



Hordern, J. (2016) 'Grammaticality and educational research.' *British Journal of Educational Studies*, 65 (2), pp. 201-217.

This is an Accepted Manuscript of an article published by Taylor & Francis Group in British Journal of Educational Studies on 25/9/2016, available online at:

<http://dx.doi.org/10.1080/00071005.2016.1228824>

ResearchSPAce

<http://researchspace.bathspa.ac.uk/>

This version is made available in accordance with publisher policies.
Please cite only the published version using the reference above.

Your access and use of this document is based on your acceptance of the ResearchSPAce Metadata and Data Policies, as well as applicable law:-

<https://researchspace.bathspa.ac.uk/policies.html>

Unless you accept the terms of these Policies in full, you do not have permission to download this document.

This cover sheet may not be removed from the document.

Please scroll down to view the document.

Grammaticality and educational research

Jim Hordern

Bath Spa University

j.hordern@bathspa.ac.uk

Accepted copy of article to be published in British Journal of Educational Studies

Date accepted : 22.8.16

Grammaticality and educational research

Abstract

This paper uses Bernstein's concept of grammar to illuminate aspects of educational research. The relationship between internal and external languages of description in the production of disciplinary knowledge is examined. This leads to a reflection on the various factors both internal and external to the discipline of educational studies that foster and undermine forms of research knowledge.

Keywords: languages of description; disciplinarity; Bernstein

Introduction

The state of educational research and scholarship is a topic that continues to provoke substantial debate. It is acknowledged that the ‘field’ or ‘discipline’ of educational studies incorporates a wide range of research activity undertaken by an assortment of institutions, organisations and individuals for varying objectives (Lawn and Furlong 2007, Furlong 2013). In the UK research activity is undertaken by researchers working in universities, schools, colleges, charities, independent research organisations, governments, other public agencies, think tanks and other private sector organisations, and the forms of research involved range from large scale Randomised Controlled Trials and birth cohort studies to small scale ethnographic or interpretivist research enquiry undertaken by schoolteachers alongside their daily routines at school (Lawn and Furlong 2007; Furlong 2013).

Many academic disciplines are said to contribute to education, including the ‘foundation disciplines’ of sociology, philosophy, history and psychology, but increasingly others such as economics, geography and management science have played a role (Lawn and Furlong 2009). Furthermore, academics researching education are not necessarily housed in education departments, and may consider disciplines such as philosophy or psychology as their primary disciplinary ‘home’ (Oancea and Bridges 2009; Crozier 2009). While academics arrange their deck chairs as they see fit, research conducted outside academic institutions has grown significantly in the last twenty years (Furlong 2013; Moss 2015). Such research may or may not contribute to the same debates engaged in by academic researchers, ascribe to any disciplinary norms or criteria or indeed acknowledge the value of academic research on education (Hammersley 2005). Indeed, it can be argued that the policy context has progressively encouraged the growth of research that is highly sceptical about that which has been produced in universities previously (Moss 2015), with potentially substantive consequences for the role of the university sector in education (Furlong 2013). These trends are exacerbated by government policies on teacher education, which may increasingly destabilise education departments, as can be seen in England (Whitty 2014).

This paper draws on Bernstein’s notion of ‘grammar’ to illuminate further some of the challenges facing educational research. The notion of grammar, embedded within Bernstein’s broader sociology of knowledge, provides a means by which forms of research can be located within changing modes of knowledge production. By problematizing the relationship between the external and internal languages of description that constitute grammar (Bernstein 1999, 2000), and by relating these languages to the context of research activity and disciplinary development, it becomes possible to etch out tensions in the complex landscape of educational research. In so doing, the paper offers some reflections on the development of educational knowledge and the structure of the discipline of educational studies, and on steps that could be taken to strengthen a specialised body of educational theory. The discussion draws primarily on the context of educational research in the U.K.

Bernstein's notion of grammaticality and its significance for characterising research

In his paper on vertical and horizontal discourses Bernstein (1999) uses the notion of grammar to delineate between disciplinary knowledge structures. In the category of 'horizontal knowledge structures', some disciplines ('economics, linguistics and parts of psychology') are described as having a 'strong grammar', and others are described as having a 'weak grammar' (i.e. 'sociology, social anthropology and cultural studies') (ibid., p.164). Bernstein (1999, p. 164) suggests that strong grammar is represented by "explicit conceptual syntax capable of relatively precise empirical descriptions and/or of generating formal modelling of empirical relations'. The explicit conceptual syntax can be seen as the formula through which knowledge claims are organised, categorised and assessed within the discipline, enabling the accumulation of theoretical knowledge and the refutation of redundant theoretical postulates (Moore and Muller 2002; Bernstein 2000). While many of the horizontal language structures progress through empirical research, not all do. As Bernstein (1999, p. 164) notes 'mathematics and logic ...possessing the strongest grammars for the most part do not have empirical referents nor are they designed to satisfy empirical criteria'. This suggests that the role of empirical corroboration in development of the conceptual syntax can alternatively be assumed by forms of logical reasoning and exemplification.

In addition to the development of conceptual syntax there is another, related, characteristic of strong grammar. For Bernstein (1999, p. 164) 'strong grammars of horizontal knowledge structures (excluding mathematics and logic) often achieve their power by rigorous restrictions on the empirical phenomena they address', suggesting that a strong grammar is represented by a bounded sense of what is appropriate subject matter, and rules around the form of research inquiry. Those using a strong grammar are compelled to shape research processes according to particular criteria, while a weak grammar implies greater flexibility in the research design (Bernstein 2000, pp. 134-5). While the 'strong grammar visibly announces what it is' (Bernstein 1999, p. 164), the weakest forms of grammar risk leaving researchers unsure if they are actually engaging in disciplinary research or not.

