perceived 'safer' ground of teaching, with which delegates had much more experience than they had of Masters study, and some attempt to seek a reconciliation of the two with yet another question: 'Teaching requires resilience and an ebb and flow between reflection and pragmatism – where does Masters lie within this ebb and flow?'

There were many attempts to resolve the position of Masters within this ebb and flow and to bring some answers to the question of what Masters has to do with teaching. Delegates thought that Masters has something to do with teaching because it can take teaching away from the concept of it being 'just a job'; it overcomes the technician view of teaching being a matter of ticking the boxes of the standards²:

'Students need to understand it's a complex job; [you] always need to make decisions, informed choices, and reason for doing things.'

'[Masters] moves students away from and above the notion of just meeting the standards.'

Positive thinking about Masters was encouraged, thinking of it as a 'disposition, a kind of standing up tall, something beneficial to the individual and to the profession'. It was thus linked to professionalism:

'[There is a] need for wisdom, values, professionalism, ownership, status, trust in [one's] own judgment and intellectual and emotional independence.'

There was felt to be a need for teachers to theorise their own practice; 'a need for teachers to be able to account for what they do in the classroom – why they do it and how they do it.' (sic) This was linked to the teacher's perceived need to know 'how

² A reference to the Professional Standards for teachers TDA (2007) <http://www.tda.gov.uk/teachers/professionalstandards/downloads.aspx> (accessed 4.6.10)

education works', a need for reflection and critical thinking, 'making use of and engaging ... teachers in the vast body of research evidence underpinning classroom practice.' The word synthesis was seen as important, going further than analysis; 'it's being original in taking their [the teachers'] thinking forward.'

During the debates there was no rejection of the idea of teaching as a Masters profession, but were there any brakes to this apparent perception of the value of Masters and the link between it and teaching? Two main problems were addressed: the disparity between the government view of Masters and the university view; and the perceived widespread prejudice against Masters because you are already 'a good teacher' and do not need it or are awarded with a Masters qualification and yet, this does not necessarily translate into good classroom practice.

What is your definition of what Masters is?

Delegates were all asked to give a personal written response to this question after listening to the general discussions at events and collaborating with colleagues. One delegate considered Masters to be remote, 'a university concept' which had 'little reality to [the] messy reality of schools.' Another stated that Masters was a development of an undergraduate degree which had no place in teacher training (that is to say in the PGCE) since 'this is a top-up qualification and not a development of prior learning or study per se'. There was evidence of the difficulty of putting a definition to Masters which would satisfy the self:

'As hard as ever!'

'What should we mean?' [sic]

'A riddle wrapped inside an enigma.'

a suggestion that, again, the question was the wrong question to pose;

'Perhaps the question should be "What is it to work at M level?"'

Despite this unease from some individuals, many different positive definitions of Masters were suggested:

- There was a sense that Masters study is individual rather than collaborative. Phrases such as 'analyse own practice'; 'self-reflection'; 'working in a self initiated way' were frequently used, suggesting that Masters encourages student teachers to influence and understand their own professional development.
- There was a great deal of reference to the notion of 'criticality' or 'thinking' in terms of reflection on practice or engagement with theory or literature or research. A sense of caring about and wanting to understand and improve what happens in the classroom
- There was a strong sense that it is about linking theory and practice or even an opportunity to theorise about practice 'linking academic study skills and classroom skills

- There was some reference to deepening knowledge; of practice predominantly, but also of research, literature, and knowing how to use evidence to support professional actions.
- The language used seemed to reflect: a notion of a professional Masters positioned around professional action and autonomy, holding practice and policy to account in relation to research and theory; and a desire to understand how Masters could 'work' in the classroom and how it could be made better.
- Masters was seen as a process which helps student teachers develop an understanding about teaching and themselves as teachers; a process that enables greater thinking, reflection about teaching and classroom culture and reform. The process was seen as empowering, leading to greater understanding.
- Perhaps, it was suggested, the process is a way of implementing policy, school improvement, the standards and performativity agenda. In this sense the process is important rather than the product - the Masters level degree. In some senses getting the qualification was less important than going through the process.

