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Placing cybereducation in the UK classroom

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The use of the Internet in the classroom has often been characterized as a practice that disconnects the teacher from traditional forms of externally imposed influence. This paper examines this assertion by mapping the emerging field of cybereducation and considering how endemic knowledge is contextualized by national curricular authorities. The field theories of Pierre Bourdieu and Basil Bernstein are employed in order to demonstrate the relationship between expert discourse and classroom pedagogy, using the National Grid for Learning (NGfL) as a case study. This attempt to capture the dynamics of cybereducation ultimately suggests how this emergent intellectual field's fragmentation and decoupling from State education forces offers policymakers the capacity to influence use. Progress of the UK government in integrating knowledge from an emergent educational field with its incumbent priorities is gauged, demonstrating the way in which national education officials have attempted to constrain potential departures from unregulated, officially mandated curriculum.

Introduction

Much has been written about the capacity of the Internet to change the classroom. Strangely, however, there has been little substantive, reflexive commentary on the discourses that frame debates over its use in education. Though vociferous debates in Australia, the United Kingdom and the United States on policy, curriculum, and access have been widespread regarding this emerging arena of great importance to education, voices on the discourses of educational technology use have largely been silent. In a promising turn, essays by Bromley and Apple (1998) addressed the political messages imbued within the appropriation of information and communications technologies (ICT) for education. Selwyn (2002) mapped the rhetoric that positioned technology as an educational tool within the British educational system between 1979–89. Finally, Agalianos et al. (2001) nimbly chronicled the implication of the Lego programming language into the politics of educational innovation in the 1980s. Though these discursive tools previously used are valuable for understanding the ways in which classroom-based technology use in education is socially constructed, they do not engage with the many actors who are beginning to structure

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and influence the use of the Internet in the classroom. I plan to build upon this work by employing sociological field theories to analyse the development of cybereducation as an emergent field whose untraditional ideals are countered—and eventually overshadowed—by traditional ones.

The analysis I offer here draws on the concept of field derived from both Pierre Bourdieu (1971a, 1971b, 1977, 1990, etc.) and Basil Bernstein’s (1990, 1996) work. It is applied towards what I refer to as cybereducation: the use of the Internet as a central part of the curriculum, which I argue is an emerging field comprised of a farrago of computer scientists, teachers, education researchers, businesspersons, and ‘futurists,’ all of whom address the role of the Internet in the classroom. Through Pierre Bourdieu’s model of an intellectual field, I plan to contextualise particular contributions made to this new area of knowledge. I also draw on Basil Bernstein’s theory of the structuring of pedagogic discourse, in order to interpret how the pedagogic field of cybereducation is distinct from, rather than subsumed within, the State’s official contextualization of cybereducation. In order to illustrate the applicability of Bernstein’s theory, I use the United Kingdom’s National Grid for Learning (NGfL) as a case study of how cybereducation has been recontextualised on a number of levels into official formats outside of the emerging field.

There currently exists little understanding of how discussion of cybereducation is recontextualised into pedagogy. To extend this we must examine the conceptual structures of educational power that frame cybereducation in the UK. This paper engages in this process through two sections. The first outlines the importance of capturing the politics of knowledge creation, and describes how the emerging field is developing a structure. The second section examines how this arena’s knowledge has been recontextualised into education systems in the UK. Finally, I offer further analysis on the implications of this process, given findings in the two previous sections.

**Conceptualising the emerging field of cybereducation**

This section focuses on the concept of disciplinary field offered to us by Pierre Bourdieu. Bourdieu’s (1971a, 1971b, 1990, etc.) writings comprehensively frame the constraints and conditions within which agents interact. His definitions serve the dual purpose of illuminating the particular conditions which allow us to both confirm the existence of a field, and understand the mechanisms which strengthen it. Doing justice to the complexity of Bourdieu’s concept of field requires elaboration on the interplay of several elements outlined below, which will be followed with an application of his framework to cybereducation.

**Relational thinking about actors, agencies and habitus**

Bourdieu’s construct of field involves agencies—instiutions, markets, and organizations which contain actors who struggle to rise within a given field. The actors, or ‘symbolic producers’ in a field, engage in constant struggle to achieve higher status by contributing in their own fashion. However, they do not have an unregulated license to do so, as they must embody particular characteristics that are recognisable to their
peers. These features, or habitus (used as both singular and plural) refers to the system of dispositions that are ‘common to all products of the same conditionings’ (Bourdieu, 1977, p. 72). While there exists no explicit set of rules which govern the actions of those within the group, the constraints of habitus are (or must be,) shared by all agents within the field.²

It is necessary to think relationally about perspectives of members in order to understand how a hierarchy is produced between those with similar habitus. By doing so, we are saved from ‘the theoretical vacuum of positivist empiricism and from the empirical void of theoreticist discourse’ (Bourdieu & Wacquant, 1992, p. 110). In other words, we must seek out the underlying relationships of power in a field that shape actions. Bourdieu’s intention is to have us think in terms of latent patterns of interest and struggle among individual actors, as opposed to existing categories of populations, organizations, or institutions.