It is important to delve a little deeper here into the nature of horizontal knowledge structures. The difference between hierarchical knowledge structures (of i.e. the physical sciences – Bernstein 1999, p. 159) and the horizontal knowledge structures (i.e. social sciences and others), is that horizontal structures have multiple 'specialised languages' (ibid.) which provide differing perspectives on disciplinary problematics. Often these differing perspectives or theoretical traditions engage with each other, competing to provide more powerful explanation of phenomena. The existence of multiple specialised languages suggests the possibility of multiple grammatical modalities existing within the same discipline. While one specialised language may have a relatively strong grammar, another may have a relatively weak one. Indeed, if we factor in the potential for a lack of strict boundaries around the phenomena to be researched, then it may be possible that the specialised languages do not address the same research topics or questions. On the other hand, each hierarchical knowledge structure (i.e. physics or chemistry) is characterised by a single unified specialised language that progresses through 'integrating propositions,

operating at more and more abstract levels' (Bernstein 1999, p. 162) and subsuming earlier now partially redundant postulates. The notion of grammar is considered largely irrelevant for such disciplines, at least for their 'accepted theories' (Young and Muller 2016, p. 126).

Moore and Muller (2002) and Muller (2007) elaborate on Bernstein's discussion of research to unpack the notion of grammar in greater depth. Grammar is constituted in the relationship between internal and external languages of description (Bernstein 2000; Moore and Muller 2002; Muller 2007), with the internal language (ILOD) comprising 'the syntax whereby a conceptual language is created' (Bernstein 2000, p. 132) and the external language (ELOD) 'the syntax whereby the internal language can describe something other than itself' (ibid.). Put as simply as possible, the internal language does the abstract conceptualisation, while the external language serves to corroborate or refute the abstractions and conceptualisations. The languages must be symbiotically related for knowledge to progress, as the internal language relies on the external for its activation (Bernstein 2000, p. 133), for the construction of 'what is to count as an empirical referent', 'how these referents relate;' and the translation of 'these referential relations back into the internal conceptual language' (Moore and Muller 2002, p. 633). The external language of description is the means by which research is undertaken, claims proved and disproved and the disciplinary stock of knowledge iterated.

Underscoring the inter-relatedness of the internal and external languages of description Bernstein states that "the external language of description must be derived from the internal language of description, otherwise it will not be possible for this internal language to describe anything except itself" (2000, p.135) and 'the descriptions of the internal language should be capable of going beyond the descriptions created' (p. 135) by the external language. The languages cannot exist without each other; the 'surplus element' (Moore and Muller 2002, p. 634) or 'surfeit' of descriptions that each produces is essential for a disciplinary body of knowledge to progress. New descriptions and explanations generated must be adjudged against existing disciplinary knowledge, using established and recognised procedures (Winch 2010; Muller 2014). Closing, or making sense of, the 'discursive gap' in which the surfeit of descriptions are located is the constant challenge of disciplined inquiry (Moore and Muller 2002; Bernstein 2000; Muller 2007).

So how does this work in a research enquiry? Moore and Muller (2002) assert that 'every investigation requires the construction of an external language of description that consists of empirical categories that can unambiguously be translated into the conceptual categories of the internal language' (p. 634); the external language functions as a 'data-near device' (ibid.). The ELOD must 'not only be able to describe what is outside the theory in terms relevant to the theory, but also somehow be capable of recognising what is beyond the theory', thus having the capacity to 'open the categories of the external language, but also the conceptual relations of the internal, to possible modification' (Moore and Muller 2002, p. 634). This suggests a form of sensitivity to data analysis that is cognisant of not only the internal theoretical structure but also the boundaries and weaknesses of that structure, so that theory can be extended in the light of new data. While Bernstein's own work can be seen as exemplifying this regard for the symbiotic relationship between the ILOD and the ELOD (Moore and Muller 2002), it is also strongly characteristic of others working with

Bernsteinian concepts. The work of Morais and Neves (2011) on ‘mixed pedagogic practice’ (193) demonstrates this interplay between iterations of empirical categories and the underpinning theory, as their pedagogic model is refined ‘to reach a higher degree of precision’ (203) through application in a range of educational contexts.

The co-dependence of the two languages of description needs a little more probing here. Bernstein’s model suggests that the weakening of either the ILOD or the ELOD could result in the concomitant weakening of the related language of description. Thus if an ELOD is inadequately developed the ILOD will not continue to be subjected to the critique and refinement it deserves. Similarly, if an ILOD is inherently weak, attempts to construct a stronger form of ELOD may only have limited effects. It is possible that researchers, cognisant of the weakness of a disciplinary ILOD, construct forms of ELOD that seek to build stronger conceptual structures through engagement and substantive modification of the existing ILOD. They may, however, meet with some resistance from those who seek to defend existing dominant theoretical positions or ‘specialised languages’. In essence, a weak form of ILOD is likely to be only strengthened incrementally, unless the ILOD is so weak that a form of paradigm shift occurs, resulting in a new form of ILOD.

