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## Codes, pedagogy and knowledge

### Advances in Bernsteinian sociology of education

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#### Introduction

The intractability of working-class failure has remained an unresolved issue for the sociology of education over the last forty years. Although some inroads have been made in understanding *how* inequality is engendered through schooling (and through pedagogy in particular), in ongoing developments in curriculum policy globally, knowledge, or ‘the what’ of schooling, is perennially left out, even as global achievement comparisons such as TIMSS and PIRLS (Progress in International Reading and Literacy Study) highlight its salience. The policy trend towards expressing the objects of learning in generic, outcomes or skills-based terms in curricula systematically avoids an engagement with knowledge. Curriculum studies and sociology of education in the twenty-first century cannot continue to avoid interrogating what children know and don’t know. Thus far, it has been silent on the issue. In what follows, we offer a broad outline of the development of the sociological theory of Basil Bernstein, explaining how the development of his ideas across a period of forty years has progressively generated theoretical resources to explore not just how students learn, but what they learn. This theory has brought the question of the what and the how of teaching and learning to the forefront. In this way, Bernstein’s theory offers a theoretically informed approach to the awkward question of the intractability of unequal schooling outcomes.

#### Code theory

Pedagogy is a formal, state-controlled medium for specializing the consciousness of young people. Code theory provides a grammar for an analysis of how consciousness is differentially specialized. For Bernstein, this grammar was necessary to explain the difference between middle-class and working-class success in schooling.

‘Code’ refers to an orientation to organizing experience and making meaning. The initial work on codes examined the relation between social class, maternal modes of control and communicative outcomes (Bernstein and Brandis, 1970; Bernstein and Henderson, 1969;

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Henderson, 1970). Through this early work, Bernstein sought to investigate how different forms of socialization acted differentially upon the speech forms acquired and used by different social classes. These different kinds of language were hypothesized to have differential potential for learning at school. In order to analyse speech patterns, a linguistic theory had to be selected. Bernstein (1973: 73) describes how he deliberately decided not to use Chomsky's transformation grammar, which was dominant at the time, as this theory divorced linguistics from semantics and it was thus not appropriate to a study where the major enquiry was about the relationship between the social structuring of relevant meanings and the form of their linguistic expression. Halliday's linguistic theory, on the other hand, satisfied the requirements created by the sociological aspects of the thesis, as it put forward a set of interrelated linguistic contexts in which the child is socialized into language. Bernstein selected four of these contexts: regulative, instructional, imaginative and interpersonal, and related them to Hasan's (1968) theory of cohesion, whether speech stands apart from its context so that the meanings are made explicit, or whether speech is a part of the context, so that it is necessary for the speaker to refer to the context of the speech or to the speaker's situation to understand the speech. This led to the working out of his concepts of elaborated and restricted codes.

In their original 'sociolinguistic' form, restricted codes are associated with particular grammatical and syntactical forms (generally simple, incomplete), as well as with more implicit meanings; elaborated codes are associated with the accurate grammatical and syntactical regulation of what is said, and with explicit meanings (Lee, 1973). The elaborated code allowed thus, by definition, the generation of context-independent meanings; the restricted code, contextual meanings. Further experiments consolidated the concepts. Hawkins (1969), for example, used a series of four pictures of boys playing with a ball, kicking the ball through a window and being scolded by an adult. He asked middle-class and working-class children to describe the pictures. He found that, for the middle-class children, verbal communication was explicit and could be understood without heavily depending on the context. For the working-class children, on the other hand, meaning was implicit and context-dependent, and relied largely on the listener's prior knowledge of the narrative content.

The theory showed that elaborated and restricted codes were realizations of particular control relations in the homes of children. The work of Cook-Gumperz (1973), in particular, gave empirical support to Bernstein's distinction between three modes of control: personal, positional and imperative. In middle-class homes, personal forms of control were largely found; in working-class settings, imperative modes predominated; and positional control was found in mixed-class families. Crucially, the personal and positional modes could overlap linguistically (Halliday, 1978: 82–83).