Some of the tensions related to Masters were also highlighted:

- The government's endorsement of Masters level in the Children's Plan (DCSF, 2008) was perceived as a way of instigating a control mechanism, a way of implementing policy. However, in discussion, others challenged this concept, preferring to see Masters as a way to question policy as well as implement and confirm it.
- As was found in the pilot study and also the first question in this research, Masters was challenged by teacher educators in this research who considered that it does not automatically follow that having a Masters means you are a 'good' teacher; critical reflection and analysis do not necessarily translate to good classroom practice.

Generally there was an overall sense that delegates were actively engaged in their own quest for a definition of Masters, and evaluations of the events suggested strongly that they had drawn on the valuable collaborative discussions made possible by these events to continue this quest:

'Very valuable to talk with committed and experienced colleagues.'

One delegate sums up the feelings of many: 'Whatever it is there is an urgent desire not to dumb it down as a result of government intervention; that is a priority for us all'

How do/should you teach it?

It was evident from the events that teacher educators were and are still in the process of working out the answer to this question. There was a basic realisation

summed up by one teacher educator that the process owed much to a 'trial and error' approach. There was also some reluctance to engage with the question in broad terms, delegates preferring to relate the question to their own experiences in their own institution and wanting to listen attentively to others' experiences to find common ground or ideas on ways forward. Notwithstanding, there were many ideas put forward of how Masters level perhaps should be taught to student teachers which are outlined below.

Mostly delegates answered in general terms when asked about how to teach Masters, keeping their comments within their definition of what Masters is: 'Teachers or indeed trainees must be able to evaluate and judge situations and deal with them and plan for the future; something I would not expect at H level'³; '[Teaching students to work] in a self-initiated way on a professional enquiry to develop teaching and learning by critical reflection on research and practice'. The need for a convinced personal or institutional interpretation of what Masters is was posited by one delegate: 'You teach Masters level by ensuring that your repertoire and strategies are in line with the definition of Masters I have given'. The definition that this delegate gave was that Masters is 'an ability to master knowledge and skills etc. whether [you are] in the workplace or outside. Mastery as a concept involves an analytical and critical approach to that knowledge and [those] skills'. Evidently within the constraints of the data gathering, it was not possible to give an opportunity for the un- packaging of what this meant or how it could be done. There was a suggestion that dialogue with students was of prime importance because a fundamental basis of Masters is to 'pose as problematic most of what is known'. It was thus imperative to 'encourage further reading, critical analysis and the use of practitioner enquiry'. A group of teacher educator delegates from one Higher Education institution described their approach to Masters level teaching, suggesting that there should be a range of activities given to Masters level students which were designed to induce curiosity. This group suggested that Masters teaching could be based on chaos, that is to say there should be no rigidity to something like Masters 'teaching' which needs to be multi-layered and open enough to allow students to find their own way whilst engaging with appropriate literature to enrich their journey.

Many delegates, when faced with the question of how Masters should be taught, turned to how Masters is assessed to answer it. To know how to teach Masters it would therefore be necessary to study the published descriptors (QAA, 2008), no matter what form of assessment might be given, be it presentation, dissertation on enquiry into aspects of one's own practice, critical engagement with an existing research paper or a reflective log or portfolio. It was thought important that all work for Masters accreditation should be assessed as Masters work from the outset, 'not as a piece of work that retrospectively is considered as being at Masters level'.

³ A reference to level descriptor 6 of the framework for higher education qualification in England, Wales and Northern Ireland (QAA, 2008) The delegates is referring to this as H level as it is the level below level 7 which is Masters level.

There was evidence of a lot of thought going into how to present Masters level work to student teachers and a lot of concern that it is not easy to translate the attributes which readily come to mind – critical thinking, reflection – into part of an effective teaching methodology; ‘This needs very careful examination. How do we make the attributes we seek visible/tangible?’ Amongst this searching and seeking for answers came the opinion of one delegate that there is or should be no answer at all; ‘You can’t teach it – you can help people master knowledge, but it cannot be taught’.

Should teaching be an all Masters profession?