Relational thinking necessitates a reflexive perspective that considers the epistemological context of the motivation of field agents. Bourdieu felt this necessary to establish the credibility of one’s ideas within any field and especially within disciplines in their formative stages. Institutionalising the practice of relational thinking also enables what Michel Foucault (1982) thought vital to a proper understanding of the perspectives that frame a group’s actions. However, a major difference between Foucault and Bourdieu is that the former allows no role for hierarchical struggle within a field, while it is an important element of Bourdieu’s model.³ With that in mind, application of Bourdieu’s concepts to cybereducation is more appropriate than Foucault’s when mapping an emerging field composed of competing agents.

Those who garner the greatest amount of capital within the field are able to create linguistic and methodological ‘rules’ that govern field discourse with respect to these topics, according to Bourdieu. Abiding by such rules legitimises a particular individual’s viewpoints as those of someone who belongs to, and indeed has the capacity to strengthen his or her position in the field. This acceptance also means that specific forms of struggle are tolerated whereas others are excluded, permitting only practices considered ‘legitimate professional procedure’ (Swartz, 1997, p. 125).

Bourdieu’s stance is that scholars write books and publish their research in scholarly journals solely to strengthen their position in an academic field. Subsequently, considerations by intellectual peers regarding the quality of an individual’s work provides the scholar with either more or less social and cultural capital, relative to the positive or negative reception the research receives. Peer groups quarrel internally, but do so within disciplinary classifications commonly accepted throughout the group, ‘imply(ing) a tacit recognition of the classification’ (Bourdieu, 1990, p. 138). The credit given to the person with the most substantive research consequently establishes the level of standing the scholar holds within their field. This recognition is not always sufficient for garnering attention outside of the field, and conversely, work directed to the attention of those outside of a field can result in a negative reputation within a field. Additionally, if members of a field desire to contribute to a scholarly journal, they must condition their writings to represent a certain structure and style that confirms their ‘claim to consecration’, or understanding of the unwritten rules of
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the field and journal. Similarly, cultural works lie within a maintained hierarchical field of legitimate works and activities. This allows consumers of lower-level works (television, photography, etc.) to express their judgment on them without being obligated to application of objective norms or adoption of an attitude which is pious, ceremonial and ritualistic (Bourdieu, 1971a, p. 175). Thus, while the arts of jazz and cinema are influenced by 'groups of professional critics who have the use of learned journals and platforms on radio and television,' to Bourdieu these critics are 'haunted by doubts about their legitimacy' as these arts 'do not occasion the reverence which is commonly found in the presence of works of learned culture' (Bourdieu, 1971a, p. 175, 179). Alternatively, traditional 'consecrated arts,' such as classical music and theatre, because they can be—or have traditionally been—taught and studied 'systematically and methodologically, (are) thereby giv(en) the seal of respectability as constituent parts of legitimate culture' (Bourdieu, 1971a, p. 179). The analogous structure of the intellectual field then confers legitimacy on those who characteristically parallel traditional canons of intellectual thought. These agents are recognised in both their style of analysis and in their references to field-validated authors, resulting in the granting of a proportionate level of respect. This respect comprises a scholar's level of capital.

The focus that Bourdieu places on the underlying, though often disguised, similarities between those in a field establishes a framework that facilitates examination of the differences between members. Though field members 'agree to disagree' on topics, their bases for opposition generally are not wholly outside of their sphere of understanding, or 'plausibility structure,' as sociologist Peter Berger (1967) put it.

Cybereducation as an emergent field

Cybereducation has many—though not all—of Bourdieu’s requisite characteristics for a field. In applying Bourdieu’s delineations of field structure to the arena, and evaluating its congruity with his standards for field status, I employ several methods. To give an idea of the communal practices of those involved in cybereducation, I first outline how members of the field struggle for capital by engaging in various activities that render themselves agents in the discipline of cybereducation. Consequently, they establish standards and practices that shape the emergent field. Secondly, I review texts related to cybereducation within a broad range of books and academic papers in educational technology journals published after 1990. While all of the material addresses computers, cyberspace and education in some fashion, some address the practical, classroom-based pedagogical aspects of cybereducation—usually anecdotally—while others appeal to its educative capacities more broadly. Most of this work contained forceful assertions about the educational ramifications and potentialities that cybereducation holds. The purpose of this review was threefold. I wished to identify key and repeated claims, assumptions, goals and practices that set the terms of the debate. I also was interested in the broader, often polarised sentiments of the authors towards cybereducation. Thirdly, I sought to note the biographies of
authors to garner some insight into the objectives and motives which affect ‘the pulpit from which they preach.’ This review gives a preliminary Bourdieuan assessment of cybereducation’s intellectual field, which is representative of Bernstein’s first level of discursive contextualization (as will be shown later).

The existence and popularity of a number of scholarly, peer-reviewed journals that contain research on cybereducation is evidence of the development of a system of specialised agencies for academic, professional, and business agents. There is even a hierarchy between these journals, in which The Journal of Computing in Teacher Education, The Journal of Research on Technology in Education, and The Journal of Asynchronous Learning Networks appear to hold the highest positions. The absence of a journal exclusively dedicated to cybereducation, however, is notable.