An important aspect of grammar which deserves emphasis is indicated in Bernstein’s (1999) connection between strong grammar and ‘visibility’. An advantage of a strong grammar is that disciplinary processes and procedures are transparent and, arguably, readily accessible to novices coming to the discipline. Scientific method is explicit and can be acquired by anyone prepared to employ sufficient effort – the rules are transparently recognisable and realisable (Bernstein 2000; Muller 2007). Thus disciplinary communities can engage systematically in a process of claiming and counterclaiming, with a reasonable level of agreement around what is admissible as strong evidence to support or refute particular claims to knowledge. However, in a discipline with a weaker grammar the rules are less perceptible – there is more fluidity around acceptable modalities of the ELOD and the contribution to the ILOD is less straightforward. Bernstein (1999) suggests that in disciplines with the weakest grammars ‘truth is a matter of acquired gaze’ (p. 165), conjuring an image of an opaque disciplinary environment in which it is difficult to recognise and realise the rules of inquiry without prolonged contact with ‘adept’ disciplinary practitioners (Muller 2011). For those external to the discipline who are seeking signs that they can trust the findings provided by those within the discipline, the lack of a ‘visible announcement’ of the processes by which claims are verified is problematic. This may weaken the credibility of the research in the eyes of those outside the discipline who have interest in its subject matter.

However, it can also be argued that weaker forms of grammar are necessary to conduct inquiry into the social world, and therefore they are appropriate for certain disciplines. The point of much sociological or anthropological work is to understand the rich detail of social contexts hermeneutically, or as Bernstein puts it in a discussion of ethnographic work, it is ‘for the researcher to find the rules and the model’ within which the participants ‘perform’ (2000, p. 134). Such work explicitly recognises social complexity and the problematics of imposing forms of order developed by the researcher. A problem for ethnographic work is that it may be difficult to develop an ELOD that can meaningfully progress the ILOD, the

‘masses of particulars’ (Muller 2007) generated by enquiries that seek to investigate social dynamics require a sophisticated form of ELOD that some researchers may perceive as constraining the accumulation of generalizable knowledge.

Ethnographic approaches are contrasted with the ‘classic experimental context’ where ‘variables are tightly controlled’ (Bernstein 2000, p. 134). In (quasi) experimental research ‘the trick is to design a context that removes ambiguity ‘in which a ‘performance’ is ‘released’ that meets the requirements of the research design (ibid.). ELOD problems may also beset such (quasi) experimental work. Where such research design drives the research process the ‘near-data devices’ in use inevitably pre-specify how social conditions are to be interpreted, with consequences for how claims to knowledge are judged. The appropriacy of such positivist approaches to study educational contexts is widely questioned (Hammersley 2005; Biesta 2007, 2010).

Modalities of grammaticality

It is now possible to move to a tentative mapping of some grammatical modalities based upon different types of, and relations between, ILOD and ELOD, and to think through how these may relate to forms of disciplinary structure and research inquiry. What is outlined here is not intended to be exhaustive, as there are bound to be further grammatical possibilities. While Bernstein (1999, p. 164) characterised a number of disciplines as having a weak grammar (i.e. cultural studies, sociology), the discussion in the section above suggests that the grammatical dynamic within such disciplines may be more fluid and varied than is immediately apparent. The existence of separate specialised languages, or theoretical traditions, within horizontal knowledge structures suggests that strength of grammar may vary across the discipline by specialised language, with consequences for how disciplinary knowledge evolves. Disciplines may thus be subject to a strengthening and a weakening of grammar, and different theoretical traditions may be impelling the discipline in different directions.

1. Firstly we can consider the possibility of a strong (explicit, transparent) ILOD and a strong (explicit, transparent) ELOD. In such cases the ELOD is developed cognisant of the structure and potential of the ILOD, with data generated and analysed in ways that can be ‘translated’ back to support the further iteration of the ILOD. This may represent disciplines where the phenomena under scrutiny and research methodologies are highly specified, and where dominant theoretical perspectives have emerged through strong grammar. Examples of where this may occur include economics and linguistics (as implied by Bernstein 1999, p. 164). In economics, for example, a dominant ‘orthodox’ neoclassical perspective could be said to be in a form of struggle with a marginalised ‘heterodox’ tradition of institutionalism that acknowledges the influence of ‘habits and rules’ (Hodgson 1998, p. 168), and the political and ‘non-rational’, in economic decision-making. In economics of education ‘Human Capital Theory has become and remained the dominant paradigm’ (Dearden et al. 2009, p. 618), emerging from neo-classical economics and driving forward a welter of quantitative studies with strong methodological prescription. While strong grammar may be appropriate for some

disciplines, it is also possible to see it as a means of closing down perspectives that challenge theoretical hegemony.

2. Secondly, we have stronger forms of ILOD in tandem with weaker forms of (less explicit, less regulated) ELOD. The ILOD may progressively be ossifying and stagnating as the ELOD is not providing the inquiry outcomes that can be easily translated into the ILOD. The disconnect between the two may be increasing over time, but this may be mitigated by certain specialised languages (theoretical traditions) that achieve a better fit between the ILOD and ELOD. In the more segmented of the horizontal structures, where the theoretical traditions are barely acknowledging each other, any increasing synergy between the ILOD and the ELOD may only apply to one part of the discipline – the other traditions may continue regardless of changes in parts of the ILOD that are remote from their concerns. Such a scenario may particularly relate to disciplines such as sociology, which Moore and Muller (2002, p. 633) note is ‘woefully inept’ with external languages while ‘highly proficient’ with internal theory. In effect, any potential for theoretical advance is only recognised by certain traditions within the discipline. Arguably, weaker forms of ELOD can be found in sociological work with postmodernist underpinnings. While this work can be seen as conceptually rich, operationalising its theoretical constructs can be problematic. As Gutierrez (2013) notes in an overview of socio-political perspectives on mathematics education, the overemphasis on ‘deconstruction’ can lead to an endless examination of underpinning power dynamics ‘for its own sake’ at the expense of engaging with empirical reality and thinking through ‘new connections between mathematics education and the world’ (55-56).

