

TEACHER AGENCY IN CURRICULUM MAKING: AGENTS OF CHANGE AND SPACES FOR MANOEUVRE

Mark Priestley^a, Richard Edwards^a, Kate Miller^b & Andrea Priestley^a

a. School of Education, University of Stirling; b. University of the West of Scotland

Corresponding author:

**Dr Mark Priestley
School of Education
University of Stirling
Stirling FK9 4LA
United Kingdom**

Tel +44 1786 466272

Email m.r.priestley@stir.ac.uk

TEACHER AGENCY IN CURRICULUM MAKING: AGENTS OF CHANGE AND SPACES FOR MANOEUVRE

Abstract

In the wake of new forms of curricular policy in many parts of the world, teachers are increasingly required to act as agents of change. And yet, teacher agency is under-theorised and often misconstrued in the educational change literature, wherein agency and change are seen as synonymous and positive. This paper addresses the issue of teacher agency in the context of an empirical study of curriculum making in schooling. Drawing upon the existing literature, we outline an ecological view of agency as an effect. These insights frame the analysis of a set of empirical data, derived from a research project about curriculum-making in a school and further education college in Scotland. Based upon the evidence, we argue that the extent to which teachers are able to achieve agency varies from context to context based upon certain environmental conditions of possibility and constraint, and that an important factor in this lies in the beliefs, values and attributes that teachers mobilise in relation to particular situations.

TEACHER AGENCY IN CURRICULUM MAKING: AGENTS OF CHANGE AND SPACES FOR MANOEUVRE

Background

Change is a ubiquitous fact of life in today's schools (Storey, 2007), and yet educational change remains a deeply problematic area for policy makers and practitioners. Decades of educational policy have sought to impose change on schools. The last twenty years in particular have been characterised by what Levin (1998) has described as an epidemic of change. In Scotland, this evidenced by the introduction of 5-14 curriculum in 1992 and Curriculum for Excellence in 2004. The results of much of this have been felt in schools across the Anglophone world, as research suggests that work has intensified, paperwork and bureaucracy have increased, and teachers have felt increasingly disempowered and professionally marginalised (Ball, 2008). Despite this flurry of reform activity however, the fundamentals of schooling – what Tyack and Cuban (1995) have termed the grammar of schooling – appear to many writers to remain relatively unchanged (for example, Cuban, 1988, 1998; Sarason, 1990; Spillane, 1999; Tyack & Cuban, 1995). Much recent curricular policy across the Anglophone world has sought to address this perceived fundamental issue of innovation without change, drawing, for instance, upon theories of transformational change (for example, Senge & Scharmer, 2006). Intrinsic to such policy is a renewed vision of teachers as developers of curriculum at a school level, as agents of change (Fullan, 2003). For example, Scotland's Curriculum for Excellence,

aims to engage teachers in thinking from first principles about their educational aims and values and their classroom practice. The process is based upon evidence of how change can be brought about successfully - through a climate in which reflective practitioners share and develop ideas. (Scottish Executive, 2006)

This renewed emphasis is problematic in its own right. First, such policy can tend to construe agency as solely a positive capacity – as a factor in the ‘successful’ implementation of policy – whereas one might legitimately take the view that agency could equally well be exercised for ‘non-beneficial’ purposes (Priestley, 2011). Thus, there are legitimate questions of the sorts of agency achieved by teachers, and attendant dangers of seeing agency in narrow and solely positive ways (Leander & Osborne, 2008). Second, we should pose the question of to what extent teachers can achieve agency. There is arguably a low capacity for agency in terms of curriculum development within modern educational systems. This could be seen as the result of such systems having been subject for at least two decades to the combined influence of prescriptive national curricula and the use of outcomes steering, both backed by rigorous inspection regimes and the quantitative use of attainment data. Indeed, it might be argued that the latter, outcomes-driven methods have done more to erode teacher agency (Biesta, 2004) than has any recourse to prescriptive inputs. Notwithstanding such debates, these strategies, while having different roots, and employing different methods, represent a systematic effort to extend central control over schooling to the detriment of school-based curriculum development and its underpinning theory (for example, Stenhouse, 1975; Clandinin & Connelly, 1992; Kelly,

1999). A third problem lies in our understanding of teacher agency – in other words, agency that is theorised specifically in respect of the activities of teachers in schools. There has been little explicit research or theory development in this area (Vongalis-Macrow, 2007), and existing change models both underplay and misconstrue the role of teacher agency in educational innovation (Leander & Osborne, 2008). Teacher agency is often conceived as a slogan to support school-based reform, despite attempts by researchers to locate it in relation to wider theoretical discussions of agency (for example, Pignatelli, 1993).

Further, recent literature casts doubt on the premise of innovation without change. We utilise the term *innovation* here to denote policy that promotes change and the term *change* to denote the changes in social practices that may occur as a result of engagement with the innovation. For example, Elmore (2004) suggests that change does occur in schools, but that innovation is often mediated to fit with prior practice. Research carried out by Osborn *et al.* (1997) suggests that this ‘negative’ agency can take a number of forms, including resistance, conspiratorial mediation and creative mediation. This may occur even where policy is prescriptive, as was the case with England’s 1988 introduction of a National Curriculum. Alternatively, policy intentions may be confused by the pressures exerted by competing policy agendas (Reeves, 2008), leading often to unintended consequences (i.e. change, but not that intended by the architects of policy).

There are various aspects of the dynamics of change as they relate to teacher agency, therefore, that require more theorising. These include the institutional

logics (Young, 1998) of the ecologies or contexts within which teachers work, including the strong influence of the subject department in secondary schools (MacGregor, 2004), as well as teacher biographies (Goodson, 2003), belief systems (Wallace & Kang, 2004), and subjectivity and identity (Siskin, 1994; Goodson & Marsh, 1996). A significant issue lies in the ways in which teachers position themselves politically in relation to change policy, to colleagues and students, and to the wider community (Leander & Osborne, 2008). According to Supovitz (2008), the one constant in this messy and unpredictable process is the ability of teachers to mediate policy through a process of iterative refraction. In other words, policy mutates as it migrates from one setting to the next. The form and direction that this iterative refraction takes is influenced by the exercise of reflexive human agency, achieved to varying degrees within the enabling and constraining framework provided by material and social structures and human culture (Archer, 1988, 2000a).