Opinions were divided on this question, although there was arguably rather more for than against. Some delegates thought that the decision was one which was not one which teacher educators could make ‘Is this our decision to make?’ Such an important decision should be ‘founded on the benefits to children and schools and the profession at large’. It was pointed out that there was little hard evidence to indicate that teaching as a Masters level profession was beneficial at all: ‘At the moment these benefits seem to be perceived rather than proven.’ The arguments against teaching as an all Masters profession centred around the differences between teachers and the need to provide a profession which made use of a variety of talents that teachers at different academic levels can bring:

‘No it should not be an all-Masters profession. There should be room for teachers at different levels. Some work in teaching requires little more than the functional knowledge and skills required to induct students into a subject – other work requires much more breadth and depth of knowledge/skill.’

The arguments in favour of teaching as an all Masters profession were linked to the following issues:

- To raise professional esteem
- To raise and improve the quality of teaching and pupil outcomes
- To reinforce teaching as a research based profession
- To increase skilled performance from teachers
- To improve teacher education

Discussion

Teacher educators from a range of Higher Education Institutions in the UK enjoyed the opportunity afforded by the three events to engage in debate about teaching as a Masters profession. They began by problematising the concept of Masters and the concept of teaching, and then the relationship between the two. It seemed that they were doing that to help clarify their own understanding rather than provide a definitive answer. They were concerned by what they perceived to be conflicts between teaching and Masters level work, between process and outcomes. Masters is another qualification - a tangible outcome – based on a less tangible process – Masters as a way of thinking, of promoting critical thinking, the reflective teacher.

They debated the many faceted nature of Masters, but overall they were not negative; rather they seemed to be playing with complex concepts, trying to find out how Masters might have something to do with teaching. Most did not feel constrained by the FHEQ descriptor for Masters (FHEQ, 2001), but those that found the answer to Masters within these descriptors seemed to do so because of a need for security and as a way of satisfying their perceived need to show accountability. There was some fear of government intervention, a takeover of Masters for political ends, using 'buzz words' like reflection and critical thinking. The delight delegates took in twisting the questions offered backwards suggests rejection of the 'cart before horse' mentality seen so often in education, where there is no thinking through of new policy, and implementation is left to practitioners to work out. Hence is it Masters for teaching or should it have been or be teaching embracing Masters?

Delegates' personal definitions of Masters were influenced by the discussions with colleagues, their institutional response to the creation of Masters programmes and their own feelings about Masters. Overall there was a feeling of uncertainty, yet at the same time a positive response to Masters - whatever that might mean. Teacher educators were looking for solutions: look at the assessment, look at the criteria; make sure that criticality and reflection are key; use Masters as an empowering process. Government 'intervention' was not generally welcome as there was a perceived conundrum between a government policy that all teachers should have a Masters degree and a Masters degree which should invite questioning of policy. Performance management, league tables and Ofsted are potentially uncomfortable bedfellows of 'Mastersness' promoting autonomy, self definition, questioning. The notion of 'to teach' causes more discomfort for teacher educators presenting Masters level study to students. It is preferable to think of guiding students at this level, of challenging, of encouraging students to find their own answers. Maybe the questions here should not be how should you 'teach' Masters, but how can you challenge preconceptions which cause confusion and chaos around previously accepted concepts? How do you invite students to question within the context of a managerial education system?

Whether or not teaching should be a Masters profession drew the least data. There seemed to be a reluctance to engage with this, something of a 'head in the sand' mentality; it's not my (or our) decision. Who knows? This is troubling for the sector, for the student teachers and for the profession. In the pilot study, there was the same lack of conviction about Masters which spread to teachers in schools and headteachers as well. It could be argued that teaching as a Masters profession has little chance of success unless all stakeholders embrace the concept. It has not been shown that Masters improves the quality of teaching, or that Masters study for teachers enhances criticality and reflection any more than courses without Masters elements. A 'stick' from the government to make teachers study at Masters level is not appropriate to change hearts and minds; the government get in the way and anyway teacher educators want to decide themselves.