3. Thirdly, we can consider the possibility of a weaker ILOD combined with an (at least superficially) stronger (i.e. explicit, transparent) ELOD. In effect, the ILOD is no longer playing its role in providing a ‘conceptual syntax’ for the discipline (Moore and Muller 2002). This may relate particularly to situations in which an ELOD that has demonstrated strength in discipline X are then imported into discipline Y with the objective of strengthening the ILOD or providing clearer evidence about the subject matter of the discipline to external agents outside the discipline. For example, research methodologies developed for evidence-based practice in medicine, such as Randomised Controlled Trials (RCTs), have extended their reach to other professional fields such as ‘social work...human resource management and...education’ (Biesta 2007, 6). In such scenarios of disciplinary ‘colonisation’ what is considered an appropriate phenomenon for inquiry by the imported ELOD may be quite different from the ILOD. Multiple research studies may proliferate which have little interest in recognising or iterating the existing ILOD. On the other hand, it is also possible to conceive of stronger forms of ELOD that do have clear links to the ILOD, and explicitly try to engage with and revitalise elements of the conceptual base, in a similar mode to (2) above – and this may result in a stronger ILOD eventually. Such a scenario is probably most likely in those horizontal knowledge structures which contain collections of different theoretical traditions that struggle to achieve coherence.

4. Finally, there is the possibility of a weakening ILOD coupled with a weakening ELOD. Here knowledge progress has ground to a halt, with no imperative to strengthen the grammar. There is no recognisable agreed approach by which data can be analysed, resulting

in a range of small scale fragmented research activity that does not seek meaningfully to develop a coherent ILOD. Effectively, this is a disintegrating discipline, or part of a discipline (i.e. within a particular theoretical tradition).

Educational research

We now seek to use notions of grammaticality to examine some issues facing educational research, with particular reference to the U.K. Drawing on some of the Bernstein (1999, 2000) work above education can be seen as a horizontal, or segmented, knowledge structure comprising a series of specialised languages that relate to different, and overlapping, aspects of educational inquiry. The study of education can be seen as drawing on a set of ‘foundation disciplines’ (i.e. sociology, philosophy, psychology and history of education, and perhaps economics and geography – Lawn and Furlong 2009), each of which have their own specific knowledge structures, concerns, specialised languages and relationships with their own ‘parent disciplinary structures’ (of i.e. sociology or philosophy). The discipline of education can thus be seen as a collection of fragments of different disciplines, brought loosely together to inform the study of education (McCulloch 2002, 2012). In effect, certain specialised languages, modes of inquiry and disciplinary concerns have been selected and appropriated from those parent disciplines to help shape the educational disciplinary context.

Yet, the study of education is also closely bound to the practice of educating, and in particular the profession of teaching (Furlong 2013), and thus education can be construed as an ‘applied’ discipline which selects parts of other disciplines to meet the ‘supervening purpose’ of educational practice (Muller 2009, p. 213; Hordern 2015). In Bernstein’s terms this would make education a ‘region’ which recontextualises knowledge from purer ‘singular’ disciplines (2000, p. 52). It also suggests that the growth of knowledge about education needs to take account of the needs of stakeholders external to the discipline who are interested in the practice of education and in the workings of education systems (Hordern 2016). In comparison with research in ‘purer’ disciplines such as physics, history or sociology, educational research is thus of considerable direct interest to a range of ‘lay’ parties, such as governments, employers and the general public, who may hold various views on the nature and purpose of education.

This considerable interest has led to the increasing foregrounding of educational issues in public policy, reshaping educational research and considerations of educational knowledge. Education policy in many OECD countries has been characterised by powerful claims about the relationship between education and economic growth and the importance of teacher ‘effectiveness’ for educational outcomes, and by the growing influence of international frameworks that enables comparative measurement of educational achievements (Tatto 2006; Furlong 2013) The research required for education policy initiatives has thus become more tightly specified, connected to specific policy objectives, and is compelled to adhere to expectations of what constitutes appropriate evidence. Concomitantly, the educational knowledge considered important for teacher education has been reshaped in countries such as the U.K. and Sweden to increasingly exclude elements of foundational disciplinary knowledge, as this is considered superfluous for teacher effectiveness (Beach and Bagley

2013; Whitty 2014) and therefore for meeting policy objectives for the education system. As a consequence disciplinary-based educational knowledge is under pressure to justify its rationale to teachers and policy makers, and vulnerable to claims to authority from researchers located outside the educational discipline who can offer research specifically geared to policy expectations, as will be discussed further below.

Contributory disciplines

The foundation disciplines each have their own grammatical dynamic, relating to the wider 'parent' discipline of which they are a part, but also to their ongoing relationship with that parent discipline. Thus, philosophy of education can be said to be characterised by an 'embeddedness...in both the historical tradition of philosophy, and the contemporary expression of that tradition' (Oancea and Bridges 2009, p. 555), drawing continually on key 'mainstream' philosophical thinkers (ibid.). Instead of empirical referents it uses forms of exemplification as its ELOD. It maintains some restrictions on its phenomena of study, or rather it sets parameters for how those phenomena should be approached for an inquiry to be philosophical, including attention to language, 'category mistakes' and logic (ibid., p. 556). In this respect there can be said to be more discipline-derived boundaries around the research process in the philosophy of education than in much of sociology . While some types of sociological enquiry (i.e. that using ethnography) specifically guard against 'controlling' phenomena, instead aiming to facilitate the shaping of the inquiry structure through immersion in the context of study, philosophical inquiry comes with a set of suggested procedures or orientations that reframe contexts and questions philosophically, seeking to relate them to central philosophical concerns.