The concept of code underwent change and refinement. Whereas code, in the work discussed above, was used to refer to features of language only, in later work it was refined to refer to the principles of solidarity and communication regulating social life, what Diaz (2001) called the 'meaning matrices'. It is through these matrices that we select what is relevant to us in any given context, and with them that we organize experience. In this way, codes become the grids by which consciousness is specialized.

By this redefinition, elaborated codes refer to the prioritizing and deployment (or recognition and realization) of context-independent meanings, and restricted codes refer to the recognition and realization of context-dependent meanings; here, language is the *linguistic realization* of the code, rather than the code itself. One of the main studies exemplifying this shift was an experiment reported by Holland (1981). In this experiment, seven-year-old working-class and middle-class learners were shown pictures of different foodstuffs and were asked to group them

however they wanted. They were asked the reasons for their groupings. They were then asked to group the food a second time and to again provide criteria for the grouping. The experiment showed that working-class children mostly used context-dependent principles for their sorting, in that their groupings referred to personal and particularistic meanings (e.g. 'I like those things'; 'That is what mother cooks for breakfast.'). which generally referred to everyday use. They did not change their principles for sorting the second time, demonstrating a single (restricted) coding orientation. Middle-class children were found to respond to the task first by referring to general, non-context-dependent principles (e.g. a food category), and, in a second grouping, to more personalized, local meanings. They thus demonstrated two coding orientations, elaborated and restricted, where context-independent meanings were privileged for the school context. Thus different social class groupings were shown to display different coding orientations. It was argued that the focus of the child's selections were not a function of the child's IQ or cognitive power, but rather a difference in the recognition and realization rules used by the children to read the particular context (the school), make selections (around what is appropriate given the context) and realize a particular text (their groupings of the food).

Bernstein's work was criticized for describing the restricted code, and, hence, working-class language, as deficient. Bernstein (1996: 182) rejected this interpretation, explaining that '[c]odes arise out of different modes of social solidarity, oppositionally positioned in the process of production, and differentially acquired in the process of formal education'. Restricted codes are necessary in convivial modes of everyday life, but the school requires an elaborated code for success. This means that working-class children have a double hurdle to clear, namely acquiring both the specialized knowledge of school, as well as the coding orientation with which to realize this acquisition.

### **Pedagogy – sociological studies of the classroom**

Bernstein developed a conceptual language to describe the elaborated code of the school, based on the core notions of classification and framing. Classification refers to the organizational aspects of pedagogy, the way in which *power* activates certain categories – of school subjects, agents, discourse and space. Framing, on the other hand, refers to the interactional aspects of pedagogy, the way in which knowledge is selected, sequenced, paced and evaluated in the classroom, regulating the moral order of the classroom and who has *control* over it. The distinction between power and control, unique in the discipline of sociology, allows for the description of the making (power) and the potential unmaking (control) of the social reproduction of inequality.

The early Bernsteinian studies of classrooms used the concepts of personal and positional relations and elaborated and restricted codes to describe the structure of pedagogy. Cooper (1976) and Edwards (1981) attempted to show differences between different types of classroom in terms of the social relations of control and the associated codes. The focus was on comparisons between different social class groupings of students. This work led Bernstein to clarify the particular meanings attributed to codes. He maintained that codes vary across universalistic/particularistic, context-independent/context-dependent and embedded/disembedded meanings continua (1996: 162). He also pointed out that, although there is a relation between forms of control and orientations to meanings, an elaborated code may be realized under either positional or personal modes of control. This has recently been given empirical support in work identifying optimal pedagogies for working-class student success (Lubienski, 2004; Hoadley and Ensor, forthcoming).

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Through these studies, the distinction between the moral order and the instructional order of the school and classroom was clarified. Bernstein's work had originally distinguished between an instructional dimension to pedagogy and a moral dimension, in the early terms 'expressive' and 'instrumental orders'. These aspects were brought back in the theorizing of classification and framing. In particular through the work of Pedro (1981), 'instructional' and 'regulative' *discourse* came to describe the transmission of specific instructional knowledge and skills, embedded in the normative moral order, or regulative discourse of the school. Pedagogic discourse was thus defined as an instructional discourse consisting of a number of dimensions, embedded in a regulative discourse.