All of the above suggests that a more sophisticated theorising of teacher agency is necessary in order to understand the dynamic processes through which change and continuity occur in educational settings. In this paper, we apply insights from social theory relating to agency to the data that emerged from ethnographic research during 2007-8 in a school and further education college in a large Scottish town. Other findings from the project have been reported elsewhere (Edwards *et al.*, 2009; Miller *et al.*, 2010). The project investigated the very different ways in which teachers in three subject areas within the two institutions enacted the prescribed curriculum. This is in theory a common set of prescriptions of learning outcomes to be achieved for

specific subjects, outlined in specifications published by the Scottish Qualifications Authority (SQA). Schools and colleges both draw upon SQA 'Unit Descriptors' in developing their curricula. The data relate to the ways in which teachers translated the prescribed curriculum into an enacted practice (Bloomer, 1997), and are based upon observations and interviews.

Thus, while the contexts did not always involve changes to policy and practice, they relate directly to how teachers make sense of externally initiated policy, and the multifarious factors that influence this process. This analysis, therefore, allows us to make a number of inferences about teachers' capacity to act as agents of innovation and change. The differing approaches to enactment allow us to investigate teacher agency both as a response to or a reaction against educational policy, as shaped by the material and social conditions within which teachers and lecturers worked. For the purposes of this paper, we focus on two cases studies from the participating secondary school, as these provide illustrative patterns and trends that have allowed us to begin to theorise teacher agency. They have been selected for their illuminatory capacity rather than being taken to be representative of the wider group studied or of all teachers. Both cases included teachers who were relatively new into the teaching profession, but were mature entrants with considerable industrial work experience behind them. They had experienced different workplace cultures and were not yet significantly embedded within the existing cultural ecology of the school. This choice of cases has been influenced by an observed tendency, emerging from across the project data, that teachers with prior work experience outside of teaching, were able to bring this experience to bear in particular ways that were beneficial to their

teaching and to the learning of the students, in part, because of the contrasting experiences upon which they could draw.

Agency

Before undertaking our analysis, we provide an overview of some of the existing theory relating to agency. Inevitably, such a review is selective, as human agency is both a much debated concept with diverse theoretical framings informing it. While agency *per se* has been extensively theorised, Fuchs (2001) suggests that there has been a tendency in social research to either focus on an over-socialised, macro view of agency – thus ignoring the local and specific – or to concentrate on overly individualised notions of agency. In recent years, systematic attempts have been made to find a middle ground on this position, or indeed to reframe the debate altogether. These include Bourdieu's (1977) notion of habitus, Giddens's (1984) theory of structuration, Archer's (1995) seminal realist social theory and relational theories of agency inspired by, for example, the work of Foucault (for example, Pignatelly, 1993; Rose, 1999) and Actor-Network Theory (for example, Dépelteau, 2008; Fenwick & Edwards, 2010). It is fair to say that the structure/agency debate is far from settled and indeed may be irresolvable.

In simple terms agency can be described as the capacity of actors to 'critically shape their responses to problematic situations' (Biesta & Tedder, 2006, p. 11), or the 'capacity for autonomous action ... [independent] of the determining constraints of social structure' (Calhoun, cited in Biesta & Tedder, 2006, p. 5). According to Archer (2000a), agency has been seen as

autonomy and causal efficacy. Such statements may be taken to suggest an overly individualistic view of agency, rooted in psychological views of human capacity, and indeed many writers have taken such a view. This perspective has come under sustained criticism from thinkers as diverse as Usher and Edwards (1994) and Archer (1998; 2000a) for under-emphasising the influence of societal structures and human culture and discourses on agency. Such a view sees humans as 'self-motivated, self-directing, rational subject(s), capable of exercising individual agency' (Usher & Edwards, 1994, p. 2). In Archer's view, this is an 'undersocialised view of man [sic]' (Archer 1998, p. 11), where people operate relatively unimpeded by social constraints, and society is epiphenomenal to the individual or group. Here agency is often conflated with the concept of autonomy as a form of freedom from constraints.

An alternative view of agency is grounded in the influence of society over the individual, seeking to supplant agency with structure. For example, according to Popkewitz, 'many of the wants, values and priorities of decision making are determined by the structural and historical conditions of our institutions' (cited by Paechter 1995, p. 47). This variety of world view has also come under attack, by those who see it as a form of social determinism. For instance, Archer has criticised what she sees as an oversocialised view of someone who is 'shaped and moulded by his social context' (Archer, 2000b, p. 11), an individual who is little more than an epiphenomenon of society. It is also a criticism that lies at the heart of the various studies of the relationships between power, knowledge and subjectivity in the works of Foucault (1980).

In response to this sort of debate, Archer (1988, 1995, 2000a) posits a centrist notion of agency, which seeks to reframe the structure/agency dichotomy. She also provides a methodology for analysis – analytical dualism – which provides a solution to a major criticism of earlier centrist approaches (notably structuration theory). Archer refers to structuration as central conflation, where there is no easily discernible distinction between conditions and actions, and where, in Bhaskar's (1998) view, a false dialectic between the individual and society is established. Archer raises a number of objections to this approach. For example, she states that the duality of structure and agency in structuration theory 'effectively precludes a specification of when there will be more voluntarism and more determinism' (Archer, 1988, p. 86). It assumes that all actors enjoy an equal measure of transformative freedom. In contradistinction to this, Archer believes that social acts are not equally fettered by the system, and, in turn, that they do not each have the same degree of effect on the cultural and structural systems. Although she cautions that it is not always possible to specify the causal mechanisms that lead to variations in agency, particularly in complex social organisations such as schools, she suggests that analytical dualism allows us to at least attempt such analysis. Central conflation does not because it denies autonomy to each level. In Archer's view, structuration assumes that the cultural and structural systems have no objective existence, substituting a form of idealism where discourses are contingent on being sustained by social actors through a process of instantiation, and where socio-cultural interaction cannot be analysed independently of cultural and structural systems.

In a similar vein to Archer, Biesta and Tedder (2007) have developed a useful ecological view of agency, positing the notion that agency is achieved under particular ecological conditions. This notion suggests that even if actors have some kind of capacities, whether they can achieve agency depends on the interaction of the capacities and the ecological conditions. Rather than agency residing in individuals as a property or capacity, it becomes construed in part as an effect of the ecological conditions through which it is enacted. In other words, agency is positioned as a relational effect. According to this view, agency is a matter of personal capacity to act, combined with the contingencies of the environment within which such action occurs. Further an individual may exercise more or less agency at various times and in different settings. In a sense, this renders the question 'What is agency?' sterile, supplanting it with questions of 'How is agency possible?' and 'How is agency achieved?'