Rather differently from philosophy, the sociology of education is characterised by specialised languages that exhibit their own specific grammatical preferences. Indeed, the different grammatical orientations may in themselves be the source of the boundaries between these languages. Forms of sociology of education that draw on the political arithmetic tradition appear to search for a form of stronger grammar through a 'theoretically-informed' yet 'empirically-driven' (Lauder et al. 2004, p. 4) mode of social inquiry that implies the development of norms around research design. On the other hand, some postmodernist or relativist approaches dismiss the potential for any positivist, post-positivist or realist research into educational processes or practices, implicitly claiming the redundancy of any research process that seeks to build a coherent body of knowledge (Moore 2007). Postmodernist approaches to the sociology of education suggest an exceptional weak grammar as the notion of developing an ILOD can be seen as an attempt to impose a particular perspective, 'grand theory' or world view. In such approaches external languages of description can essentially be highly individualised, and validity assured by an acknowledgement of researcher standpoint. The position of the sociology of education is complicated by a relatively distant relationship with the rest of sociology (Lauder et al. 2009, p. 574); it is sufficiently large and integrated with research on educational policy (see Thomas 2012) to have a dynamic that can persist with only limited acknowledgement of broader disciplinary changes in sociology. The fact that this distance and independence is possible reflects the weakness in grammar across

sociology – part of the essence of sociology is a reluctance to strengthen grammar due to a recognition of the complexity of the social world.

Psychology of education is different again, housed as much if not more within psychology rather than education departments in the U.K.(Crozier 2009). It exhibits a preference for strong forms of ELOD and the development of ‘explanatory models’ without an ‘overarching theory’ as such, despite an acknowledgement of the ‘dominant paradigm’ of cognitive psychology (ibid., p. 591). Here there are some similarities with the economics of education, an area of work that Lawn and Furlong (2009) note has grown considerably in influence in educational studies. The dominance of neo-classical economics has considerable influence on methodological approaches in the discipline, foregrounding notions of human capital and requiring ‘robust theoretical models’ and ‘testable hypotheses’ (Dearden et. al. 2009, p. 620). The primary theoretical reference points for economics of education remain economic rather than educational (Dearden et al. 2009), suggesting a degree of separation from the rest of the discipline. Nevertheless, alternative approaches to understanding economic decision making that foreground norms, rules and habits (i.e. see Hodgson 1998 on institutionalism), which are often cast as ‘non-rational’ by orthodox economists, may constitute an opportunity for rapprochement with sociological perspectives. History of education plows its own furrough, somewhat adrift from the core concerns of sociologists, psychologists, and policy makers, and yet perhaps rich with some of the most important lessons for educationalists. The role of history in educational research seems a little neglected, its grammar seemingly familiar and yet somewhat marginal within the research community (Goodman and Grosvenor 2009).

The character of and differences between the foundation disciplines suggests that within the discipline of educational studies there are different grammatical modalities that may be difficult to reconcile. For example, the economics and psychology of education, with their imperative to strong forms of grammar, roughly approximate to modality 1 above. On the other hand, sociology of education is closer to modality 2, given the variance of grammar across its theoretical traditions. The philosophy and history of education perhaps sit somewhere in between modalities 1 and 2, more open to new grammatical forms but yet distinctive in their approach to subject matter. There is also, however, much educational research that could be characterised as modality 4, as will be discussed below.

It is also important to emphasise that much educational research is multidisciplinary or interdisciplinary, drawing on elements of the grammatical modalities of at least two disciplines in different forms of integration (McCulloch 2012). While multidisciplinary research maintains boundaries between disciplines, calling on each disciplinary tradition to contribute to a common study of education, interdisciplinary research suggests ‘permeable boundaries’ (ibid., 297) in the interests of a common research approach that may blend disciplinary traditions. While interdisciplinarity does not ‘necessarily replace the disciplines’ (ibid., 297), the disciplines can also be construed as an obstacle to the progress of educational knowledge and the ‘wider repertoire of methodologies and theories’ such as ‘literary theory, cultural studies...postcolonial theory’ (Furlong 2013, 38) that have been embraced by educational researchers. Interdisciplinary work could be seen as a weakening influence on the ILODs of the foundation disciplines if research findings are not integrated back into those

ILODs. Interdisciplinary researchers seeking to erase disciplinary boundaries may select research approaches derived from various external languages that suit their problematic, but without the ‘conceptual relations’ to an ILOD the insights of research do not necessarily engage with previous findings and existing conceptualisations (Moore and Muller 2002), increasing the potential for circuitry.

The discipline may thus appear fragmented, incoherent and potentially contradictory, particularly to those who are not intimately involved in such disciplinary research. The boundaries of what counts as educational knowledge can be seen as highly permeable, suggesting that there are weaknesses in the ILOD of education which can easily be exploited by stakeholders with particular ideological perspectives and/or political motives. While the rich, yet comparatively weak, grammar of sociology may be an advantage in enabling sociologists to exercise forms of imagination and methodological innovation, the same grammatical orientation may prove problematic for the sociology of education. The reasons for this may relate to ‘regional’ context of education as a discipline, and stakeholder involvement and public interest in the practice of education. The quest for certainty in the search for solutions to predefined educational problems means there is limited patience for equivocations within educational theory (Furlong 2013). Non-disciplinary research bodies may be seen as better equipped to frame problems and suggest solutions that are timely and palatable to stakeholders. Policy and research entrepreneurs may be well-placed to exploit uncertainties and qualifications in the sociology of education, arguing for a dismissal of inconclusive, ‘irrelevant’, or ‘subversive’ academic educational research, and packaging research objectives and process in a manner more attuned to the objectives of research sponsors.