Conclusion

Through the ongoing debate with teacher educators concerning 'teaching as a Masters profession' it was discovered that it remains difficult for teacher educators to propose a definition of 'Mastersness' which satisfies them on a personal or political level. There are hints of a 'jargon' of 'Mastersness', expedience rather than conviction, assumption linked with confusion. There are challenges to the concept of a link existing between Masters and teaching, and to the desirability of teaching being an all Masters profession. The debate about how to teach Masters resulted in finding that many are still feeling their way on this and do not yet have a clear idea. It was hoped that the research over the three events would offer 'insight, enhance understanding, and provide a meaningful guide to action'. (Strauss and Corbin, 1998) Within the acknowledged limitations of the study where the sample of teacher educators can hint at, but not claim generalisability to all teacher educators and other stakeholders, we suggest that the research has given insight into a variety of perceptions which would otherwise have not been shared with the community. Greater understanding between colleagues has been made possible, concerns, convictions, and lack of conviction have been shared. We suggest that the value of discussions of the sort undertaken here is high and that action which should result from this research is that the debate on teaching as a Masters profession needs to continue.

References

Bologna Declaration (1999)

<http://ec.europa.eu/education/policies/educ/bologna/bologna.pdf> (Accessed 11.12.09)

Department of Children Schools and Families (2007) *The Children's Plan; Building brighter futures* TSO (the Stationery Office) Norwich.

Eady, S. (2010) 'What are the benefits of Masters accredited CPD: An exploration of Primary Postgraduate student teacher views' *Teacher Education Advancement Network Journal* Vol1 No 1(1) pp.1-10

FHEQ (2001) The Framework for Higher Education Qualifications in England, Wales and Northern Ireland

Available online at

<http://www.qaa.ac.uk/academicinfrastructure/fheq/EWNI/default.asp>
(accessed on 13.07.10)

Graham-Matheson, L. (2010) 'Masters of the game: teacher educators and the Masters Level PGCE' *Teacher Education Advancement Network Journal* Vol1 No 1(1) pp.1-10

Horton, M. and Freire, P. (1990) *We Make the Road by Walking – Conversations on Education and Social Change*, Philadelphia, Temple University Press.

Jackson, A. and Eady, S. (2008) *Perceptions of Masters Level PGCE* Paper presented at the British Educational Research Association Conference Heriot-Watt University: Edinburgh

Jackson (2009) Perceptions of Masters level
<http://www.cumbria.ac.uk/TEAN/TeacherEducatorsStorehouse/PerceptionsofMasterlevel-finalresearchreport2009.aspx> (Accessed 11.12.09)

Pedder, D., Storey, A. And Opfer, V. D. (2008) *Schools and Continuing Professional Development in England: the State of the Nation research project T34718* Teacher Development Agency.

QAA (Quality Assurance Agency for Higher Education) (2008).
<http://www.qaa.ac.uk/academicinfrastructure/fheq/ewni08/> [Accessed 19 August 2010].

Strauss, A. and Corbin, J. (1998) *Basics of Qualitative Research, Techniques and Procedures for Developing Grounded Theory*, London, Sage.

Totterdell, M., Woodroffe, L., Bubb, S., Daly, C., Smart, T. and Arrowsmith, J. (2008) What are the effects of the roles of mentors or inductors using induction programmes for Newly Qualified Teachers (NQTs) on their professional practice, with special reference to teacher performance, professional learning and retention rates? In: *Research Evidence in Education Library*. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London

Stronach, I. (2009) Chapter 4 Re-locating early professional learning: the 'invention' of teachers *Globalizing education, educating the local: how method made us mad*. Routledge: London.

Wadsworth, Y (1998) 'What is Participatory Action Research?' *Action research international*, <http://www.scu.edu.au/schools/gcm/ar/ari/p-ywadsworth98.html> (accessed 20.11.07).

Wenger, E. (1998) 'Communities of Practice. Learning as a social system', *Systems Thinker*, <http://co-i-l.com/coil/knowledge-garden/cop/Iss.shtml>. (Accessed 11.12.09.)

This document was added to the Education-line collection on 2 September 2010