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Online Publication Date: 01 December 2007

To cite this Article: Ellis, Viv (2007) 'Taking subject knowledge seriously: from professional knowledge recipes to complex conceptualizations of teacher development', Curriculum Journal, 18:4, 447 - 462

To link to this article: DOI: 10.1080/09585170701687902

URL: http://dx.doi.org/10.1080/09585170701687902

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Taking subject knowledge seriously: from professional knowledge recipes to complex conceptualizations of teacher development

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The specification of various categories of knowledge that teachers should possess has been a historically consistent feature of moves to professionalize school teaching and to argue for individual teachers’ professional autonomy. In this article, I suggest that the ways in which subject knowledge has been treated in research-based recipes for teachers’ professional knowledge are often characterized to various degrees by three epistemological problems: the problem of dualism; the problem of objectivism; and the problem of individualism. In place of dualistic, individualistic and objectivist typologies, the article proposes a realistic alternative: a situated view of subject knowledge as emergent within complex and dynamic social systems. A model of this developmental process is offered that represents the development of subject knowledge in practice, that is, teaching a subject in schools. The article concludes with a brief discussion of the practical implications of this view of subject knowledge and teacher development for teacher education programmes.

Keywords: Epistemology; Professional knowledge; Sociocultural and activity theory; Subject knowledge; Teacher education

Introduction

In this article, I argue for the importance of taking teachers’ subject knowledge seriously, by which I mean treating it as complex, dynamic and as situated as other categories of teachers’ professional knowledge. I suggest that much of the educational research concerned with teachers’ subject knowledge is characterized by three epistemological problems that relegate subject knowledge to a prerequisite and unexamined category, with its origins outside the activities of teaching and learning in schools. I show how a dominant perspective on subject knowledge (which I describe as autonomous professionalism), and the typologies of professional knowledge that

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have emerged from this perspective, are weakened to various degrees by these epistemological problems and that there are important implications for practice. In place of individualistic and objectivist typologies, I offer a model of subject knowledge development that focuses on the conditions for its creation, access and evaluation rather than an enumeration of categories that might be measured and exchanged for professional status. I end the article with a discussion of how this model might help to reconceptualize understandings of subject knowledge in teaching in ways that locate the concept in the collective and goal-oriented activity of teaching a subject in schools. My argument is informed by a sociocultural perspective on knowing and learning that foregrounds the social formation of mind (Vygotsky, 1974, 1986; Greeno & van de Sande, 2007), the complexity of human development (Bronfenbrenner, 1979; Davis & Sumara, 1997) and the communal nature of our ‘conceptual inheritance’ (Toulmin 1972, p. 5).

At various points in this article, I use the specific example of English as a subject. This is for the pragmatic reason that English is the school subject I work in and in which I researched the development of beginning teachers (Ellis, 2007). English also provides a good example of the contested nature of knowledge in schools; what ‘counts’ is often fought over. I recognize that the practices of subjects differ and that different metaphors are used to describe these practices (for example, ‘proof’ in mathematics and ‘inference/deduction’ in history). But I am arguing that the conditions for the development of teachers’ subject knowledge—and for its evaluation as justified and true—are the same even though the detailed ‘shared procedures’ (Toulmin, 1999) of particular subjects differ.

**Subject knowledge and the professionalization of individuals**

In this section of the article, I argue that the dominant perspective in the educational research on teachers’ subject knowledge, as a part of teachers’ professional knowledge (a perspective I refer to as autonomous professionalism), has been characterized by three epistemological problems. Historically, these problems have worked together to frame a view of teachers’ subject knowledge and its development that is peculiarly individualistic and linear and treats subject knowledge as fixed and easily codifiable: its measurement an apparently simple public token to exchange for professional status.