Professional organisations exist which, as Bourdieu notes, can serve to further grant legitimacy to the discipline (Swartz, 1997, p. 177). In cybereducation, the organisation that holds the most power in setting standards is The International Society for Technology in Education, which also claims a leadership role regarding educational technology. Its web site contains a database of research studies in cybereducation and information on distributing material to members subscribed to its mailing lists, which include, for example, the ‘Hypermedia/Multimedia Using Educators List’ and the ‘Telecommunications-Using Educators List’. ISTE claims to ‘provide (its) members with information, networking opportunities, and guidance as they face the challenge of incorporating computers, the Internet, and other new technologies into their schools’ (ISTE, 2002). Its ‘International Headquarters’ are in Oregon, USA, and it is funded by membership dues. The role of this organisation, and others like it, is to set standards (through establishment of age-specific guidelines for technology literacy, for instance), distribute research, and enable individual members to establish credibility with their intellectual peers. In facilitating this, ISTE simultaneously strengthens the public credibility of its membership. This symbiotic relationship is characteristic of that of Bourdieu’s field agents and agencies.

There are numerous business interests represented in the arena of cybereducation, making the line that separates benevolent, authentic concern for student learning enrichment from self-interested entrepreneurship difficult to ascertain. Note that Bourdieu does not deny that economic interests often are not—and cannot be seen as—separate from the seemingly selfless concern. Such are instances where it is suggested that ‘economic viability confirms intellectual consecration’ as Bourdieu adroitly puts it (1971a, p. 164). Many examples exist: Microsoft attempted to settle its antitrust case with the US government by donating $1 billion in computer training and software; Neil Bush (the youngest of the Bush brothers) promotes online and classroom-based educational software internationally (Steinberg, 2002); and the American Electronics Association, ‘the nation’s largest high-tech trade association’ sponsored the aforementioned CyberEducation 2002 conference.

This bears evidence that we must remain aware of what Henry Giroux (2002, p. 16) sees as ‘the influence corporate culture now wields in redefining the terms through which children’s experiences and identities are named, understood and negotiated.’ This is also symptomatic of the recent trend of basing worldwide expansion of education systems on a human capital approach towards economic success.
(Brown, 1999). Thus, domestically and internationally, understanding of the role of ICT in education mandates an awareness of the economic discourses attached to the importance of its use (for examples, see Brown & Selwyn, 2000; Castells, 1996; Kenway, 1995; Schiller, 1995). If we turn now to the actors within and aside the agencies described, we will see how cybereducation fills several more of Bourdieu’s criteria for a field.

Cybereducation’s actors and discourses

Contributors to cybereducation hail from a broad range of disciplinary backgrounds. Concomitant with this multiplicity of perspectives is a diversity of habitus they bring to the discipline with styles of writing and thinking ‘constrained within (its) unbreakable bounds’ (Bourdieu, 1971b, p. 195). Below I focus on the most well known arenas and authors that contribute to the discourses within cybereducation, addressing their discursive subjects and outlining the tones of their commentary.

Both practitioners and researchers from education contribute to the discourses of cybereducation. Therein we find professors (for example, Burbules & Callister, 2000; Burnske & Monke, 2001; Wegrif, 1998; Yang, 1999) and those who were once teachers or education technology specialists in schools, but are no longer employed—at least permanently—by schools (Hird, 2000). There are academics who have successfully translated their cultural capital acquired within other disciplines into cybereducation, with Turkle (1995, 1984) and Papert (1993, 1980), as well as Neil Postman (1995, 1993) as three examples from clinical psychology, mathematics and communication respectively. Most notably, we see the rise in publications by those who stand to profit from the growth of cybereducation, running enterprises that promote their work. ‘The New Paradigm Learning Corporation’, ‘The Thornburg Center’, and ‘The Perelman Group’ are all bodies who support the educational technology consulting and speech—giving services of those who write books on education (Perelman, 1992; Tapscott, 1998; Thornburg, 1994). Some of these organizations have corporate sponsors, while others run on the income made from consulting work.

Through the previously mentioned professional distributive agencies as well as authored books, cybereducation agents have begun to create a hierarchical structure analogous to one represented in Bourdieu’s theoretical framework. Such ‘experts’ are starting to distinguish themselves and will often be mentioned in cybereducation’s writings. For instance, very few books or articles about a child’s online psychological learning processes omit references to psychotherapist and professor Sherry Turkle’s groundbreaking work. She studies student online personalities both independent of and in conjunction with MIT’s Media Lab (1995, 1984), an internationally-reputed technology research center with an immense amount of academic and technological cultural capital. Discussion of how cybereducation embodies Piaget’s theories on constructivism necessitates reference to the work of his protégé, Seymour Papert (1993, 1980) whose primary work has been school-based, but has more recently addressed online spaces. Those discussing teachers’ on- and off-line computer use in classrooms almost always reference Larry Cuban’s work (2001, 1986) on the incongruities between the rhetoric and reality associated with the machines. Those at the
hierarchy’s zenith must be referenced for any author to situate themselves with respect to established perspectives in cybereducation, so that ‘when they clash they do so in the name of the claim to be the fount of orthodoxy, and when they are recognised it is their claim to orthodoxy which is being recognised’ (Bourdieu, 1971a, p. 175). Interestingly, the authors most often mentioned in writings on cybereducation usually have established themselves in more traditional canons of knowledge. In other words, those who currently top the cybereducation hierarchy do so because of their ability to translate their reputation—or cultural capital—in more established, ‘traditional’, fields into the arena of cybereducation. This is representative of the entrance of specialised discourses from other fields into Bernstein’s (1990) primary contextualising field (which embodies similar characteristics as Bourdieu’s intellectual field, as is shown later).