[T]his concept of agency highlights that actors always act by means of their environment rather than simply in their environment ... the achievement of agency will always result in the interplay of individual efforts, available resources and contextual and structural factors as they come together in particular and, in a sense, always unique situations (Biesta & Tedder, 2007, p. 137)

Biesta and Tedder tend to focus on developing an ecological view of individual human agency. However, collective agency and the agency of human and non-human assemblages, in which action is not linked to conscious intention alone, have also been posited as important in social and

educational theory (Fenwick & Edwards, 2010). Nevertheless, viewing agency in such terms helps us to understand how humans are able to be reflexive and creative, acting counter to societal constraints, but also how individuals are enabled and constrained by their social and material environments. Thus, human agents are reflexive and creative and can act counter to societal constraints as well as with societal possibilities. As reflexive people, agents are influenced by, but not determined by society (Archer, 2000a). Through inner dialogue (Archer, 2000a) and 'manoeuvre amongst repertoires' (Biesta & Tedder, 2006: 11) they may act to change their relationships to society and the world in general, contributing to a continually emergent process of societal reproduction and transformation.

Emirbayer and Mische (1998, p. 963) develop a temporal theme to agency, seeing it as:

a temporally embedded process of social engagement, informed by the past (in its habitual aspect), but also oriented toward the future (as a capacity to imagine alternative possibilities) and towards the present (as a capacity to contextualise past habits and future projects with the contingencies of the moment).

Utilising this chordal triad of the iterational (past), projective (future imaginings) and the practical-evaluative (present) elements makes it possible to characterise the particular 'tone' of people's engagement with events in their lives. On an empirical level, however, the conception of agency espoused by Emirbayer and Mische requires not only the 'composition' of agency to be explored, but simultaneously 'it requires a characterisation of the

different temporal-relational contexts within which individuals act' (Biesta & Tedder, 2007, p. 137). This way of understanding agency provides space for the agentic orientations of people to differ in different contexts and times.

In this formulation, agency is something that can potentially develop over time through a continual process of engagement and emergence. According to Archer (2000a), the capacity for agency emerges as individuals interact with the social (both cultural and structural forms as well as other people), practical and natural worlds. Thus people's potential for agency changes in both positive and negative ways as they accumulate experience and as their material and social conditions evolve. In line with the insights provided by Emirbayer and Mische (1998), such development is an ongoing process and has its roots in practical-evaluative activity. In Archer's view, 'our sense of self is prior and primitive to our sociality' (Archer 2000b, p. 13), but the emerging sense of self is heavily influenced by social interaction and by other experiences.

The insights provided by this literature on agency, were used to inform the analysis of the data from the *Curriculum Making* project. In particular, the following key ideas were utilised:

1. Agency can be understood in an ecological way, i.e. strongly connected to the contextual conditions within which it is achieved and not as merely a capacity or possession of the individual. Agency is achieved in particular (transactional) situations.
2. Agency can be understood temporally as well as spatially; thus analysis of agency should include insights into the past experiences

and the projective aspirations and views of agents, as well as the possibilities of the present.

3. Analytical dualism provides a methodology whereby the various components of each setting can be disentangled for the purpose of analysis. For example, one might investigate the causative influence of the capacity of individuals on a particular instance of agency, as well as the influence of contextual or ecological factors (including social structure, cultural forms and the material environment).

Research design

The data, upon which this article draws, were generated in a large urban secondary school in a medium sized town in Scotland. This was one of two associated sites (the other being a college of further education) that participated in the ESRC¹ funded research project, *Cultures of Curriculum Making in Scottish Schools and Colleges*. Within the project, the purposive role of the teacher was assumed as key to the enactment of the curriculum (Clandinin & Connelly, 1992, Bloomer, 1997). The project researched teacher curriculum making practices in the following three curriculum areas, drawing data from various Scottish Qualification Authority courses at Intermediate 2 (SCQF² level 5) and Higher (SCQF level 6) levels.

- Hospitality: practical cookery for the hospitality industry – Intermediate 2, teacher - Pauline (Woodland Academy); and professional cookery – Intermediate 2, teacher - Malcolm (Riverside College)

- Life Sciences: biology – Intermediate 2, teachers - Donald and Debbie (Woodland Academy); and biology – Intermediate 2, teacher - Isabelle (Riverside College).
- Technology: technological studies – Higher, teacher - Gerald (Woodland Academy); and mechatronics – Higher, teacher - Duncan (Riverside College).

Within each site, units of the same SCQF level were matched and studied. Units within the individual curriculum areas had similar or identical learning outcomes specified in the prescribed curriculum. The students on each unit were all 16-18. This was to enable as close a comparison across organisational sites as possible.

Data were derived from existing SQA unit descriptors, and cycles of classroom observations and interviews with staff and students on the selected units over the course of 2007-8. For each curriculum area, the teachers in the school and lecturers in the college were interviewed initially to obtain background information about their work experience and preferred approaches to teaching. These interviews were followed by two classroom observations, then further interviews to explore the practices of those classes. A further two observations and a final interview with each teacher were then carried out. Observations were carried out in light of the teachers' own descriptions of their approach to the curriculum. Interviews then explored any critical incidences or apparent inconsistencies between the prescribed, described and enacted curriculum. Focus groups took place with a sample of students after each classroom observation to explore the students'

perceptions of those classes and their own contributions to the enacted curriculum. Transcripts of individual interviews and focus groups, and observation notes were then subject to descriptive interpretation to produce detailed case studies of each case of curriculum making. These were then subject to thematic analysis for cross site comparison. Pseudonyms have been used for the school and college, and for individuals to protect the anonymity of respondents.

In analysing the data for this paper, we draw upon evidence of ecological agency being achieved by teachers within two case studies, seeking to identify how agency was achieved in each case. The case studies illustrate how these teachers were able to achieve agency in particular situations. These case studies are illuminative of ecological agency, rather than providing grounds for generalisation. Nevertheless, they provide a good basis for theorising teacher agency and for further research into these matters. A key question in framing these case studies in relation to agency is 'agency for what?'. Therefore we have chosen to focus on a particular common issue in the working lives of these teachers. This is their stated projective desire to teach educationally (to address wider educational issues) rather than instrumentally (for example, to get through syllabus content or simply prepare young people for exams).

Case studies

The school

Woodland Academy is a large co-educational comprehensive school comprising over 1600 students and over 120 teaching staff. The school is situated in a suburb of a large Scottish town, serving a predominantly prosperous catchment area. This is reflected in attainment in examinations in school years S4, S5 and S6 (equivalent to years 11-13). The school enjoys higher than national and local authority averages in attainment at all of these levels. It also has rates of absenteeism and incidence of free school meals that are lower than local and national average figures (LTScotland 2010).

Perhaps unsurprisingly given the socio-economic profile of the students, the school management placed, at the time of the research, a high premium on attainment as a measure of school effectiveness, making use of unofficial comparator league tables to assess the school's performance relative to other similar schools. The attainment agenda was a clear facet of the cultural ecology of the school, with the potential to influence in various ways the social practices of schooling. Our research suggests that this focus on attainment was translated, via actual or perceived projections placed upon teachers by middle managers, into approaches to learning and teaching practices. For instance, in one observed case, a teacher used statistical attainment data to exhort students to perform better. It was reported in one of the project briefing meetings that the evaluative use of summative assessment data even discouraged teachers from sharing resources with other schools lest these competitors used the resources to gain a competitive advantage. Here the projective aspirations of middle management become the ecological context for practical-evaluative practices on the part of teachers.