**Subject knowledge and autonomous professionalism**

The autonomous professionalism perspective (a given subject knowledge transformed/converted by teacher education into a special category of teacher knowledge that should play out in classrooms as good teaching and learning) was intended to create the conditions for internal regulation and control by the profession itself rather than external control and surveillance by the state. Its claim has been that, although subject knowledge is important and prerequisite, there is a special category of teacher knowledge that exists between subject knowledge and effective teaching. Bullough
(2001) traced the development of this special category to the rise of the US Normal Schools in the nineteenth century and the concept of ‘teaching knowledge’ (Parr, 1888, cited in Bullough, 2001). Labaree (1992) also saw this special category of ‘teacher knowledge’ as part of a strategy to raise teacher educators’ status and to secure the place of teacher education in the academy.

Success from within this perspective would have meant that teachers’ and teacher educators’ autonomous professionalism was assured. Subject knowledge was advanced as an essential component of the ‘missing conversation’ (Feiman-Nemser & Parker, 1990) about learning to teach, but at the same time a special category of teachers’ professional knowledge (such as pedagogical content knowledge) was advanced as the unique province of teaching and teacher education and theorized in much more complex ways. Subject knowledge was an essential prerequisite but the focus—and the claim for autonomous professionalism—was founded upon a more situated and contingent category of knowledge altogether. That autonomous professionalism has not won the day for teaching is no doubt due in part to an underestimation of the ‘jurisdictional challenge’ (Abbott, 1988) that all professional groups have faced over the last twenty years and the political pressure for professions—as powerful, vested interests—to become more democratically accountable. But my feeling is also that over-emphasizing ‘teacher knowledge’ as complex and situated, while at the same time regarding subject knowledge as an unproblematic given that must be transformed, has also provided grist to the mill of conservatives who have sometimes agitated to remove the universities from the professional preparation of teachers (e.g. Hillgate Group, 1989; Lawlor, 1990).

In the research literature, one can trace this renewed interest in subject knowledge in a linear relationship with a special category of transformative teacher knowledge from the work of, for example, Shulman (1986, 1987), Calderhead (1988), Eraut (1994), right up to more recent initiatives such as the Standards project of the Australian Association for the Teaching of English (AATE, 2002). Within the UK specifically, Poulson (2001) traced the rise of subject knowledge as a problematic category in the educational research literature focused on primary education from 1989 to 1997.

Next, I draw out what I see as three persistent epistemological problems in the research on teachers’ subject knowledge with reference to the broader conceptualization of teachers’ professional knowledge.

Subject knowledge in professional knowledge: three problems

The problem of dualism. The first problem in much of the literature on subject knowledge in teaching is that it presents subject knowledge as fixed and universal while simultaneously theorizing separate categories of teacher knowledge as tacit and uncodifiable. For example, when considering claims to professional knowledge and status, Calderhead (1988) juxtaposed teachers’ ‘practical knowledge’ and ‘theoretical knowledge’. Leinhardt (1988), even while beginning to draw on theories of situated
cognition, also pitched ‘principled and context-free knowledge’ (in her case, mathematics) against ‘other situated forms of knowledge’ (teaching). And Erut (1994) saw teachers’ ‘professional knowledge’ as distinct in epistemological terms from ‘knowledge in traditional disciplines’.

The extent of this problem for practice is that subject knowledge is conceptualized as entirely context-free ‘content’: stable, prior and universally agreed. But a moment’s thought about subjects would instead suggest variation, development, historical change, important disagreements, contradictions, debates, paradigm shifts and so on. It is these dynamic, social processes that make subjects worthy of study and allow us to work in the subject. The word ‘discipline’ captures the power that is distributed among those who work in the subject; learning in a subject is also a process of being disciplined into the ways of thinking and feeling about subject concepts, a process of both regulation and innovation that is intrinsically a collective activity. Fundamentally, as Toulmin pointed out, our ‘conceptual inheritance . . . is communal’ (1972, p. 35). Although some might wish to distinguish between subjects—as school constructions, ‘taught and assessed in a variety of ways’ (Parker, 2002, p. 375)—and disciplines—which belong to the university, and are ‘practised and engaged with’ (ibid.)—I would want to retain the active and participatory meaning of subjects for schools, for teachers and for students.