‘Extra-disciplinary’ educational research

Forms of policy-orientated educational research often exhibit rather different grammars from the ‘foundation disciplines’. While there is no doubt that some research on policy draws deeply on disciplinary sources, much of what is funded by government in the U.K. or commissioned by non-university bodies has limited connection to disciplinary sources (Furlong 2013). Quasi-experimental research, such as randomised controlled trials, in addition to some forms of policy evaluation, sets considerable store by the clear specification of the phenomenon to be studied. Research credibility is assured by the uses of ‘rigorous methodological techniques and designs, including control groups and random assignment’ (Angist 2003). Problems or phenomena are identified and a pre-ordained research process, with a set of protocols that ensure rigour, are applied to them. The rules for how the phenomena are understood are set by the researcher and the methodology, and those factors that are not quantified during the research and recognised by the researcher are inevitably downplayed as potential explanatory variables. While advocates of RCTs may point to the fallability of much non-experimental educational research, it is important to note how quasi-experimental work relies on researcher decision-making that inevitably results in the exclusion of some aspects of causality (Hammersley 2005). It can be argued that RCTs are inappropriate for researching what Biesta (2010, p. 497) suggests is the ‘open recursive semiotic system’ of education, as they seek to strip out the complexity of the social. While

RCTs may have value in those medical scenarios where physical and biological factors provide a restricted range of cause and effect relationships, the interactive and symbolic dimensions of education offer a messier template.

In terms of grammaticality, it is the neglect of the development of an ILOD for the education discipline which is the hallmark of RCTs and forms of policy evaluation. This can be seen as a facet of the circumstances in which such research takes place, where research inquiry is asked to achieve a specific objective on behalf of an organisation (i.e. government, think tank or other body). Where quasi-experimental research is being held up as the highest form of research, or as the only valid form, it is easy to dismiss previous inquiries and the insights they may have brought, on the basis of their supposed methodological inadequacies. Thus the existing educational ILOD may be set aside by contemporary studies that see the manner in which such ILODs have been developed as flawed, and not based on sound research. While there is a concern to develop forms of ‘data-near device’ (Moore and Muller 2002, p. 634) to make sense of what is collected, the reference points for developing such devices are not the problematics of the existing educational ILOD. Instead they tend to be the methodologies of similar studies that have been undertaken in other disciplines (i.e. health research) (Hammersley 2005; Furlong 2013). There is no impulse to engage with theoretical and conceptual work on education, to discuss educational purposes or even educational possibilities. This leaves the research impoverished, with no means of making sense of the data beyond the confines of the particular research objective and the boundaries of the study. The 3rd grammatical modality outlined above eventuates, with a weakened ILOD and a (superficially) strong ELOD. The preference of funding bodies for such forms of research also leaves the ILOD impoverished, as researchers are increasingly drawn into types of research that neglect conceptual development, or encourage a superficial approach to the use of theoretical work. As Moore and Muller (2002) noted, it is the symbiotic relationship between the ILOD and ELOD that produces a ‘surplus’ or ‘surfeit’ of descriptions in both the ILOD and ELOD that enables the progression of a body of knowledge. If this is undermined a cycle of weakening grammar and disintegrating disciplinarity may be set in train.

The rise of RCTs in education can be partially attributed to the weak structure of the educational discipline. As suggested above, education consists of multiple specialised languages that are, to varying extents ‘regionalised’, in that they seek to shed light on, and provide knowledge for, educational practice of various forms (Bernstein 1999, 2000; Hordern 2015). The fragmented nature of this disciplinary structure allows educational research initiatives to proceed largely ignorant of other studies that may operate with contrasting paradigmatic assumptions. Adherents of one specialised language may happily ignore adherents of another, unless actively brought into conflict. Thus advocates of RCTs may be challenged (i.e. Hammersley 2005), but challenge by academics can be brushed off as a ‘defence of methodological turf’ and ‘an unwillingness to open up their field of research to alternative approaches’ (Pearce and Raman 2014, p. 396). If RCT practitioners are employed in higher education institutions and see themselves as operating as part of a discipline of education, then they may see themselves as yet another sub-disciplinary tradition, while those

outside disciplinary structures can completely ignore research inside the discipline, castigating it for its perceived outmoded and circuitous nature.

In tandem to, and strongly related to these developments, the growth of postmodern perspectives on educational knowledge have increasingly influenced disciplinary research in education. Arguments that suggest that all educational knowledge is personal, individual and situated serve to foster an environment within the educational discipline that negates requirements for grammar. Forms of relativism or 'postfoundationalism' (i.e. Carr 2006) are used as an argument against any form of theory building. Such approaches have been implicitly utilised to justify the growth of forms of practitioner-based enquiry that make limited if any reference to a disciplinary educational body of knowledge, and indeed are often highly sceptical about this knowledge (i.e. Whitehead 2000). Situated forms of theory can be developed and advanced, with their individual champions proclaiming each practitioner an expert on their own situatedness! While such research has, superficially, little in common with RCTs, it serves to further undermine the development of a coherent ILOD from which meaningful forms of ELOD can be developed. Instead endless bits of educational research increasingly sit in isolation from each other, with no means of building a broader picture, in a form of the fourth grammatical modality above. Such a circumstance further fuels the argument of those frustrated with the tenor of disciplinary educational research.