While there is some fluidity between the topics addressed by a particular author, the majority of writings focus on what I have called democracy and learning. The discourse of educational democratization and international collaboration has been employed by a compendium of authors in describing several facets of cybereducation. It has been characterised as a medium for activism, individual expression, resource distribution, cross-cultural equality, and a means for the removal of institutional barriers to new learning environments (Burbules & Callister, 2000; Burnske & Monke, 2001; Giroux, 2002; Menchik, 2002). Alternatively, David Noble (2002) argues online learning is undemocratic, maintaining that the endemic business interests it represents make it inseparable from what he has identified to be an ongoing trend of commodification within higher education. Commentary on how it necessitates the transformation of contemporary notions of student rights in the classroom have also begun to emerge (for example, Katz, 1996), though not as much as would be expected.  

As mentioned above, Sherry Turkle is the authority with respect to how cybereducation might involve learning differently. She and Jane Healy (1998) have written on the personalities children maintain online. Postman (1995) and Tapscott (1998) take another perspective, focusing on the critical analytic skills demanded of students online, addressing the unfiltered torrent of information children encounter while learning online. They represent—as is too often done when addressing education technology—polarised, hyperbolic utopian or dystopian perspectives regarding its implications for education. Successful practices in particular subjects, such as second language education (e.g., Kern, 1995; Warshauer, 1995), have been widely published, but as mentioned above, they are often only anecdotal in form. More systematic research on learning (e.g., Chun, 1994; Warshauer, 1996) have mostly examined one or two particular elements of practice (for example, the discourse in an online session), rather than give a grounded longitudinal, and contextualised account of the overall implementation of online activities and of students’ experiences (Warshauer, 1998).

Since doing justice to the depth of contributions to cybereducation is difficult here, see Table 1 for a more comprehensive itemisation of the backgrounds and perspectives of many influential cybereducation writers and researchers. I have analysed a number of texts with regard to several variables, including intended audience, text
<table>
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<th>Audience</th>
<th>Author</th>
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<td>Brown, R.</td>
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<td>A</td>
<td>Wegerif, R.</td>
<td>The Social Element of Asynchronous Learning Networks</td>
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<td>M</td>
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<td>B</td>
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<td>M</td>
<td>Healy, J.</td>
<td>Failure To Connect</td>
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<td>Perelman, L.</td>
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<td>Postman, N.</td>
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<td>Hird, A.</td>
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<td>Palloff, R. &amp; Pratt, K.</td>
<td>Lessons from the Cyberspace Classroom</td>
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<td>Burniske, R. &amp; Monke, L.</td>
<td>Breaking Down the Digital Walls</td>
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<td>Tapscott, D.</td>
<td>Growing up Digital</td>
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Notes on Methodology:

A) Titles chosen do not, of course, comprise cybereducation’s writings in toto, rather representing important work.

B) The public/private sector classification applies only to author affiliation at time they published their work. Note too that the distinction of public/private service is has become blurred with the rise in private research funding, creating motivations that surpass the ‘creation of knowledge for its own sake,’ also making my distinctions represent boundaries which are difficult to discern. For this reason, some writers mentioned with private affiliations may serve the public more than those in public institutions.

C) When an author has written more than one book, or a book and journal article, I chose their best-known work.

D) All work was written since 1990, though the Internet was not in mainstream use – for education or otherwise – until several years later.
medium, educational level focused upon, tone of presentation, methodology used to obtain material for commentary, sector of society represented by writer, and discourse writer offers.

We see here the extreme diversity of contributors. There are those who both maintain the aforementioned assertion that cybereducation writing often consists of binary polemics between utopic and dystopic discourses (for example, Burbules & Callister, 2000; Kellner, 1998; Kenway, 1996) and represent those discourses (Perelman, 1992; Postman, 1995). This latter form of habitus—if one at all—has prevented the emerging field from agreeing on common knowledge. Such may be explained by the notion that since contributors reside within a pastiche of disciplines, there are not enough universally recognised forms of capital within the field.

Second, while some writers have conducted methodologically sound, empirical research, there are as many—often driven by financial interest—who have gained prominence on the basis of their anecdotes and platitudes appropriating ‘transformative’ or ‘empowering’ characteristics to cybereducation. As more university departments of education begin to value the emergent field and governments develop criteria to evaluate the skills learned therein, it seems likely that cybereducation will grow to the extent that it will fulfill Bourdieu’s structuring standards.11

Having outlined the components of the intellectual field found in cybereducation, I now move into my case study of a national form of adoption of its tools, directing my gaze to the UK’s National Grid for Learning. I will show how in 2003, the state of cybereducation in the UK appears to be indicative of Basil Bernstein’s 1996 writings in Pedagogy, symbolic control and identity: ‘today, the state is attempting to … reduce relative autonomy over the construction of pedagogic discourse and over its social contexts’ (p. 48).