Philosophically, the distinction between ‘practical’ or more situated categories of teacher knowledge and a more declarative category of subject knowledge arises from Ryle’s distinction between ‘knowing how’ and ‘knowing that’: ‘we learn how by practice . . . often quite unaided by any lessons in theory’ (Ryle, 1949, p. 41). Since the 1950s, however, philosophers of language have pointed out that ‘knowing how to do things’ is also ‘formulable in “that” clauses’ (Brown, 1970, p. 242). It just takes more ‘thats’. In other words, the difference is linguistic (and sociological) rather than epistemological; socially, ‘knowing how’ is the lesser form.

The problem of objectivism. Objectivism—or what we might call the knowledge-as-thing problem—appears to offer ‘a firm foundation for clear-cut unconditional statements about teacher knowledge’ (Edwards et al., 2002, p. 34). It is consequently appealing to educational policy-making of a kind that Hargreaves (2003) referred to as ‘directive interventions’. The Standards for the Award of Qualified Teacher Status (along with the majority of recent education policy in England) have been just such directive interventions that have used ‘legislation and regulation as the levers of change, and through them prescribe what practitioners will do’ (Hargreaves, 2003, p. 70). Subject knowledge becomes a thing ‘to be grasped, held, stored, manipulated, and wielded’ (Davis & Sumara, 1997, p. 110). In policy terms, it becomes a commodity that can be counted (‘audited’), ‘boosted’ or ‘topped up’ outside of practice—words and phrases used by the Training and Development Agency for Schools (TDA) that suggest a conceptualization of knowledge as having physical presence and volume. In terms of a view of learning and development, objectivism is associated with what Kelly (1963) called ‘accumulative fragmentalism’; in other words, learning takes place by adding one bit of knowledge to another to build, brick by brick, what an individual knows.
The view of development is straightforwardly linear in that the more bits one possesses, the more knowledgeable one is.

The alternative view I am arguing for in this article is more complex and therefore less useful in directive interventions. It arises out of what Edwards et al. (2002) describe as a contextualist epistemology. Their contextualism—derived in part from the later work of Wittgenstein (1972) and in part from Vygotsky (1974, 1986) and contemporary cultural psychology—proposes that what counts as knowledge is a property of ‘rule-governed behaviour’ in a specific ‘language game’ located within a particular ‘form of life’ (Edwards et al., 2002, p. 39). For Edwards and her colleagues, ‘it is the social system we operate in that provides the criteria against which we judge whether something is perceived as being knowledge or falsehood’ (p. 38) and this social system is capable of being worked on. The advantage of a contextualist epistemology over objectivism—and over an epistemology of ‘reflective practice’ (Schön, 1983)—is that it avoids ‘both a context-free (transcendental) argument for objectivity and context-bound (socially subjective) argument for the relativity of knowledge’ (Edwards et al., 2002, p. 44).

Contextualism can, however, inform educational policy-making in productive ways that Hargreaves describes as ‘enabling interventions’ (Hargreaves, 2003, p. 70). This kind of policy intervention ‘provides the infrastructure and support system’ (ibid.) within which ‘partnerships that are self-managing but disciplined’ (ibid.) can be developed that work on social systems. In the recent past, England has had a good track record of enabling policy interventions. In the field of English teaching, for example, the National Writing Project (1990), the National Oracy Project (Norman & National Oracy Project, 1990) and the Language in the National Curriculum project (Carter, 1990) were all designed to promote the development of teachers’ subject knowledge through collaborative work in classrooms. As enabling interventions, these projects were highly distributed and saw active and engaged work across the boundaries of school teaching, local authority advisory services, inspection, teacher education, educational research, publishing, broadcasting and the subject teaching associations.