At the level of the classroom, the instructional discourse was operationalized through describing strong or weak framing relations over selection, sequence, pace and evaluative criteria. The regulative discourse was examined by describing hierarchical control relations between transmitter and acquirer as operationalized through modes of personal and positional control. Strong framing relations were deemed to display modes of imperative/positional (that is, teacher) control, while weak framing was deemed to display personal (that is, learner) control. The hierarchical rules focused on the verbal elaboration between teachers and students. Bernstein in this way brought classroom processes to the fore in the sociology of education. In a key paper, Bernstein (1981) sketched a model for understanding pedagogic discourse and reproduction. This broad theoretical work continues to inform and has been developed by the work of a number of researchers concerned with explaining pedagogy in different contexts.

Most notably, the ongoing work of the Sociological Studies of the Classroom at the University of Lisbon (ESSA) (for example, Morais and Neves, 2001; Morais *et al.*, 2004) has focused on the micro processes in the classroom to explore the 'relations present in the context of reproduction of the pedagogic discourse' (Neves *et al.*, 2004: 280). The various authors show that specific aspects of pedagogic practice favour the development of the elaborated coding orientation required for learning context-independent school knowledge. Pedagogic modalities, designed in terms of success demonstrated in experimental studies, were then tested by trained teachers with learners from different social class backgrounds.

Key to this successful modality is 'explicating the evaluative criteria as the most crucial aspect of a pedagogic practice to promote higher levels of learning of all students' (Morais, 2002: 568). Making the evaluative criteria explicit consists of

clearly telling children what is expected of them, of identifying what is missing from their textual production, of clarifying the concepts, of leading them to make synthesis and broaden concepts and considering the importance attributed to language as a mediator of the development of higher mental processes.

(Morais *et al.*, 2004: 8)

The authors show how schooling *can* make a difference, and specify in what ways. Here is the crux of their argument, and the impetus for theirs and others' work:

When family codes and practices are in continuity with school pedagogic codes and practices, acquisition of the recognition and realisation rules appropriate to school contexts is facilitated by the elaborated orientation brought in by children. Similar power and control relations in the family and the school permit more efficient access to recognition and realisation rules in school contexts. This immediately gives an advantage to children whose processes of primary socialisation are regulated by pedagogic codes

similar to school codes. In general, these children tend to come from higher social or dominant ethnic groups. However, this situation can be altered by school pedagogic practices whose characteristics permit access to the school coding orientation.

(Morais and Neves, 2001: 213–214)

In addition to explication of the evaluative criteria, weak framing over pacing is identified as being crucial for facilitating access to school knowledge for working-class learners, creating the opportunity to individualize the rate of acquisition. In research into literacy pedagogy for 'indigenous learners', Rose (2004) likewise specifies the dimensions facilitating a weakening of the negative relation between social class and educational achievement: a weakening of the framing of pacing and sequencing rules, and a weakening of 'the framing regulating the flow of communication between the school classroom and the community the school draws on' (p. 106).

These findings have been confirmed elsewhere in studies that draw on the fine-grained and rigorous methodologies for coding and analysis of data developed by the ESSA group. What Davies and Fitz (2009) have called the 'anatomising of pedagogy' has led to a clear statement of what is important in the 'how' of pedagogy. In beginning mathematics, 'explicit evaluation criteria improve achievement gain for the sample, particularly teachers' use of error to provide explicit feedback on incorrect answers' (Reeves, 2005) and also for pedagogic disciplines where the criteria are traditionally tacit, such as cabinet making – 'criterial rules are very strongly framed through-out' (Gamble, forthcoming) – and in high school art – 'criteria need to be agreed upon, specified and made explicit' (Bolton, 2006: 73). Bernstein had said it clearly prior to this crop of empirical outcomes: 'We can see that the key to pedagogic practice is continuous evaluation' (Bernstein, 1996: 50). What allowed for comparability across a range of contexts was a common theoretical language, sufficiently developed for its empirical application and operating at a level of abstraction that allowed for commonalities to be discovered across the diverse settings of its application.