Pedagogic discourses of the NGfL

While Bourdieu’s theory of field provides the framework within which we are able to identify the characteristics of cybereducation, we will need an additional theoretical tool to understand its role in UK schools and the pedagogic arena. In this section, I introduce Basil Bernstein’s ‘three crucial interdependent contexts of educational discourse, practice, and organization’ (1990, p. 59) for understanding educational systems. Grasping these is vital to demonstrating the relationship between the internal rules of what he called the ‘pedagogic device’ and the contexts of cybereducation in the UK. This was developed in order to enable an interpretation of the format of educational knowledge circulation. I will explore the pedagogic discourses shaping the three levels of the device: the primary, secondary, and recontextualising contexts. Through this process we will see how the current framing of cybereducation in the pedagogic discourses of the State is represented by the Department for Education and Skills (DfES) and British Educational Communications Technology Agency (BECTA).

Contexts of pedagogic knowledge transmission

Bernstein’s first position for the placement of education knowledge lies in the primary context, where discourse is produced:
This context creates, appropriating Bourdieu, the ‘intellectual field’ of the educational system. This field and its history are created by the positions, relations, and practices arising out of the *production* rather than the reproduction of the educational system (Bernstein, 1990, p. 59; emphasis in original).

Bourdieu’s field characteristics are positioned here. Both ‘new’ ideas and *specialised discourses* are created, modified, and changed (Bernstein, 1990, p. 191; emphasis in original). While Bourdieu’s work never addresses how new fields are created, Bernstein asserts that specialised discourses from other fields combine with ‘new’ ideas to create an intellectual field. Combining these insights omission is extremely helpful for our purposes in this paper, as it illuminates how cybereducation has become comprised of a diverse group of contributors with their own specialised discourses.

The secondary context is where discourse is reproduced:

This context, its various levels, agencies, positions and practices, refers to the selective reproduction of educational discourse. … Within each level there may be some degree of specialisation of agencies (Bernstein, 1990, p. 60).

This context is where pedagogic discourses structure the field of reproduction; Bernstein divides this space into tertiary, secondary, primary and pre-school levels (Bernstein, 1990, p. 191). Such levels are agencies, important ‘to the classificatory and framing principles regulating the relations between and within levels’ (Bernstein, 1990, p. 192) and thus represent discourses transmitted from the primary context in an appropriate fashion.

Thirdly, the recontextualising context is where the relocation of discourse occurs:

The function of the positions, agents, and practices within this field and its sub-sets is to regulate the circulation of texts between the primary and secondary contexts. Accordingly, we shall call the field and the sub-set structured by this context the *recontextualising fields* (Bernstein, 1990, p. 193, emphasis in original).

Here the dominant principles of society which are *generated* in the primary context and *reproduced* at the secondary field, are later recontextualised in the Official Recontextualising Field (ORF) (Morais & Neves, 1997). This is the point at which they are *regulated* directly by the State and its selected agents and ministries (Bernstein, 1990, 1996). The ORF is created and dominated by the State for the construction of pedagogic discourse (Bernstein, 1996, p. 118). Additionally, the ORF is often—but not always—accompanied by the Pedagogic Recontextualising Field (PRF), which constitutes the locus for the construction of pedagogic discourse occurring outside of the State. PRFs ‘are concerned with the principles and practices regulating the circulation of theories and texts, from the context of their production or existence to the contexts of their reproduction’ (Bernstein, 1990, p. 198). As a PRF is ‘composed of positions (oppositional and complementary) constructing an arena of conflict and struggle for dominance,’ (Bernstein, 1996, p. 80) we can begin to understand how it embodies the requisite struggle inherent to Bourdieu’s definition of a field.

Bernstein’s ORF and PRF represent how knowledge is framed by both the State and the pedagogic fields respectively. When there is a strong classification of knowledge through State intervention in education the curriculum monitoring becomes centralised, while the management structure of curriculum distribution is concurrently decentralised. The resultant emphasis on student performance and the steps
taken to increase and maintain performance is likely then to produce a State-promoted instrumentality (Bernstein, 1996).

Having outlined Basil Bernstein’s theory of field contextualization, in the following section I proceed to employ it in my attempt to get a purchase on cybereducation. Cybereducation has been depicted as beginning to embody characteristics of a Bourdieuan intellectual field, and now it will be contextualised regarding State appropriation of endemic knowledge. I do this through application of Bernstein’s structure of pedagogic discourse to the government’s foray into the arena of cybereducation, the creation and discursive framing of the National Grid for Learning. I will show that there exists a strong ORF and no recognition of a PRF, which I suggest is indicative of cybereducation’s immature state as a field.

**Bernstein and the national grid for learning**

Following an overview of the NGfL, in each of the following sections I outline its central characteristics, simultaneously noting compatibility with Bernstein’s pedagogic discourse and structure, and the three educational contexts as applied to cybereducation. Simply, I focus on specific contextualizations of the structuring of cybereducation, and illustrate how components of the NGfL represent them.