During site visits, observations and interviews suggested that a strong focus on attainment was contributing to academic drift in erstwhile practical subjects such as technology and hospitality, a trend identified in previous studies of the vocational curriculum (Edwards & Miller 2008). For example, there was evidence of high achieving students being actively recruited for the more academic Higher courses, and low achieving students being counselled to look elsewhere for courses. This included pressure on students deemed to be at risk of failing being directed towards the local college of further education, where they could sit similar courses to those being denied to them at school.

The school had, at the time of the research, a relatively new headteacher, who was widely credited by the staff as having improved student behaviour in the school. This was helping to create an ecology where learning and attainment were being substantially improved. It was evident on site visits that there was a calm and purposeful environment in the school. This had been further enhanced by the fairly recent move into a new building, which had a spacious and open atmosphere. Perhaps surprisingly, the new building lacked new technology in many classrooms, including data projectors and electronic whiteboards. We were also struck by the contrast in terms of teaching spaces between the school and the college. In the latter, laboratories and technology workshops tended to look like laboratories and workshops, with clear commercial and industrial influences. Conversely, in the school, such spaces tended to look like traditional classrooms, with some modifications to highlight their technology or science usage. Clearly, such differences in the teaching spaces formed part of the material ecology of the institutions in question, with clear implications for teaching practices. In a sense, we witnessed that the

material environment was one in which buildings were schooled as well as those working within them. These issues will be explored further in the case studies of individual teachers that follow.

Technology: experience, education, football – and exams!

The research followed the work of Gerald, with his class in Higher Technological Studies, from which students would be expected to progress into higher education rather than enter the workplace. Gerald had a background in industry. After leaving school, he completed a City and Guilds qualification in motor mechanics, subsequently working for 12 years in a naval yard. Following this, he undertook and completed a degree in engineering as a mature student. He then worked in electronics/engineering, eventually becoming a production manager. In the latter stages of this career, he was made redundant twice, leaving him to consider a career change. Positive experiences of previous voluntary work with young people led him to consider teaching. While at teacher education college, he developed an interest in pedagogy, which had been subsequently elaborated in school through his involvement in the development of formative assessment in line with Scotland's Assessment is for Learning programme (AifL)³. Gerald had worked at Woodland Academy since qualifying as a teacher. While he had extensive life and career experience, he was comparatively new as a teacher. This was something he credited for his enthusiasm for his job. Part of this enthusiasm was evident in his extra-curricular activity running a football team. Gerald appeared to be a popular teacher who enjoyed good relationships with his classes and with colleagues.

The department at Woodland Academy was 7 teachers in total. In general terms, policy implementation tended to follow a fairly hierarchical model. Directions were set within the faculty by the head in line with senior management priorities and reinforced by performance management procedures, including observed teaching by line managers. Within such confines, there was scope for procedural autonomy. Thus, there was a shared departmental philosophy about learning and teaching, but with some leeway for variations in individual practice. Gerald reported that there was generally a lack of time for (and a lack of an existing culture of) peer observation. This perhaps militated against dialogue about teaching and the development of shared practices. Nevertheless, there was some professional dialogue, primarily within departmental meetings and through informal discussions within the department, and generally a collegial and supportive environment. Departmental collaboration led to the production of schemes of work and the generation of strategies for teaching (e.g. peer assessment), approved by the faculty head. It also extended to staff with particular expertise in an area of the curriculum (for instance electronics) supporting colleagues who were less confident in the area. We therefore witness some grounds for collective as well as individual agency in drawing upon people's knowledge basis in the formulation of day-to-day practices.

In the course of the research, Gerald articulated firm and well considered views about learning and teaching based upon his past and present experience. He identified what he saw as the dangers of teaching decontextualised knowledge, including mathematics, and expressed a preference for a greater recourse to interdisciplinary teaching. He hinted at

what he saw as a balkanisation in the whole school curriculum (Hargreaves, 1994), especially in terms of the lack of coherence between subjects at any particular stage (for example maths skills being taught at different times in mathematics and technology). This concern led him to initiate some collaboration with colleagues outside of the department (for example, cross curricular dialogue to ensure that report writing was covered in English to meet the writing needs of departments such as technology). According to Gerald, such collaboration was part of a wider series of inter-departmental initiatives inspired by *Curriculum for Excellence* that were largely driven by collegial interaction and projective views of how the curriculum needed to be made, rather than by management policy.

This agentic activity sits in productive tension with the overall attainment agenda for the school. Department meetings tended to have a major focus on attainment and the dissemination of policy filtered from above. An example of this was provided by the involvement of the department in an AifL pilot study, which had attracted some funding. This led to the generation of strategies for peer assessment, including peer marking. This development was in tune with the pedagogical values of the staff in the department, including Gerald, who saw the benefits of such approaches in terms of promoting classroom dialogue. However, the wider impetus for this project was an Education Authority initiative, fuelled by senior management attainment-driven considerations. The cultural ecology of the school enabled teaching staff to be agentic in certain respects while at the same time fulfilling the narrow policy aims of the Authority and school.

Drawing from his past industrial experience, Gerald was also keen to position the study of technology as both practical but also an academic subject in order to give it status within the overall curriculum of the school.

Higher Tech is an academic subject. The practical aspect is there, to give the pupils a more holistic view of what the subject is about. It is not going from being a practical subject to being academic; it is an academic subject with practical elements to support what we are doing in an academic environment (interview, May 2008).

It was evident that the Higher course set the tone for what could be viewed as a process of academic drift in the department given the expected progression into higher education. This appears to be what Raffe (2008, p. 30) has termed the 'principle of downward incrementalism: that in an education system marked by successive decision or branching points, the later stages influence those before them'. There are two apparent strands to this phenomenon, which appear to explicitly relate to the status of the subject within the school. These are: the content, provision and pedagogy of the subject; and a policy of attracting the most academically able students into examination classes.

In terms of the first strand, Gerald was sensitive about technology being seen as a craft subject within the school. He talked about the 'ignorance' of other teachers, including those in guidance, about the breadth of the subject, and was critical of those who see design and technology as woodwork. He discussed recent changes to provision, whereby foundation Standard Grade (level 3, SCQF) had been replaced by a less academic craft course, with a focus on practical skills. The second strand is evident in several comments.