The problem of individualism. The problem of individualism is related to the problem of objectivism in that both conceptualize the development of knowledge as a purely cognitive process that takes place inside a head. Subject knowledge, viewed in this way, is not seen as relational; that is, individualism does not account for the existence of knowledge in relation to other people (who seek to understand and to work, systematically, on the same problem) or to an environment (where engagement with, and the development of, knowledge is differentially afforded and constrained in particular settings; see Greeno, 1994). Rather, either through the gradual mental illumination of a priori concepts (that are just always ‘out there’) or through exposure to certain formative experiences, learning is essentially an individual act and knowledge an individual property. If student teachers do not develop appropriate subject knowledge for teaching then that is always a failing of the individual’s cognitive capacities. If subject knowledge audits\(^1\) reveal ‘gaps’ against the checklist,
then that is indicative of a personal deficiency rather than, say, an effect of that student teachers’ confidence and self-awareness or, more fundamentally, the potential of the settings in which they have been learning.

In an effort to expand individualistic understandings of knowledge, Lave and Wenger (1991) developed the concept of ‘communities of practice’. Much has since been written that criticizes easy usage of the word ‘community’ with reference to school teaching (see, as two examples, Grossman et al., 2000 and Edwards, 2005). I think it is important to distinguish between uses of the word ‘community’ and to be clear about how I am using the concept in this article. In my use of ‘communities of practice’, I believe I am following Lave and Wenger’s intentions in using the term to explain matters of epistemology:

A community of practice is an intrinsic condition for the existence of knowledge, not least because it provides the interpretive support necessary for making sense of its heritage. Thus, participation in the cultural practice in which knowledge exists is an epistemological principle of learning. (Lave & Wenger, 1991, p. 24)

Rather than an implying a conservative and reproductive notion of knowledge, however, at the heart of Lave and Wenger’s concept lies the sometimes overlooked ‘continuity-displacement contradiction’ (p. 34), whereby the newcomers to a community of practice have the potential to stimulate the generation of new knowledge through a creative disruption of existing practices. As Lave and Wenger pointed out:

legitimate peripheral participation is far more than just a process of learning on the part of newcomers. It is a reciprocal relation between persons and practice. This means that the move of learners toward full participation in a community of practice does not take place in a static context. The practice itself is in motion. (Lave & Wenger, 1991, p. 34; my emphasis)

I think it is important to dwell briefly here on the conceptualization of communities of practice with particular reference to the epistemological problem of individualism. I am not using community in the sense of a gathering of individuals (Grossman et al., 2000) or in the narrowly social sense of a group of people with mutual obligations and responsibilities. Instead, Lave and Wenger’s conceptualization of communities of practice allows us to understand the learner ‘both as a user and producer of knowledge within a set of social practices’ (Edwards et al., 2002, p. 109; my emphasis). It is therefore useful in the analysis of the collective nature of concept development.

I believe that these three problems characterize much of the educational research concerned with teachers’ subject knowledge and have had important consequences for practice. One might speculate that the educational research community has run into these difficulties by working pragmatically for the professionalism of teachers on the grounds that seemed available and therefore, in part, by accepting objectivism, individualism and dualistic understandings of knowledge. In any event, the outcome is that subject knowledge is presented and theorized in much less complex ways than
other categories of teachers’ professional knowledge. Politically, the more complex theorization of categories such as teachers’ ‘practical’, ‘craft’ or ‘pedagogical content knowledge’ has been useful to the teacher education community, but this has often been to the detriment of the concept of subject knowledge. In the next section, I refer briefly to one influential British example of a typology of professional knowledge that arises, in part, out of Shulman’s highly influential 1987 contribution.