However, the rise of RCTs and evidence-based approaches to education is stimulated by broader changes in public policy of which educational manifestations are only one element (Biesta 2007; Pearce and Raman 2014). While the weakness of the internal structure of the educational discipline enables this 'colonisation' to proceed without substantial difficulty, the extent to which the colonisation continues will depend in part on whether these approaches become embedded within the policy process. Given the strong historical relationship between education, societal values and the shaping of individual consciousness (Biesta 2010), and indeed between education and disciplinary knowledge (Young and Muller 2016), there is no guarantee that the narrow focus on specific educational outcomes embedded in contemporary educational policies will be sustained indefinitely, with potential implications for future educational knowledge production.

Concluding remarks: is a cautious strengthening of the grammar possible?

It is possible to suggest that the problems of fragmentation (modality 4) and colonisation (modality 3) outlined above may be partially mitigated by a clearer sense of the boundaries and purpose of the education discipline (i.e. by strengthening the relationship between the disparate grammars within educational research). At the very least, exposing where research lacks acknowledgement of existing educational disciplinary debates can be seen as an important contribution to such strengthening. If educational researchers continue to demonstrate the insufficiency of claims, the ILOD continues to iterate and has the potential to strengthen.

Acknowledging the importance of a body of educational theory also suggests a need for established processes whereby conjectures can be rendered for examination, be substantiated

and refuted (Popper 1963). The implication of relativist approaches is that all forms of educational knowledge and research are equally valid and perceptive, while positivist approaches shut down valid forms of educational inquiry and seek certainty and universality where there is none. Such stances deny the qualities that forms of research-generated knowledge need to demonstrate in providing a stronger, more plausible understanding of the world, however fallible that understanding may be (Young and Muller 2007). Researchers cannot escape from questions of knowledge, and therefore from positioning on how knowledge value is constituted, how truths are established and inaccuracies refuted. Above all it is the pursuit of, and respect for, a notion of truth that fuels progression within disciplinary knowledge (Young and Muller 2007), and established procedures for judging claims to this truth are required for disciplinary survival (Winch 2010; Muller 2014).

However, to acquire a form of greater grammatical strength amongst the fragmented structure of educational research it may be important to acknowledge more explicitly the values underpinning what Dale (1992, p. 202) termed the 'redemptive view' of the educational discipline as a means of establishing boundaries, while not shying away from critiquing utopian assumptions that such views can lead to. What Dale was referring to was the adoption as a 'central normative guideline' of a 'project of social redemption / emancipation through universal provision' accompanied by a focus on the 'obstacles to the attainment of that unproblematic and unexamined goal' (1992, pp. 203-4). While much educational research implicitly or explicitly foregrounds a belief in the importance of social inclusion, social justice and individual subjectification (Biesta 2010), these may only be secondary or tertiary concerns to policy-makers and those researchers they fund. Indeed, the 'values' embodied in policy may be antithetical to this redemptive view, foregrounding instead a technical rationalism that is sceptical of claims to value that cannot be measured and evidenced (Biesta 2007, 2010). For evidence-based policy, knowledge *must* be divorced from the knower (Bernstein 2000), as professionals and their knowledge can no longer be trusted (Beck and Young 2005).

To examine and foreground these redemptive values is a form of restriction on appropriate phenomena for disciplinary educational inquiry, or at least a manner of specifying how educational questions should be approached both empirically and non-empirically, thus providing a route to a cautious grammatical strengthening. Such a positioning may appear inappropriate for an academic discipline, but it can be seen as necessary if education is seen as a Bernsteinian 'region', or applied discipline, that is largely concerned with knowledge about and for educational practice, and therefore involves stakeholders with interests in the conjectures of educational research, and practitioners for whom educational research should be helpful within the 'open' and 'recursive' (Biesta 2010) contexts in which they must exercise judgement.

References

- Angrist, J.D. (2003). Randomised Controlled Trials and Quasi-experiments in Education Research. NBER Reporter, Summer 2003. Cambridge, MA.: National Bureau of Economic Research. <http://www.nber.org/reporter/summer03/angrist.html>
- Beach, D. and Bagley, C. (2013). Changing professional discourses in teacher education policy back towards a training paradigm: a comparative study. *European Journal of Teacher Education*, 34 (4), 379-392.
- Beck, J., and Young, M. (2005). The assault on the professions and the restructuring of academic and professional identities: a Bernsteinian analysis. *British Journal of Sociology of Education*, 26 (2), 183-197.
- Bernstein, B. (1971). On the classification and framing of educational knowledge. In Young, M. (ed.) *Knowledge and Control: New directions for the sociology of education*. (London, Collier MacMillan), 47-69.
- Bernstein, B. (1999). Vertical and Horizontal Discourse: An essay, *British Journal of Sociology of Education*, 20 (2), 157-173.
- Bernstein, B. (2000). *Pedagogy, Symbolic Control and Identity*. 2nd edn. (New York, Rowman and Littlefield).
- Biesta, G.J.J. (2007). Why ‘what works’ won’t work. Evidence-based practice and the democratic deficit of educational research, *Educational Theory*, 57(1), 1-22.
- Biesta, G.J.J. (2010). Why ‘what works’ still won’t work. From evidence-based education to value-based education, *Studies in Philosophy and Education* 29(5), 491-503.
- Carr, W. (2006). Education without theory, *British Journal of Educational Studies*, 54 (2), 136-159.
- Crozier, W.R. (2009). The psychology of education: achievements and challenges. *Oxford Review of Education*, 35 (5), 587-600.
- Dale, R. (1992). “Recovering from a pyrrhic victory? Quality, relevance and impact in the sociology of education.” In. Arnot, M. and L.Barton. *Voicing concerns: sociological perspectives on contemporary education reforms*, (Wallingford, Triangle), 201-217.
- Dearden, L., Machin, S. and Vignoles, A. (2009). Economics of education research: a review and future prospects, *Oxford Review of Education*, 35 (5), 617-632.
- Furlong, J. (2013). *Education: an anatomy of the discipline. Rescuing the university project*. (London, Routledge).
- Goodman, J. and Grosvenor, I. (2009). Educational research – history of education a curious case? *Oxford Review of Education*, 35 (5), 601-616.