The differential pedagogic modalities that are deployed for different learners are an enduring concern across a broad range of contexts. Dooley (2001) examined the adaptation of pedagogy for Taiwanese migrant students in a state secondary school in Australia. She is particularly interested in the teacher–student relations realized in particular forms of classroom interaction. The main finding of the study was that differential pedagogic types were made available to Taiwanese, Chinese and other Asian students, compared with local students.

Singh (2002) examined the structuring of English curricular knowledge and forms of teacher–student interaction in secondary school classrooms in Queensland, Australia. Arnot and Reay (2004) focus on framing in the analysis of pupils' participation in their learning and on the consequences of contemporary pedagogic practice in a middle-class and working-class school in the United Kingdom. Hoadley (2008) shows how the gap between the school and the home for working-class learners is detrimentally closed by working-class teachers, who deploy a pedagogic modality akin to the restricted code orientation that students enter the school with. All these studies not only give empirical support to the inner logic of pedagogy, thereby revealing the structuring of inequality, but also suggest how that inequality might be pedagogically reversed.

The weight of the empirical evidence underlines the futility of current curriculum policy debates, most notably in the USA, South Africa and Australia, between 'learner-centred' approaches and the 'back to basics' lobbies. What works instead is a mixed pedagogy, especially for working-class students. The studies show what the mix should look like, and in all cases explicit evaluation is critical. We show below, in the subsequent development of the theory and the empirical work that has been generated by the framework, the issue of evaluation remains central to the theory.

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## The pedagogic device

In 1996, Bernstein published a terse and somewhat enigmatic statement of his theory in terms of what he called the 'pedagogic device'. This was an ambitious attempt to capture the role of education in the sociological big picture, reaching from social structure to individual consciousness. The pedagogic device consists of a hierarchical relation between three sets of rules – distributive, recontextualizing and evaluative – that together describe the process of the transformation of knowledge from the field of production of knowledge, to the field of recontextualization, to the field of reproduction in the classroom. In short, it is a description of the structure by which knowledge is transformed into pedagogic communication. The introduction of the device highlighted a number of important conceptual relationships in its attempt to offer a more abstract and general unified theory. It also introduced a number of important issues that had been somewhat neglected in the development of the theory.

Two issues are singled out here. The first is the issue of knowledge, which is elaborated further below. The distributive rules distribute different types of knowledge to different social agents. Knowledge types or structures, the 'what' of education in the field of production (the university), had as yet been insufficiently adumbrated. How these knowledge structures related to curriculum structures, or the recontextualized knowledge found in schooling, had also so far received limited attention. A second issue raised in the pedagogic device concerned the third level of rules – the evaluative rules. Bernstein talks about the device being 'condensed' in the evaluative rules. By condensation he means that, at this level (of the classroom, and through acquisition) it is possible to see what the work of the device has been – in other words, in terms of the distribution of what knowledge to which social groups. The 'what' of the distributive rules and the control over the process of transmission through the recontextualizing rules result in differential specialization of consciousness through acquisition. It is at the moment of evaluation that we see the extent to which the distributive rules (both in terms of instructional knowledge and social norms) have been realized. The evaluative rules bring the 'what' (classification) and the 'how' (framing) into a final relation to each other. They condense the device. It is only at the point of evaluation that we can see the mutual operation of the distributive rules and the recontextualizing rules. But what of the knowledge to be distributed? The theory had yet to describe how it differed in form, and its curriculum and pedagogical implications.

It is these two aspects of the pedagogic device – the question of knowledge structure introduced through the distributive rules and the acquisition dimension that inheres in the evaluative rules – that offer fruitful directions for future research. We discuss these two issues briefly below.

## Knowledge and the curriculum

The notion of the evaluative rules raises the question: evaluations of what? The answer – of the knowledge to be acquired – has mostly been avoided. Muller (2007) has argued that in any discipline there are a specifiable, necessary minimum set of incremental steps that must be pedagogically traversed, and each requires the necessary explicit evaluation. How to think about the 'what' of education entails turning to how this specification might be accomplished.