The National Grid for Learning (NGfL) was created by the UK government in 1998 to officially address cybereducation. Funded by Britain’s Department for Education and Skills and managed by the British Educational Communications Technology Agency, the NGfL is, broadly, a ‘government initiative to help learners and educators in the UK benefit from information and communications technology,’ and ‘a vital part of the Government’s commitment to the creation of a connected learning society in which learning is increasingly accessible and adapted to individual needs’ (BECTA, 2001). It involves an investment of more than £1 billion in ICT for schools for the period 2001–2004, with an additional £900 million spent towards other lifelong learning initiatives. The three elements to the NGfL strategy are:

- A structure of educationally valuable content on the Internet
- A programme of training to develop ICT good practice
- A programme for the delivery of ICT infrastructure (BECTA, 2001)

While the latter two dimensions are undoubtedly vital to the implementation and success of the initiative, the first represents the most important element in the official recontextualising field with respect to cybereducation. This, the ‘NGfL portal,’ is ‘a network of web sites that provide content to support learning, teaching, training and administration in schools,’ through which ‘a teacher searching for lesson plans on a particular subject can access the Virtual Teacher Centre (VTC),’ that ‘provides a focus for information and materials for teachers, including subject resources [and] curriculum information (schemes of work and teaching frameworks)...’ (BECTA, 2001). The VTC tools are heavily emphasised in the presentation of the NGfL; their capacity to ‘enable teachers to share ideas and good practice (and) to learn quickly from each other...’ (Blunkett, 1998), is central to the governmental initiative to transform education more widely.
As noted above, the primary context of Bernstein’s pedagogic device is described in outlining Bourdieu’s characteristics of the intellectual field. Bernstein’s distributive rule of the circulation of knowledge at the primary level of the device can be seen in the creation of the NGfL itself. Here we are introduced to the field through which cybereducation should take place:

The National Grid for Learning (NGfL) is the gateway to educational resources on the Internet. The NGfL provides a network of selected links to web sites that offer high quality content and information. Whether you are learning, supporting, teaching or managing, there are resources on the NGfL for you (BECTA, 2002a).

There are also systems in place that ensure that the content of the NGfL adheres to the standards imposed by BECTA. Bernstein’s distributive rule characteristically mandates that ‘after individuals outside of the field of production create new knowledge, the field’s principles will operate as to whether such knowledge is incorporated into the field’ (1996, p. 117, emphasis in original). There are criteria through which BECTA determines knowledge-worthiness:

Becta monitors sites linked to through the VTC and NGfL web sites using the GridWatch system to ensure they are suitable for the educational arena. (BECTA, 2002b)

To ensure the Grid content remains acceptable, ‘GridWatch checks NGfL websites on a sampling basis system,’ and should it find material not appropriate for continued inclusion, ‘then ultimately the site can be excluded from the NGfL’, meaning they would not have the right to display the NGfL endorsement logo, and would lose the symbolic and social capital it represents. There is little indication anywhere on the NGfL of who or what constitutes GridWatch.12 More glaringly, there is little representation of the techniques or ideas of the authors addressed in the first section of this paper.

Pedagogic discourse regarding cybereducation in the UK is reproduced several ways within the secondary context. The structures that facilitate this parallel those outlined by Bernstein above (tertiary, primary, secondary, pre-school); there is a similar such contextualization within the ones I identify in the cybereducation literature analysis, and in some cases several levels of educational context are mentioned in the same text.13

In the NGfL, the State’s agenda is reproduced through their decisions with respect to hyperlinks to resources. These are accessible from within three sections: ‘What are you looking for? Where are you? Who are you?’ that represent subject matter indexed by topic (museums/games/lesson plans etc.), geographic area relevance (Scotland/Wales/London etc.), and user’s relationship to school (teacher/student/parent etc.). These groupings reproduce online information in a fashion that mediates ‘selective reproduction of educational discourse’ (Bernstein, 1990, p. 60).

Finally, cybereducation is recontextualised into an ORF and sometimes, a PRF. The ORF is created and maintained by the State and its selected ministries, while we introduced to the PRF through observing the arena in which journals and the agents and practices in the primary contextualising field interact. This arena bears what Bourdieu calls a ‘struggle for legitimation’ regarding ratified knowledge in an
academic field. It consists of knowledge produced in schools and colleges, departments of education, specialised journals, and specialised research foundations (Bernstein, 1996). Because of the State, however, these concepts ‘may be strongly classified internally, producing sub-fields specialised to levels of the educational system, curricula, groups of pupils,’ (Bernstein, 1990, p. 198) creating a strong ORF at the expense of the PRF (when it exists). Figure 1 outlines Bernstein’s stages applied to both cybereducation as an emerging field and the NGfL.

The PRF can determine its own recontextualising independent of the State, and its agencies (although possibly funded by the State), may have a relatively larger measure of control over their own recontextualising (Bernstein, 1990, p. 198). From the development of books that discuss the pedagogies of cybereducation by Hird (2000), Palloff and Pratt (2001), and Gordon (2001), as well as special journal issues that address pedagogy in cybereducation,14 we know that there are PRFs within cybereducation, but they are not addressed in the NGfL.

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**Figure 1. Bernstein’s model of educational contexts applied to cybereducation and the NGfL**

<table>
<thead>
<tr>
<th>Column A: Bernstein’s Model</th>
<th>Column B: Bernstein’s model applied to cybereducation (underlined) and the NGfL (italics).</th>
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<td>Bernstein’s Model of Educational Contexts</td>
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</tr>
<tr>
<td>Secondary (Reproduction of Discourse)</td>
<td>Representation in the NGfL</td>
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<tr>
<td>Primary (Production of Discourse)</td>
<td>Cybereducation’s Intellectual Field</td>
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<td>Contents of the NGfL</td>
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<td>Primary, Secondary, Tertiary, Distance Learning Levels</td>
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<td></td>
<td>Topic, Region, Teacher/Student/Parent Levels</td>
</tr>
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<td></td>
<td>UK Government-Approved lesson plans, levels and classifications of knowledge</td>
</tr>
<tr>
<td></td>
<td>No UK PRF</td>
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14 From the development of books that discuss the pedagogies of cybereducation by Hird (2000), Palloff and Pratt (2001), and Gordon (2001), as well as special journal issues that address pedagogy in cybereducation, we know that there are PRFs within cybereducation, but they are not addressed in the NGfL.
In the case of the UK’s NGfL, however, we do not yet find the development of a PRF, only a strong ORF. For instance, State priorities are represented by the NGfL connection to a site which links every National Curriculum programme of study requirement to high-quality, relevant teaching resources. Hundreds of great websites are included, and rated on their usefulness by teachers themselves. Programme of study requirements are also linked to relevant units in the QCA/DfEE schemes of work (DfEE, 1999).