Gutierrez, R. (2013). The sociopolitical turn in mathematics education. *Journal of Research in Mathematics Education*, 44 (1), 37-68.

Hammersley, M. (2005). Is the evidence-based practice movement doing more good than harm? Reflections on Iain Chalmers' case for research-based policy making and practice, *Evidence and Policy*, 1 (1), 85–100.

Hargreaves, D.H. (1999). Revitalising Educational Research: lessons from the past and proposals for the future, *Cambridge Journal of Education*, 29 (2), 239-249.

Hodgson, G. (1998). The Approach of Institutional Economics, *Journal of Economic Literature*, 36(1), 166-92.

Hordern, J. (2015). Bernstein's sociology of knowledge and education (al) studies. Paper presented at seminar on 'Educational Studies: the university project in different jurisdictions' Green Templeton College, Oxford, July 16th.

Hordern, J. (2016). On the making and faking of knowledge value in higher education curricula. *Teaching in Higher Education* 21 (4), 367-380.

Lauder, H., Brown, P. and Halsey, A.H. (2004). Sociology and political arithmetic: some principles of a new policy science, *British Journal of Sociology*, 55 (1), 3-22.

Lauder, H., Brown, P. and Halsey, A.H. (2009). Sociology of education: a critical history and prospects for the future, *Oxford Review of Education*, 35 (5), 569-585.

Lawn, M. and Furlong, J. (2007). The Social Organisation of Education Research in England. *European Educational Research Journal*, 6 (1), 55-70.

Lawn, M. and Furlong, J. (2009). The disciplines of education in the UK: between the ghost and the shadow, *Oxford Review of Education*, 35 (5), 541-552.

McCulloch, G. (2002). Disciplines Contributing to Education? Educational Studies and the Disciplines, *British Journal of Educational Studies*, 50 (1), 100-119.

McCulloch, G. (2012). Introduction: Disciplinarity, Interdisciplinarity and Educational Studies – Past, Present and Future, *British Journal of Educational Studies*, 60 (4), 295-300.

Moore, R. (2007). *The sociology of knowledge and education*. (London, Continuum).

Moore, R. and Muller, J. (2002). The growth of knowledge and the discursive gap. *British Journal of Sociology of Education*, 23 (4), 627-637.

Morais, A. and Neves, I. (2011). Educational texts and contexts that work: Discussing the optimization of a model of pedagogic practice. In D. Frandji & P. Vitale (Eds.), *Knowledge, pedagogy & society: International perspectives on Basil Bernstein's sociology of education*. (London: Routledge), 191-208.

Moss, G. (2015). Knowledge, education and research. Making common cause across communities of practice. BERA presidential address, Belfast September 15th. <https://www.bera.ac.uk/about/bera-presidential-addresses>

- Muller, J. (2007). On splitting hairs: hierarchy, knowledge and the school curriculum. In F. Christie and J. Martin (ed.) *Language, knowledge and pedagogy*, (London, Continuum), 65–86.
- Muller, J. (2009). Forms of knowledge and curriculum coherence, *Journal of Education and Work*, 22 (3), 205–26.
- Muller, J. (2014). Every picture tells a story: Epistemological access and knowledge, *Education as Change*, 18 (2), 255-269.
- Oancea, A. and Bridges, D. (2009). Philosophy of education in the UK: the historical and contemporary tradition, *Oxford Review of Education*, 35 (5), 553-568.
- Pearce, W. and Raman, S. (2014). The new randomised controlled trials (RCT) movement in public policy: challenges of epistemic governance, *Policy Sciences*, 47 (4), 387-402.
- Popper, K. (1963). *Conjectures and Refutations*. London: Routledge and Keagan Paul
- Tatto, M. (2006) Education reform and the global regulation of teachers' education, development and work: A cross-cultural analysis, *International Journal of Educational Research*, 45 (4-5), 231-241.
- Thomas, J. (2012). Disciplinarity and the organisation of scholarly writing in educational studies in the UK 1970-2010, *British Journal of Educational Studies*, 60 (4), 357-386.
- Whitehead, J. (2000). How do I improve my practice? Creating and improving an epistemology of practice, *Reflective Practice*, 1 (1), 91-104.
- Whitty, G. (2014). Recent developments in teacher training and their consequences for the 'University Project' in education, *Oxford Review of Education*, 40 (4), 466-481.
- Winch, C. (2010). *Dimensions of Expertise: A conceptual exploration of vocational knowledge*, (London, Continuum).
- Young, M. and Muller, J. (2007). Truth and truthfulness in the sociology of educational knowledge, *Theory & Research in Education*, 5 (2), 173 – 201.
- Young, M. and Muller, J. (2014). Towards the Sociology of Professional Knowledge. In Young, M. and Muller, J., (eds), *Knowledge, expertise and the professions*, (Abingdon, Routledge), 3-17.
- Young, M. and Muller, J. (2016). Curriculum and the specialization of knowledge (Abingdon, Routledge).