He talked openly of the strategies used by the department to persuade more able students to take technology at Higher level, including filtering out 'inappropriate children'. This included scrutinising grades in mathematics and physics and 'calmly steering' less able students away from the subject. Such policy seemed to be due in part to pressure from senior management and the Local Authority to raise attainment. Gerald suggested:

There's the pressure from above, and I'm not necessarily putting the blame on PT [principal teacher], and I'm not putting the blame on my Rector⁴, but there is a pressure and it comes right from the top. And it is all about attainment and it's all about getting this percentage of As and this percentage of Bs. [The pressure] comes initially from my PT who wants the department presented in a good light. He's getting pressure from the Deputy Rector, who looks after the faculty, and he's getting pressure from the Rector; the Rector is getting pressure from [the local authority], and [the authority] gets pressure from whatever strata [sic] is above that (interview, May 2008).

The dissonance between this top down view of constraints and his own actions as a teacher indicates an ecology within which differing priorities are kept in tension.

Gerald also espoused quite firm views about his teaching and students' learning, which appeared to be in some tension with the ways in which he was observed to teach. Describing this as differences between the described and enacted curriculum would seem to over-simplify what is a complex situation, where the agency of the teacher to teach as s/he wishes is circumscribed in

various ways by the context within which s/he teaches. It would seem to be more apt to explain the phenomenon in terms of tensions between the projective and the practical-evaluative (to draw upon the Emirbayer and Mische [1998] chordal triad previously discussed), where decisions about such practice are inevitably influenced by the practicalities of having to work within pre-defined assessment and school quality assurance frameworks. Gerald's projections about his teaching appeared to have their roots in his iterational industrial experience (a focus on experiential and relevant activities) and his experience as a youth worker (an emphasis on the relational aspects of classroom practice). These were manifested in his desire to make lessons fun.

The most important rule ... is to have fun. Coz if they're not having fun and they are not looking forward to coming in, then it's a burden on them (interview, May 2008).

He saw students as individuals and was critical of one-size-fits-all approaches to teaching. He emphasised the role of dialogue in learning, and stated the desire to do more practical work. However, in the majority of lessons observed, the experiences of the students were driven primarily by the demands of getting through the syllabus, even where this was plainly not what the teacher saw as an educational experience for students. Three of the four observed lessons were largely teacher-led, with an emphasis on listening, taking notes and answering questions by students. Moreover, comments from the student focus group added weight to the view that teaching in this course was mainly focused on getting through the content as defined by the syllabus.

Gerald was quite open about this apparent disjuncture between espoused projections and enacted practice, pointing to a number of factors that impacted on his teaching. These included lack of time, the fragmented nature of timetabling (short periods), lack of equipment, the lack of a technician (which placed further pressure on the teacher's already limited time) and the attainment agenda. In this latter case he stated that:

At the end of the day, you're not going to be tested on your ability to wire an element', just on 'your knowledge ... ultimately it is all about results (interview, May 2008).

Gerald's manoeuvrability was framed as constrained by things that were lacking; a culture of deficits within which he expressed unfulfilled projections and various 'work arounds'.

A net result of such pressures was a style of teaching based around notes. We emphasise here that Gerald had taken the proactive step of developing his own notes to address what he saw as shortcomings in the Scottish Qualification Authority notes. However, despite this action, the use of notes supported teaching that was geared to meeting the demands of the prescribed curriculum in the arrangements documents and the learning of subject matter tested at the end of the year. Ultimately his teaching was set up to prepare students for answering exam questions; this included the teaching of formulaic strategies. While he clearly did not like this 'crime of teaching to the exam' which he contrasted with 'education', he saw little alternative. As he stated, the exam content is fairly predictable from year to year; and he was 'pretty good at predicting a test and teaching to it'.

Moreover, despite his support for more interactive modes of teaching, the pressure was on him to do just this:

Maybe I am not brave enough to take that risk. At the end of the day, I am judged on my results. And I know that one way of getting results is to teach to the test (interview, May 2008).

One could view Gerald as merely positioned as the object of the school's policy, simply implementing that which is decided elsewhere, subordinate to the cultural ecology of the school. However, the constraints do not undermine completely the possibilities for agency in the enactment of the curriculum; our data suggest that Gerald's achievement of agency draws to a large degree upon prior experience, accrued before he became a teacher. In a temporal sense, the projective aspect of agency is shaped by the iterative, but constrained by the practical-evaluative. In other words, his aspirations in curriculum making are influenced by his prior experiences in industry, but his repertoire for manoeuvre is circumscribed by the present context in which he works.

Biology: a tale of two teachers

This case study is atypical as it covers a unit of work taught by two teachers over the period of the research. The first teacher Donald was the permanent biology teacher, who became absent following an accident at an early stage of the research. The case study thus largely focuses on Debbie, a relief teacher who took the class up to Christmas. This change of personnel marked a major transition and transformation in the learning experiences of the students. It illustrates starkly the differences that two individuals, with quite

different biographies, might bring to bear on the same ecology for teaching. The ensuing description focuses primarily on Debbie, particularly the manner in which she achieved agency in the teaching of Intermediate 2 (SCQF level 5) biology.

Donald had embarked on a career in teaching by default. He admitted that when he was younger, he had thought teaching was amongst the worst jobs that anyone could do. He completed a degree in human biology, followed by a post graduate course in Biotechnology. He did not enjoy the research element of this latter qualification, but had gained satisfaction from demonstrating to students. This, combined with uncertainties about the availability of long-term work in research, led him to consider teaching as a career anew. He was attracted to teaching because of the career structure and the security of gaining a certain status:

you've got a qualification in something. You become a teacher. So that's always quite handy 'cause it's, you know, what you gonna do (interview, August 2007).

It is thus evident that Donald matched the career trajectory of many secondary school teachers. He moved from school to a university degree, followed by a later decision to train as a teacher via a post-graduate, one-year certificate, then returned to school as a teacher.

In contrast, the relief teacher Debbie, who arrived at the school in October 2007, had a very different background:

I used to be an agricultural biologist....and I had my kids and then I did some voluntary work in schools and then some .. er ... special educational needs stuff in playgroups and primary, and then up here as an auxiliary and then changed (interview, November 2007).

Her industrial experience included research and development in both the laboratory and out in the field. Her educational and training route into teaching differed sharply from Donald's trajectory. When she left school, she initially got a job, before completing qualifications at a college of further education, which allowed her to access a university degree programme in life sciences. This second chance education allowed her to gain her employment as a scientist, and subsequently to train as a teacher. The iterational differences between the two teachers, marked also by their gendered career trajectories, enabled them to engage differentially with the ecological culture of the school.