The connection to curricular and work programmes of State interest is evidence of their effect on ‘the construction and surveillance of pedagogic discourse’ (Bernstein, 1996, p. 119) and thus, represents a reinforcement that will produce a strong ORF. As ‘it is the recontextualising field which generates the positions of pedagogic theory, research and practice’ (Bernstein, 1990, p. 193, emphasis in original), the lack of a PRF stifles the pedagogic capacity of teachers using cybereducation. As the resources have simply been offered to teachers cart blanche, with the State providing full funding, topics and focus, it limits severely the production—and influence—of the PRF (Bernstein, 1990, p. 202). Without the existence of a PRF in cybereducation that is specifically representative of the needs of UK schooling, it massively hinders teachers from effectively integrating the forms of cybereducation ubiquitously heralded. More research is necessary in order to understand the receptivity of UK teachers to the NGfL, but this disjunction has great potential to create the familiar situation in which ‘the rhetoric of computer literacy often turns out to be largely that—rhetoric’ (Apple & Jungck, 1998, p. 151).

Conclusions

As might be expected, application of the theories of two structuralist sociologists produces mixed results. Employing Bourdieu’s field preconditions has shown that it will take a few years before cybereducation fully represents the characteristics necessary for any field. This may prove to be the requisite catalyst for its knowledge to be admitted into structures like the NGfL. While Bourdieu accepts that external voices will shape a field, because of the lack of clarity he provides with regard to the initial development of a field, it is hard to know how mature cybereducation currently is, and whether it has the potential to develop the preconditions for entry that, though vital to the intellectual field, might be counter to the nature of the Internet. Indeed, as ‘the limits of the field are situated at the point where the effects of the field cease,’ (Wacquant, 1989, p. 39) our mapping labours become even more arduous. When we understand that the web expands at the rate of approximately one million web pages per day (Lawrence & Giles, 1998, cited in Dryfus, 2001, p. 8), and new technology therein—driven by motivating forces in the private sector—is created, material influencing field boundaries also continues to expand at a frenetic rate. Such an expansion often renders commentary outdated as quickly as it goes to (traditional) press. This may limit the UK government’s willingness to consider author determinations of suitable uses of the Internet in education.15

Bernstein’s structure, however, proves useful and relevant when applied to the NGfL. Additionally, applicability of his frameworks to the UK government’s
recontextualising efforts will be strengthened with the creation of assessable standards of achievement improvement as a function of cybereducation. Such forms of measurement is imperative for overcoming the wariness teachers have in incorporating the coursework the government heralds. Additionally, the spread of cybereducation must coincide with a school and regional-wide understanding that such courses require extra planning. Currently, ‘nothing is being dropped from the already crowded curriculum and teachers are faced with the predicament of finding the time and physical and emotional resources to integrate such programs into the school day’ (Apple & Jungck, 1998, p. 139). There is a strong need for a PRF in the UK, and when it begins to surface—and this may not be until technical resources in schools are strengthened—there may be a conceived ‘loosening’ of the reins of the ORF. As access to technology, which ‘has most to do with money and power’ (Starkey, 1998, p. 177), becomes the determinator of pedagogical development, there may be a closing of significant new, learning-related divides that bear a more resilient impact than those represented by the use of the tired, clichéd ‘digital divide’ spanning between the technology ‘haves’ and ‘have-nots.’

This paper reveals several aspects of cybereducation that are important to educators: it is a continuously-evolving arena that holds the potential for greater influence as it strengthens, and it is susceptible to the same political power as other activities in education. Presently, the decoupling of the emergent field from the national educational establishment has allowed the government to define the ‘best way’ for educators to teach using the tools of cyberspace. Bourdieu puts this best: ‘the specifically symbolic power to impose the principles of construction of reality—in particular social reality—is a major dimension of political power’ (1977, p. 165). By recognising this and using Bernstein to understand the NGfL’s structuring of reality, our ability to critically analyse the discourses it represents is heightened. With such reflexive awareness, we have access to much more than government-endorsed lesson plans.

Acknowledgements

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Notes

1. This is in the arenas of formal (classroom) or informal (non-classroom or ‘distance’) education. My definition is narrower than ‘education technology’, which implies all uses of hardware, and broader than the oft-used ‘Asynchronous Learning Networks’, which refers to a system of personal and technical connections.

2. One example of a formative environment (what Bourdieu refers to as situs) for cultivation is the school, as it ‘provides those who have been directed directly or indirectly to its influence not so much with particular and particularised patterns of thought as that with general disposition, generating particular patterns that can be applied in different areas of thought and action, which may be termed cultural habitus’ (Bourdieu, 1971a, p. 194).