Professionalizing typologies: recipes for the individual teacher

In the discussion that follows, my argument is that professionalizing typologies propose that various, similar ingredients (categories of knowledge) are mixed inside the head of the prospective teacher. Moreover, although it may be that some of the mixing takes place in the course of ‘doing teaching’, the making of the recipe (with reference to subject knowledge) happens inside the teacher’s head.

Perhaps the most influential attempt to categorize the knowledge base for teaching came from the ‘Knowledge Growth in Teaching’ research programme of Lee Shulman (1986, 1987). Although Shulman’s typology was almost immediately subject to critique (e.g. Sackett, 1987; McEwan & Bull, 1991)—and has also more recently been critiqued by Shulman himself (Shulman & Shulman, 2004)—it continues to inform educational research, and the concept of pedagogical content knowledge (PCK) has passed into the professional discourse. Indeed, the importance of PCK was at the basis of claims for autonomous professionalism on behalf of teachers and to secure teacher education’s place in universities. Shulman’s research was also associated with the development of a voluntary set of national teaching standards in the US, standards that offered the prospect of an autonomous professionalism for individual teachers and teacher educators. But in Shulman’s typology, ‘content knowledge’—framed by the problem of dualism—is just a given, something that is merely subject to the transformative action of PCK in classrooms. The point of origin (and the ownership) of subject knowledge is elsewhere and PCK is advanced as a theorization of the ‘delivery’ mechanism. In the UK, the work of Turner-Bissett (1999) and, to some extent, Daw (2000) represents two extensions of Shulman’s typology. The work of Banks, Leach and Moon (Banks et al., 1999; Leach and Moon 2000), however, while being situated partly in the Shulman line of professionalizing typologies, also points towards a more complex and situated account of teachers’ knowledge and its development.

Towards a situated model of professional knowledge: Banks et al. and Leach and Moon

Leach and Moon, in their analysis of teachers’ professional knowledge, used Lave’s (1988) concepts of arena and setting to suggest the complexity of knowledge creation. The arena (or ‘pedagogic arena’ in Leach and Moon’s formulation) exists at the cultural or subcultural level as a system that ‘motivates experience’ and is a resource that is ‘drawn on in the fashioning of intentional activity in the lived-in world’ (Lave, 1988, p. 178). Setting is defined as the ‘repeatedly experienced, personally ordered
and edited version of the arena’ (p. 151). Leach and Moon’s attention to pedagogic arena and pedagogic setting usefully extends Lave’s focus on the interrelationship between the two and the ways in which setting is dialectically constituted in relation to practice.

Additionally, Banks et al. (1999) argued for the importance of Lave and Wenger’s (1991) concept of communities of practice in the theorization of the development of professional knowledge. Banks et al. and Leach and Moon’s interest in communities of practice and legitimate peripheral participation is particularly strong in relation to the ‘negotiation of shared meaning’ in contexts (Banks et al., 1999, p. 106) but they also point towards the dynamic nature of professional knowledge development represented by Lave and Wenger’s ‘continuity-displacement contradiction’ (Lave & Wenger, 1991, p. 17). In these ways, their research can be understood as an important contribution towards a more situated model of professional knowledge.

However, their typology of professional knowledge—most strongly in its graphical representation—still has similarities with Shulman’s categorization (see Figure 1). ‘Personal construct’ (including goals) is at the core of this model but its categories are also featured in Shulman’s original typology.2 Personal construct and goals in the diagram also appear as rather individualistic, even though Leach and Moon have suggested elsewhere that ‘subject constructs’ can be collective as well as personal (Banks et al., 1999, p. 105). Teachers’ biographies here are also rendered as unsituated ‘individual experience[s]’ rather than as, say, personal trajectories of participation in social practices that might inform certain kinds of knowing (Dreier,
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1999). For me, this model also poses some significant problems about what goes in each of the two circles at the top (subject knowledge and school knowledge). This was particularly true in Banks and his colleagues’ (1999) model of English teachers’ professional knowledge where some aspects of what they categorize as school knowledge (‘knowledge about language’, for instance; roughly speaking, aspects of sociolinguistics) might appear equally at home in the subject knowledge circle. Indeed, having separate categories intended to hive off subject from school knowledge might be rather self-defeating in that it leaves subject knowledge as a stable, fixed and perhaps university-based category, subject to Shulman’s notion of ‘transformation’ into school knowledge (a process they say they do not like: see Banks et al., 1999, p. 91) or ‘transposition didactique’ (a process they prefer: ibid., pp. 93–94).