The biology department was described as collegial by both teachers, although it was commented that not all used the staff base, a common area for all the science subject teachers. Within the wider science faculty, a clear biology identity was evident. The core team of biology teachers appeared to form a relaxed and creative team, with a friendly and supportive principal teacher, who was both well-organised and happy to delegate responsibilities for particular administrative and development tasks. As with technology, raising attainment was an important and highly visible factor in the department. As was the case with Gerald and his colleagues, Donald and Debbie both talked positively about the new head teacher's role in improving discipline.

However, differences between these teachers in their approaches to teaching are significant. Donald described his approach to teaching as relaxed, although he stated also that he set out the boundaries for students in terms of discipline early on. He described his teaching in terms of a performance...

Donald: it's an act, it's a show.I think that if it's enjoyable then you learn more.

Researcher: So how do you do that...?

Donald: I don't know, I ..dance...oh, I don't know, do silly voices, sing... (interview, August 2007).

These performances were designed to make the classroom experience more enjoyable for students, helping them to remember the content. He wrote booklets, based upon the Scottish Qualification Authority prescriptions, incorporating all the relevant information and tasks for students. He also drew upon past exam papers, as he thought that it was difficult to know everything the students might be tested on from the arrangement documents. His stated aim was to make the course as short and concise as possible, partly in response to students' perceived lack of motivation. This seemed to result in what he called a 'lead from the front approach', which incorporated didactic methods, demonstrations and use of PowerPoint, but not practical work by students. He justified this approach by stating that students at the level of the course do not like doing practicals, although student focus group discussion indicated a contrary view. He was very careful that they learnt the specific terms for the content they were covering. As he went through the PowerPoint presentations, the students filled in the correct answers in their booklets.

Donald seemed to enact a constrained form of agency framed by unsubstantiated projections upon students and a desire to maintain control through a mixture of performance and discipline. In other words, his spaces for action are self-limiting by the presumptions he brings to his teaching and his ways of interaction with the students.

The lessons taught by Debbie that were observed as part of the research were quite different. For example, the first lesson revolved around a practical activity undertaken in groups. This was an experiment to extract DNA from a kiwi fruit. Each group got an instruction sheet. Debbie started by getting them thinking about what they were going to do and how. She also put a mathematics problem on the board which related to the theme of the practical:

Calculate how many times to the moon and back a human's DNA would reach if it was removed from each cell and each strand laid end to end.

This provided an alternative activity to do while waiting for the results of the experiment. During the activity, the teacher circulated, checking student progress and interacting informally with them. During this process, she continually posed questions about the tasks, and reminded them to think about why they were doing what they are doing. She did not give the answers, but instead required students to work these out in their groups. While the students were waiting for the experiment to work she asked them about the purpose of the different processes and materials they had been using. She then turned to the problem on the board and asked one student to come to the front of the class and show how she had worked it out. She reminded the

students to always show the process in their written answers, as these help to accrue marks in an examination even if the final answer is incorrect.

The ensuing observed classes followed a similar pattern, involving regular opportunities for high-level thinking, interactive and structured working in groups and variety in terms of pedagogical methods. Debbie regularly utilised formative assessment, including peer assessment, and she used various visual props to stimulate discussion and activities. It was clear that she was popular with students; in her final lesson, some were visibly upset at her leaving.

It is interesting to consider the very different approaches from these two teachers to dealing with what is, contextually at least, the same situation. Both teachers were aware of and stated that they sought to address the school's explicit attainment agenda through enhancing the examination results in the group. Both teachers were teaching similar content to the same group of students undertaking the same qualification. The differences are evident in the teachers' espoused views about education, and rooted in their prior experiences. Both the iterational and projective aspects of agency impact upon the practical-evaluative curriculum making in which they engaged. Donald adopted a convergent approach to his teaching, seeing it as the transmission of essential content that is predetermined by the teacher, and necessitating students memorising such content. He exhibited a deficit view of students, making references to a lack of motivation. This is reflected in his desire to be a performer in the sense of entertaining the class. Such an interpretation should not be seen as a criticism of Donald's professionalism. It

is clear from the observations and interviews that he believed in the importance of engaging the students and making the lessons as rewarding as possible. This was achieved partly through providing an entertaining performance, but also through providing notes which were to the point and easily worked through. However, his agency in curriculum making relied upon a traditional and commonplace view of students as passive receivers of knowledge, and teachers as authorities to impart such knowledge. We suggest that Donald's iterative past – a career trajectory formed primarily within educational institutions – constituted a narrower basis for projective aspirations than was the case with Debbie, and this in turn meant that his capacity to make the curriculum was more limited in the face of practical-evaluative constraints. We would therefore argue that his agency to challenge received wisdom was constrained. Conversely, Debbie drew more explicitly upon her life experiences, notably her own learning at school, her voluntary and special needs work in playgroups, primary and secondary, and the experience of bringing up her own children. She believed that people learn more readily when they are not being shouted at or simply copying stuff off the board. Her philosophy was one of divergent learning, of opening up possibilities for learning through structured experiences and the promotion of thinking and dialogue. Underpinning with these strategies was a belief that students had innate potential, and that her job was to unlock such potential; a marked contrast to the student deficit views apparent elsewhere. These iterational and projective dimensions to her work both led her and resulted from engagement with the students and the material context of the classroom, thereby expanding the possibilities for curriculum making.

Curriculum making and agency

This concluding section of the paper draws upon the theoretical literature on agency and the empirical data outlined in the case studies to draw some inferences about teacher agency. Inferences are all that are possible given the small scale of the study. The experiences and activities of the teachers in our research provide some fascinating insights into the processes by which teachers engage in curriculum-making in their classroom, demonstrating how the prescribed curriculum, represented in this case by the SQA examination syllabi, are translated into the enacted curriculum, the day to day practices in their classrooms. In order to undertake this analysis, we primarily utilise Emirbayer and Mische's (1998) chordal triad, commencing with the teachers' projective future aspirations.

It is clear that two of our three teachers were greatly concerned with the provision of a curriculum that was educational as opposed to instrumental. Both Gerald and Debbie espoused strongly held views that education should not be narrowly focused on exams. Their projections also supported the need for suitable educational methods that should encompass experiential, dialogical and student centred approaches, engaging students more widely and enabling them to develop thinking skills and to make links within and between their different areas of study. Our third teacher, Donald, espoused more narrowly focused projections. His teaching was mainly geared to motivating students and raising attainment. Put simply, Donald did not achieve practical-evaluative agency in respect of broadening the scope of the educative experiences of his students because he harboured few or no

aspirations in this respect. Given his biography, it might be suggested that he had fewer and more limited iterational experiences in his past to draw upon in developing curriculum making. We would also tentatively conclude from this, therefore, that a well articulated educational philosophy related to the wider purposes of education is a necessary but not sufficient condition for the sorts of agency that might enrich or challenge the official discourses in this school.