3. Foucault’s field is ‘made up of the totality of all effective statements (whether spoken or written), in their dispersion as events and in the occurrence that is proper to them’ (1982, p. 210). As opposed to Bourdieu, he emphasises the deconstruction of discourse voices without an
Placing cybereducation in the UK classroom

examination of the positioning struggles that enable voices to be heard. For more on his discursive structures, see Mills (1997).

4. Evidence of the importance of field-specific style in establishing credibility within a field can be seen in what is now known as 'The Alan Sokal Affair' in which Sokal, a New York University professor of physics, published a paper in a prominent peer-reviewed cultural studies journal, employing all of the requisite cultural studies language but representing ideas that could be identified as gibberish by 'any undergraduate student in math or physics' (Sokal 1996a, 1996b). The acceptance of the paper for publication has been heralded by Sokal as delegitimisation of the field of cultural studies.

Details can be found on: http://www.physics.nyu.edu/faculty/sokal/ (8/20/03).

5. 'Cyberspace' was first coined by William Gibson (1984) in his groundbreaking science fiction novel Neuromancer. 'Cyberspace. A consensual hallucination experienced daily by billions of legitimate operators … A graphic representation of data abstracted from the banks of every computer in the human system' (p. 51). Its contemporary usage is in reference to environs one occupies online. For some of the most insightful work on online communities and culture, see Jones (1997), Rheingold (1993), Wellman (1997), and Silver (2000).

6. These publications, including Leading & Learning with Technology, Journal of Computing in Teacher Education (JCTE), Journal of Research on Technology in Education (JRTE), Multimedia Schools, Journal of Interactive Learning Research, The Technology Source, Journal of Asynchronous Learning Networks (JALN), Technology Focus: Learning Technologies in K–12 Classrooms, when combined with the torrent of new books written on cybereducation, begin to represent relevant literature. Additionally, the presentation of papers comprising this literature at cybereducation conferences, such as CyberEducation 2002: U.S. Education and the High-Technology Workforce, in February 2002, serves to secure greater cultural capital for the academic.

7. This difficult identification could nonetheless be accomplished empirically. We could note the academic capital of those who submit to the journals, or to account for the non-academic contributors to the field, we could examine which journals are most referenced by authors. These three were the most-referenced journals.

8. Self-interest of Microsoft is arguably at play here in attempting to terminally subvert Apple’s first-mover advantage into the educational technology arena, initially created by Apple CEO Steve Jobs’s donation of one computer to every school in America in the 80s. See Trotter (2001) for more.

9. A report on their efforts states: The AeA and The Nasdaq Stock Exchange are pleased to present CyberEducation 2002. The new report compiles, in a single document, K–12 and postsecondary education data at the national and state level and assesses the implications for the high-technology industry. ‘The high-tech industry is keenly interested in improving education in order to ensure a viable workforce in the future. We need skilled workers, most with a college education in order for our companies to prosper,’ said William T. Archey, AeA President and CEO. See http://www.aeanet.org (8/20/03) for more on the AeA.

10. Calls for the abolition of the ‘undemocratic’, nineteenth century—or what Paulo Freire calls ‘banking-method’—teaching style, in which the student is expected to absorb the information given (within the conventional confines of the school, of course,) was a focus long before the Internet was in widespread use in education. More than thirty years ago, Ivan Illich (1971) suggested that computers could be used to create ‘learning webs’ as a form of ‘a deschooled society.’ He envisioned a ‘peer-matching network’ that could pair up people in every field of work or topic with those with similar interests, circumventing what he saw as school’s narrow definition of appropriate education. We could extrapolate that if people, when computing, occupy a wholly different space that in which they reside in daily, offline life (e.g. Turkle, 1995), then cybereducation facilitates Illich’s ideal.

11. This recognition of value has begun to occur, at least in the United States. For instance, of the top ten ranked research schools of education there, seven have developed extensive doctoral programs and/or research centres for the study of cybereducation and educational...
technology more broadly. For details, see: http://www.usnews.com/usnews/edu/beyond/gradrank/edu/gdedut1.htm (8/20/03).

12. We know ‘gridwatch was set up by the Government and is operated by the British Educational Communications and Technology Agency (BECTA) to enable action to be taken to exclude inappropriate materials from the National Grid for Learning (NGfL)’ (BECTA, 2002d). Further, ‘the NGfL portal is being developed by a diverse and enthusiastic content team drawn from educational and ICT sectors’ (BECTA, 2002c). ‘The team’ provides contact information for one of its members.

13. ‘Distance’ education is also addressed in the literature and in the NGfL, but I chose not to address this level because it is unclear how it might be represented in Bernstein’s pedagogic device.

14. For example, a recent issue of the journal ‘Teacher Development’ entitled Information and Communication Technology and Pedagogy (Brindley & Selinger, 2001), contains four articles on pedagogies of cybereducation.

15. A development emblematic of this pace is the State’s recent move to address pedagogical issues through its ‘Virtual Teacher Centre’. This positive move brings BECTA closer to offering an online space for the PRF, although the material therein remains created by the government.

16. In a promising development, differentiated levels of access are beginning to be parsed in a recent book by Mark Warschauer (2003), Technology and social inclusion: rethinking the digital divide.

References