It was only late in his career that Bernstein turned to the question of what knowledge was, its structure and its social base. He draws a strong distinction between two basic classes of

knowledge: mundane or everyday knowledge, and esoteric or universal, principled knowledge. These two classes of knowledge are intrinsic to language, and they exist in all societies, even though their content may vary historically and culturally. A direct relation between meanings and a specific material base is termed horizontal discourse. In horizontal discourse, meanings cannot transcend their immediate context and so always refer to everyday or mundane contexts. Vertical discourse, by contrast, requires systematic ordering principles for the generation of meaning. The knowledge 'bits' fit together in a time and space not given by a specific context.

There are two forms of vertical discourse. They differ, first, by their form of conceptual advance (by their 'verticality') and, second, by their form of objectivity (their 'grammaticality'). As to the first: some knowledges tend towards robust, conceptually justifiable advances. Their knowledge structure is determined by their ever-advancing conceptual spine, which tends towards unity (which does not mean that there is only one conceptual spine in the knowledge structure: see Wignell, 2007). The curriculum implication of this type of conceptual advance is that these disciplines in their mature form develop long 'hierarchies of abstraction', which are best learnt in sequence under the guidance of specialists (mathematics and science are the most obvious examples). We may say that these disciplines are, in a specific sense, concept-rich. It is not that they necessarily involve large numbers of concepts. It is that they have long sequences of hierarchically related concepts. Getting stuck at any rung of the hierarchy usually means that conceptual learning stops. Other knowledges tend towards advance through variation or diversification of concepts; this, however, is less about concepts than it is about different contents or content-clusters, although there is usually a macro-conceptual organizing principle (the 'past' (or more abstractly time) for history and 'space' for geography, for example) involved. Still others develop practically, by developing new skills. Practical development may refer to new practices within traditional manual crafts such as cabinet making or to new forms of conceptual practice such as software development or website design. Concepts, content and skills are embedded in each knowledge structure, but their relative salience is what differentiates them.

There has been a range of exploratory empirical work in relation to different knowledge structures and their pedagogical and distributional implications. Reeves and Muller (2005), for example, consider what a knowledge structure of mathematics looks like when translated into the South African school curriculum. Christie and Macken-Horarick (2007) reconstruct 'verticality' in subject English in the Australian curriculum. More broadly, Young and Gamble (2006) and Wheelahan (2007) examine issues of skills and their orderings in vocational education curricula, and Maton (2005) has been concerned with sociology and its weak grammar knowledge structure. Moore (2007) and Young and Muller (2007) consider the humanities and the question of knowledge growth in horizontal disciplines. This work has opened up the question of the relations between knowledge structures and their corresponding curriculum structures. School mathematics is not the same as the knowledge structure of the discipline of mathematics. What kinds of limit to recontextualization do the latter place on how the curriculum structure of mathematics is constituted? Two recent, edited volumes (Christie, 1999; Christie and Martin, 2007) show the substantial work and theoretical resources that the work of the systemic functional linguists has to offer in this regard. Interestingly, this returns the theory to its former strong links to the sociolinguists during the development of code theory. Again, based on the initial work of Halliday's functional grammar, the work offers fruitful ways in which specialist forms of knowledge can be identified and explored, connecting the linguistic object of study with the Bernsteinian sociological focus on social structure.

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The verticality of a particular knowledge structure places limits on its progression, sequencing and pace. This is the link to pedagogy: the more hierarchical a particular discipline, the more restriction on these dimensions of framing. Perhaps future research could involve a greater exploration of knowledge structure in relation to pedagogy. This might include both its moral and instructional content.

In conclusion: there have been significant methodological advances in this tradition, especially with regard to developing external languages of description to describe *transmission*. Perhaps a next stage of research might be to shift the focus to the evaluative rules, in order to develop similar methodologies for describing acquisition. It is at this level that an expanded notion of both instructional and regulative discourse can be considered, one that can take proper account of the distributive rules for different knowledge structures.

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