In this model, subject knowledge and school knowledge exist in a hierarchical relationship, with a (university-located?) subject knowledge the higher authority. Most importantly, however, the graphical representation of Leach and Moon’s typology downplays the collective, socially dynamic and historical conceptualization of professional knowledge development that they begin elsewhere in their articles. In offering such an apparently individualistic graphical model they might also appear to be suggesting that subject knowledge is less complex a category than the more obviously active and situated category of school knowledge.

In the penultimate section of the article, I run the risk of falling into the hole that I have just been digging for others: I offer a graphical representation of a theoretical model of knowledge creation that presents teachers’ subject knowledge as emergent within complex and dynamic social systems. The model attempts to achieve this reconceptualization by focusing on the conditions for the creation of knowledge and the processes that allow for knowledge to be accessed and developed within these systems.

Reconceptualizing subject knowledge in teacher development

In reconceptualizing teachers’ subject knowledge and its development, I am not offering any sort of recipe for what ‘makes’ an individual professional: I am not arguing about ingredients or quantities that can be audited and traded in for professional status. Instead, I am building on Leach and Moon’s development of the concepts of arena and setting to emphasize collective work on a particular problem of practice (the teaching of a subject in schools) and towards a particular cultural identity. I use the specific example of English teaching in my explanation of the model for the reasons I outlined earlier.

The dynamic nature of the complex social systems (or, in epistemological terms, communities of practice) in which knowledge is accessed and developed is represented in diagrammatic form (see Figure 2). The three dimensions (Culture, Practice, Agents) shown in Figure 2 are mutually constitutive and interdependent and knowledge is seen as potentially emergent in the relationships between them. The proposition that knowledge (in this case, English teachers’ subject knowledge) changes over time is illustrated by the arrows emanating from the outer circle.
enclosing the three dimensions—indicating that the system itself is in motion. In other words, the conditions for knowledge and the grounds for its verification exist within the particular social system, but the system itself—and the conditions and rules for evaluation—changes over time and across contexts. Within the system, the interdependent dimensions of ‘Culture’, ‘Practice’ and ‘Agents’ are elaborated below.

**Culture**

Culture is something that is made. Thus, the arena for practice for English teaching is dialectically constituted in relation to its practices in multiple settings. For example, the arena for practice (or field) of English teaching is made in relation to practice in the various settings in which English teachers work (schools, universities, local authorities, examination boards, etc.). That is, practice determines the boundaries of the field and the rules by which the field as a whole validates knowledge. This is not to say that there is consensus about the boundaries and rules of the arena for practice, but the reflexive nature of the interactions goes some way towards explaining the

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**Figure 2. Diagrammatic representation of the complex and dynamic social systems within which teachers’ subject knowledge is accessed and developed**
dynamic nature of practice. The dimension of subject politics and policies is intended to indicate both that the arena for practice is formed in relation to macro-level social structures (such as the institutions of compulsory schooling) but also that the arena provides the rules for the validation of new knowledge and for evaluation of the field as whole. Again, this is not to imply universal agreement within this cultural arena but to suggest that it is subject to a dynamic process of change arising out of competing claims and contestation originating fundamentally out of practices in multiple settings (indicated in part by the arrows to and from ‘Culture’ and ‘Practice’).