A second element of the projective future imaginings lies in evaluations of risk. According to Doyle and Ponder (1978), rational assessment of cost/benefit plays a large part in teacher decision making. This element is certainly evident in Gerald's approach to curriculum making. He was absolutely explicit about the risks involved in developing pedagogy that might impact on examination results. In Gerald's case, the implication was clear that he should go for tried and tested methods despite the obvious dissonance with his views on education. This manoeuvre between repertoires (Biesta & Tedder, 2006), a carefully considered weighing up of alternatives, is illustrative of the active role of human reflexivity in agency, and of inner dialogue (Archer, 2000b). However, such a position cannot be ascribed to Debbie, whose teaching appeared to be bolder and more experimental in its strategies. She seemed to draw expansively upon a wider range of repertoires in manoeuvring between her projective and practical-evaluative approaches to curriculum making.

In order to explore why these differences occur, it is necessary to focus on the experiences of the two teachers who espoused such aspirations. The practical-evaluative elements that impact on the decision-making processes of

these teachers are significant. It is clear from the data that this school was one where attainment was highly valued. This discourse was held in place by various school and external structures. These included internal systems for quality assurance, including procedures for identifying and addressing poor performance by teachers and departments, as well as the existence of statistical data compiled nationally in the form of unofficial comparator league tables. It was clear that Woodland Academy was a well-organised school where such issues were pursued rigorously. The nature of this ecology goes a long way to explaining the subsequent behaviour of teachers in curriculum making. Such structures and systems exert causative influences on teachers, with emergent consequences: projections of risk, circumscribed social practices in department and classrooms and the development of values towards education. We emphasise here that this is not a form of social determinism. Within each social situation, there is always room for manoeuvre, and this is evident from the differing approaches of different teachers to similar teaching contexts. Furthermore, the existence of teacher initiated developments, such as the cross-curricular report writing project instigated by Gerald, suggests that there was still scope for teacher agency in curriculum-making, albeit that it is often circumscribed and largely procedural.

The iterational aspect of agency seems to be especially significant. It is evident that the two teachers (Gerald and Debbie) who espoused broad, educational aspirations in respect of their teaching shared similar past experiences both in terms of work and extra-career activities. Conversely, Donald, with his more traditional trajectory into teaching, exhibited different aspirations. While we clearly cannot generalise from such a small project, we

are able to note the direct correspondence in the cases of Gerald and Debbie between their previous professional lives and their aspirations for their teaching. Put bluntly, these teachers were able to bring to bear their often rich past experiences in tailoring rich and meaningful educational experiences for their students as their projections were not solely circumscribed by the cultural ecology of schooling in general and their particular school.

We conclude this analysis with three points, one specific to these cases, and two general. First, the analysis does not explain why one teacher with rich prior experience and strongly held views about education was able to translate this so strongly into her teaching, whereas the other was less successful. It is likely that the answer lies in the personal biographies of the teachers concerned. Perhaps Gerald's putative protestant work ethic makes him less likely than Debbie to rock the educational boat. Perhaps the temporary nature of her contract made risk-taking more viable. Or maybe the newness of her position in school meant that she was less enculturated by dominant school mores and cultural patterns than were her colleagues. Our data do not provide answers to these questions.

Second, we conclude that the success or otherwise of externally initiated educational change, as judged by narrow notions of fidelity to policy intentions, is highly problematic given the wide variety of ecological factors that potentially impact on such translations. Indeed agency can be seen validly as agency in opposition to policy. This raises the question 'agency for what?'. We have taken the view in this paper that teacher agency is largely about repertoires for manoeuvre, or the possibilities for different forms of

action available to teachers at particular points in time. These are dependent upon temporal aspects – the iterative and projective, as well as the practical evaluative possibilities afforded by the material and social configurations of the present context. In the case of our three teachers, we see varying potential for agency, framed by ontogeny (the iterative), the possibilities created from this for aspirations about education (the projective), and enacted within the complex and contingent possibilities of the present (the practical-evaluative). And of course we should not forget that such agency may be achieved to enrich current school discourses, or to challenge them.

Third, a consequence of this is that educational policy, especially when it requires changes to the social practices of teaching, needs to be designed to be more flexible, taking more account of teacher agency, and especially teachers' proactive and projective engagement with the policy in question. This in turn requires further research and theorising into how agency is achieved in schools, and into how the potential for teacher and student agency in curriculum making specifically for educational purposes might be enhanced.

Acknowledgement

We wish to acknowledge the constructive and insightful feedback provided by three anonymous reviewers and the journal editors. This has helped us to frame and improve the arguments presented in the paper. The paper is based on a research project, 'Curriculum-Making in School and College', funded by the Economic and Social Research Council (RES-000-22-2452). Our thanks also go to the staff and students who made this project possible.

References

- Archer, M. (1988). *Culture and agency: The place of culture in social theory*. Cambridge: Cambridge University Press.
- Archer, M. (1995). *Realist social theory: The morphogenetic approach*. Cambridge: Cambridge University Press.
- Archer, M. (1998). Realism and morphogenesis. In M. Archer, R. Bhaskar, A. Collier, T. Lawson & A. Norrie (Eds.), *Critical realism: Essential readings* (pp. 356-382). London: Routledge.
- Archer, M. (2000a). *Being human: The problem of agency*. Cambridge: Cambridge University Press.
- Archer, M. (2000b). Realism and the problem of agency. *Journal of Critical Realism*, 5, 11-20.
- Ball, S.J. (2008). *The education debate*. Bristol: The Policy Press.
- Biesta, G.J.J. (2004). Education, accountability, and the ethical demand; Can the democratic potential of accountability be regained? *Educational Theory*, 54, 233-250.
- Bloomer, M. (1997). *Curriculum-making in post-16 education: The social conditions of studentship*. London: Routledge.
- Bhaskar, R. (1998). Societies. In M. Archer, R. Bhaskar, A. Collier, T. Lawson & A. Norrie (Eds.), *Critical realism: Essential readings* (pp. 206-257). London: Routledge.
- Biesta, G.J.J & Tedder, M. (2006). *How is agency possible? Towards an ecological understanding of agency-as-achievement. Working paper 5*. Exeter: The Learning Lives project.