Also, Figure 2 suggests that resources for practice—physical and conceptual—exist at the cultural level (and are taken up as intellectual tools for action by Agents—English teachers—in the course of practice). That is, under this definition, resources for practice include, for example, English teaching artefacts (such as the various technologies of literacy—pen, screen, book, etc.) but also concepts (such as metaphor, syntax, narrative, etc.).

Finally, the dimension of Culture provides the grounds for the cultural identity of the system—of the Practice and the Agents (in this example, English teaching and English teachers). Thus, the process of knowledge creation is connected to the development of a particular form of prospective identity, a process in which what Lave and Wenger referred to as legitimate peripheral participation in a community of practice is also a process of becoming, i.e. the creation of a (professional) identity.

**Practice**

In professional learning the setting for practice is key. In England, beginning teachers spend most of their time learning to teach in school departments, working alongside a group of teachers who, although they may not share the same identical set of values and beliefs, nevertheless exist as a community of practice (in the strictly epistemological terms I outlined earlier) within which a form of collective knowledge is accessed and developed (Hodkinson & Hodkinson, 2005). In the settings for practice there will be certain agreed parameters for group action, even though the community will be internally differentiated on the basis of contradictions: subject paradigms (what constitutes the subject and why) and subject pedagogies (how the subject should be taught and why) (Ball & Lacey, 1980). These agreed parameters—arising out of a form of compromise over matters of subject paradigm and pedagogy—will nevertheless determine the goals of the community’s practice and will do so also in relation to the cultural arena. Practice as a concept provides the social space for the communal conceptual development of the system (in this case, English teaching) that arises out of the relationships between its participants.

Practice therefore also suggests the potential by which individual knowing can be validated as knowledge according to the rules operated by the community and the extent to which individuals are permitted to work on these rules themselves. This is at the level of collective knowledge which can be distinguished from the level of individual knowing and cultural identity by its emphasis on ‘rule-governed behaviour’ (Edwards et al., 2002, p. 39).
Agents

Agents are the individual learners (in this example, English teachers) and their potential for action. The dynamic nature of this model is emphasized in the interdependence between individual Agents’ perceptions and prior experience in relation to Culture and Practice, in particular their perceptions of, and participation in, the settings in which they are learning and their motivations for developing a particular form of cultural identity, for becoming an English teacher. This can be described as an aspect of autobiography that is subject related. Also, with particular reference to motivation, the importance of values and beliefs should be stressed; this can also be expressed as ‘conceptions of purposes’ (Grossman & Stodolsky, 1995): why bother? what’s important? The agency of the individual is also related to their capacity to understand and interpret the goals of the community of practice. Implicated in this process is their own conception of knowledge—or ‘epistemological stance’ (Hillocks, 1999)—and, implicitly, of how people learn. These conceptions in turn are one influence on the selection of physical and conceptual resources from the cultural arena that will be taken up as tools in the practice of teaching English.

The term Agents suggests that individual knowing potentially consists of innovative interventions in a system that leads to the creative displacement of usual practices and the development of new knowledge. When it does, the knowledge that emerges has systemic, that is, cultural significance. Individual knowing can also be expressed more conservatively as the simple outcome of participation. In both cases, the interactions between Agents, Practice and Culture are the core of this complex system in that the Agents (teachers of English) are not conceived of as ‘passing through’ school subject department contexts but are, rather, partly composed by their interactions within them and, importantly, their contributions to them.

The model I have been discussing here—and the inevitably unsatisfactory graphical representation I have been working with—is a modification of one that was developed and tested in research that sought to understand beginning teachers’ thinking over the two-year PGCE and Induction year period (Ellis, 2007). I readily admit the weaknesses of two-dimensional, graphical representations of highly interactive social processes. Nevertheless, in addition to offering a useful framework for studying teachers’ conceptual development, I believe the model has some potential for suggesting ways in which the social systems of teacher education can be worked on and improved by those who participate in them. In the concluding section, I briefly discuss some of the implications of this model for teacher education.