- Biesta, G.J.J. & Tedder, M. (2007). Agency and learning in the lifecourse: Towards an ecological perspective. *Studies in the Education of Adults*, 39, 132-149.
- Bourdieu, P. (1977). *Outline of a theory of practice*. Cambridge: Cambridge University Press.
- Clandinin, D. & Connelly, F. (1992) Teacher as curriculum maker. In P. Jackson (Ed.) *Handbook of research on curriculum*. (pp. 363-401). New York: Macmillan.
- Cuban, L. (1988). Constancy and change in schools (1880s to the present). In P.W. Jackson (Ed.), *Contributing to educational change: Perspectives on policy and practice* (pp. 85-105). Berkeley: McCutchan.
- Cuban, L. (1998). How schools change reforms: Redefining reform success and failure. *Teachers College Record*, 99, 453-477.
- Dépelteau, F. (2008). Relational thinking: A critique of co-deterministic theories of structure and agency. *Sociological Theory*, 26, 51-73.
- Doyle, W. & Ponder, G.A. (1977). The practicality ethic in teacher decision-making. *Interchange*, 8, 1-12
- Edwards, R. & Miller, K. (2008). Academic drift in vocational qualifications. *Journal of Vocational Education & Training*, 60, 123-31.
- Edwards, R., Miller, K. & Priestley, M. (2009). Curriculum-making in school and college: The case of hospitality. *The Curriculum Journal*, 20, 27-42.
- Elmore, R.F. (2004). *School reform from the inside out: Policy, practice, performance*. Cambridge, Mass.: Harvard Education Press.
- Emirbayer, M. & Mische, A. (1998). What is agency? *The American Journal of Sociology*, 103, 962-1023.

- Fenwick, T. & Edwards, R. (2010). *Actor-network theory in education*. London: Routledge.
- Foucault, M. (1980). *Power/knowledge*. Brighton: Wheatcheaf.
- Fuchs, S. (2001). Beyond agency. *Sociological Theory*, 19, 24-40.
- Fullan, M. (2003). *Change Forces with a Vengeance*. London: RoutledgeFalmer.
- Giddens, A. (1984). *The constitution of society: Outline of the theory of structuration*. Cambridge: Polity.
- Goodson, I.F. (2003). *Professional knowledge, professional lives*. Maidenhead: Open University Press.
- Goodson, I.F. & Marsh, C.J. (1996). *Studying school subjects: A guide*. London: The Falmer Press.
- Hayward, L., Priestley, M. & Young, M. (2004). Ruffling the calm of the ocean floor: Merging practice, policy and research in assessment in Scotland. *Oxford Review of Education*, 30, 397-415.
- Kelly, A. V. (1999). *The curriculum: Theory and practice*, 4th edition. London: Sage.
- Leander, K.M. & Osborne, M.D. (2008). Complex positioning: Teachers as agents of curricular and pedagogical reform. *Journal of Curriculum Studies*, 40, 23-46.
- Levin B. (1998). An epidemic of education policy: (What) can we learn from each other? *Comparative Education*, 34, 131-141.
- Miller, K., Edwards, R. & Priestley, M. (2010). Levels and equivalence in credit and qualifications frameworks: Contrasting the prescribed and enacted

- curriculum in school and college. *Research Papers in Education*, 25, 225-243.
- Osborn, M., Croll, P., Broadfoot, P., Pollard, A., McNess, E. & Triggs, P. (1997). Policy into practice and practice into policy: Creative mediation in the primary classroom. In G. Helsby & G. McCulloch (Eds.), *Teachers and the national curriculum* (pp. 52-65). London: Cassell.
- Paechter, C. (1995). *Crossing subject boundaries: The micropolitics of curriculum innovation*. London: HMSO.
- Pignatelli, F. (1993). What can I do? Foucault on freedom and the question of teacher agency. *Educational Theory*, 43, 411-432.
- Priestley, M. (2011). Schools, teachers and curriculum change: A balancing act? *Journal of Educational Change*, 12, 1-23.
- Raffe, D. (2007). Making haste slowly: The evolution of a unified qualifications framework in Scotland. *European Journal of Education*, 42, 485-502.
- Reeves, J. (2008). Between a rock and a hard place? A Curriculum for Excellence and the quality initiative in Scottish schools. *Scottish Educational Review*, 40, 6-16.
- Rose, N. (1999). *Powers of freedom*. Cambridge: Cambridge University Press.
- Sarason, S.B. (1990). *The predictable failure of educational reform*. Oxford: Jossey-Bass Publishers.
- Scottish Executive (2006). *A Curriculum for Excellence: Progress and proposals*. Edinburgh, Scottish Executive.
- Senge, P. & Scharmer, C.O. (2006). Community action research: Learning as a community of practitioners, consultants and researchers. In P.

- Reason & H. Bradbury (Eds.) *Handbook of action research* (pp. 195-206). London: Sage Publications.
- Siskin, L.S. (1994). *Realms of knowledge: Academic departments in secondary schools*. London: The Falmer Press.
- Spillane, J. (1999). External reform efforts and teachers' initiatives to reconstruct their practice: The mediating role of teachers' zones of enactment. *Journal of Curriculum Studies*, 31, 143-175.
- Stenhouse, L. (1975). *An introduction to curriculum research and development*. London, Heinemann.
- Storey, A. (2007). Cultural shifts in teaching: New workforce, new professionalism? *The Curriculum Journal*, 18, 253-270.
- Supovitz, J.A. (2008). Implementation as iterative refraction, in J.A. Supovitz & E.H. Weinbaum (Eds.), *The implementation gap: Understanding reform in high schools* (pp. 151-172). New York: Teachers College Press.
- Tyack, D. & Cuban, L. (1995). *Tinkering toward utopia: A century of public school reform*. Cambridge: Harvard University Press.
- Usher, R. & Edwards, R (1994). *Postmodernism and education*. London: Routledge.
- Vongalis-Macrow, A. (2007). I, Teacher: Re territorialisation of teachers' multi-faceted agency in globalised education. *British Journal of Sociology of Education*, 28, 425–439.
- Wallace, C. & Kang, N-H. (2004). An investigation of experienced secondary science teachers' beliefs about inquiry: An examination of competing belief sets. *Journal of Research in Science Teaching*, 41, 936-960

Young, M.D.F. (1998). *The Curriculum of the future: From the 'new sociology of education' to a critical theory of learning*. London: Falmer Press.

¹ Economic and Social Research Council, project reference RES -000-22-2452.

² SCQF is the Scottish Credit and Qualifications Framework. Level 5 (Intermediate) qualifications are equivalent to England's GCSE courses (A-C) and level 6 (Higher) are equivalent to England's AS level. The Higher is considered to be the gold standard in Scottish schools, often providing entry to university courses.

³ AifL was initiated in 2001 to articulate an holistic and coordinated policy for assessment in Scotland's schools (see Hayward *et al.*, 2004). The programme comprised 10 individual but interrelated projects, across three broad areas of development: Professional classroom practice; Quality assurance of assessment information; and Monitoring and evaluating using assessment data.

⁴ Rector is a commonly used term for head teacher in Scottish secondary schools.