Working in the field: implications for teacher education

The fundamental implication of the model I have presented is that subject knowledge exists as much among participants in a field (the teaching of a subject in schools) as it does within them. Subject knowledge is communal, a form of collective knowledge.
The ‘subject’, specifically, is the school subject—which has an important relationship with, but is not identical to, the university subject, or governed by it. Those who teach the subject in schools (just as those who teach the university subject)—collectively—are the principal sources of authority over the production of the subject in schools. In this task, they can be supported by teacher educators and educational researchers, advisers and inspectors, and many others. And with this authority comes responsibility for development and for continually examining the boundaries of ‘what counts’ as subject knowledge. Building a stronger identity as an intellectual field is an important consequence of this view of subject knowledge for teaching as a profession.

Subject knowledge—as collective knowledge that has been developed historically in culturally significant practices—is therefore relational in that it is accessed and developed within existing social systems into which beginning teachers are inserted as learners. Their success in accessing and engaging with subject knowledge as newcomers in such complex systems depends in large part upon their capacity to build relationships focused on learning within them. For teacher educators, this view would suggest the need for much closer relationships not only with teacher mentors but with and in the key school settings for beginning teachers’ learning. It also suggests a form of collaboration that seeks to expose, to understand and to transform subject knowledge in the multiple settings for practice. This is intricate and demanding work that a pilot project in the Oxford Internship Scheme is currently attempting in the context of a PGCE English programme. The DETAIL project, in its focus on collaborative planning and teaching and, particularly, collaborative professional enquiry between school subject departments, interns and a university-based teacher educator, is seeking both to understand and to transform subject knowledge in the key settings for learning to teach.

Reconceptualizing teachers’ subject knowledge as complex, systemic and emergent in practice allows us to see how teacher education can work on the social and intellectual systems of subject teaching as well as just being worked on by them, sometimes in rather deterministic ways. This is absolutely not an argument for relativism in terms of teachers’ subject knowledge. Rather, I have been arguing for much more serious attention to subject knowledge and for a stronger focus on the collective processes by which this form of knowledge might be warranted, accessed and developed where it matters most—in classrooms. Focusing teacher education’s work on stimulating, supporting and, indeed, researching subject knowledge development in school settings also enables us to take subject knowledge much more seriously than getting beginning teachers to tick lists and identify ‘gaps’ and more usefully than debating the merits of various recipes for professional knowledge and the place of subject knowledge within them.

Notes
1. Audits of student teachers’ subject knowledge at the beginning and the end of teacher education programmes were required by the 4/98 Teaching Standards and are still used in many settings in England (see Ellis, 2007, pp. 160–161).
2. In Shulman’s typology, three out of seven categories emphasized educational goals, ‘ends, purposes, and values’, ‘knowledge of learners’, ‘knowledge of educational contexts’ and ‘the character of communities and cultures’ (Shulman, 1987, p. 8). Shulman’s research design also emphasised the teachers’ ‘intellectual biographies’.

3. Values and beliefs are used here in preference to ideology. The dimension of values (a set of personal judgements about a way of life that might be shared) and beliefs (propositional statements arising out of those values) is a set of personal commitments that usually operate self-consciously, whereas ideology is usually understood as operating on a subconscious level and as leading to the interpellation of a particular form of subjectivity.

4. In the original model, the dimension of Practice was referred to as Activity. The modification presented here focuses on Practice in order to foreground this model’s relationship to the previous work of (Banks,) Leach and Moon and also that of Lave/Lave and Wenger. I have, however, used ‘social system’ to suggest the division of labour, rules for participation and object (or goal) orientation that develop historically within communities of practice (see Engeström, 1999; Engeström & Miettinen, 1999).

5. One of the conclusions of Burn et al. (2007, in this issue).

6. Further information about the DETAIL project (Developing English Teaching and Internship Learning) is available at: www.education.ox.ac.uk/research/osat/detail.php

References


