The OECD Learning Compass 2030 and the Future of Disciplinary Learning: A Bernsteinian Critique

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Hughson, T. A., & Wood, B. E. (2020). The OECD Learning Compass 2030 and the future of disciplinary learning: a Bernsteinian critique. *Journal of Education Policy*, 1-21. doi:10.1080/02680939.2020.1865573

Submitted 24 April, 2020. Accepted Dec 14, 2020

**Abstract**

The ‘*Learning Compass 2030’* was released by the OECD in 2019 as their new policy framework for the compulsory schooling sector. This framework takes the bold step of asserting that access to disciplinary knowledge is central to schooling, putting it in stark contrast to previous OECD reports which have advocated instead for more generic skills and competencies. Drawing on Basil Bernstein’s concept of the pedagogic device, this paper critiques the way the *Learning Compass 2030* imagines disciplinary knowledge. It argues that while its inclusion offers an exciting possibility, the way that the *Learning Compass 2030* continues to be governed by the instrumentalist logic of knowledge economy discourses prevalent in previous OECD documents means that disciplinary knowledge is constructed in a limited way. Instead of a tool which opens up new perspectives to students, the *Learning Compass 2030* positions disciplinary knowledge almost exclusively as something which has an immediate and practical value in a marketised world. In taking this step, the *Learning Compass* denies the critical, transformative powers of disciplinary knowledge, thereby undercutting students’ access to frameworks which will allow them to reimagine and ultimately better our society.

**Keywords**: OECD; Learning Compass 2030; disciplinary knowledge; knowledge economy; Bernstein; pedagogic device

# Introduction

The *Learning Compass 2030*, launched in 2019, is the OECD’s first attempt to develop a comprehensive ‘roadmap’ for curricular reform. It is the most significant piece of work to emerge so far from the OECD’s larger *Future of Education and Skills 2030* project, which began in 2015. In the words of Andreas Schleicher, Director of the Directorate of Education and Skills at the OECD, the *Learning Compass* is ‘a framework [which] helps countries structure their thinking of what is important for tomorrow’s world in terms of the knowledge, skills, attitudes and values’ they need to support their students to develop (OECD, 2019f). The OECD is not alone in its contribution to global educational frameworks. Other recent frameworks include UNESCO’s *Framework for Action 2030,* which was developed in partnership with other global organisations such as the World Bank (UNESCO, 2015), and the UN’s education-focused *2030 Agenda for Sustainable Development,* complete with 17 Sustainable Development Goals (United Nations, 2015). In making such detailed specifications for education in the *Learning Compass,* the OECDpositions itself as a leader amongst international organisations attempting to govern the future of education, with the ultimate hope, again in the words of Schleicher, of offering a ‘structure that systematises to build national curricula in a way that is sort of predictable’ (OECD, 2019f). The *Learning Compass 2030* therefore marks a new phase in the OECD’s work in education policy, where for the first time they offer a detailed framework of exactly what curricular priorities nations should adopt as they move into the third decade of the 21st century.

Our interest in this paper lies in one key area where the *Learning Compass* marks a decisive break with previous OECD work: its assertion that alongside transferable competences and skills, disciplinary knowledge ‘will continue to be important’ (OECD, 2018, 5) for students to acquire in 21st century schools. Prior to the development of the *Learning Compass 2030*, the OECD had either claimed disciplinary knowledge was no longer useful for students to focus on or had simply eschewed discussion of such knowledge altogether. This is because the OECD has continually conceptualised the purpose of education primarily with reference to the idea of the ‘knowledge economy’, a framing which leads to education, and knowledge in particular, being imagined largely as a tool in the service of economic advancement (Brown et al. 2008; Kallo, 2020; Lauder et al., 2012; Robertson, 2005). From this perspective, disciplinary knowledge has until now been positioned primarily as an outmoded, irrelevant form of knowledge because it has not been seen to directly support the development of, for example, new products or more efficient workers (Harris and Ormond, 2019; Lauder et al., 2012; Winter, 2012).

The question this paper takes up, then, is how we are to view this sudden about turn by the OECD. It is possible to read the OECD’s recent acknowledgement of the importance of disciplinary knowledge positively as a move away from an exclusive concern with skills and competencies which have clear and immediate economic value (see Xiaomin and Auld, 2020). However, we argue that a deeper exploration is needed into how such knowledge is conceptualised in the *Learning Compass 2030*. Our goal in this paper is to use Bernstein’s concept of the pedagogic device to critically evaluate the way disciplinary knowledge is conceptualised within the *Learning Compass.* In doing so, our paper offers a detailed examination of the changing curricular priorities of global organisations like the OECD, as well as contributing to the ongoing and increasingly prominent conversations about the place of disciplinary knowledge in schooling (see Counsell, 2011; Rata, 2015; Rudolph, Sriprakash and Gerrard, 2018; Young and Muller, 2013; Zipin, Fataar and Brennan, 2015). Through this investigation, the paper also contributes to wider discussions about the growing role of global organisations in shaping education policy discourses, and the impact of this on students as current and future citizens of our societies.

We begin below by outlining the concept of the ‘knowledge economy’ and show its centrality to understanding how the OECD and other supranational organisations have conceived of the function of education in the 21st century. We illustrate this through an examination of two previous OECD reports, *Knowledge Management in the Learning Society* [*KMLS*] (OECD, 2000) and the *Definition and Selection of Key Competencies Report* [*DeSeCo*](OECD, 2005; Rychen and Salganik, 2003), revealing how these drew on knowledge economy discourses to assert that disciplinary knowledge lacks value compared to more transferable competencies. Following this, we outline Bernstein’s idea of the pedagogic device, and in particular, Bernstein’s two types of knowledge, thinkable and unthinkable knowledge, the former being more theoretical and critically-oriented knowledge, and the latter being more practically applicable knowledge. We also draw on Bernstein’s theory of hierarchical and horizontal knowledge structures to develop a robust conceptualisation of disciplinary knowledge. This Bernsteinian framework is then used to conduct a critical discourse analysis of key *Learning Compass 2030* documents. Our analysis reveals the tendency in these documents to focus only on the thinkable or practically-useful aspects of disciplinary knowledge, and underplay or eschew reference to the unthinkable aspects of such knowledge. We argue that through this, the *Learning Compass* potentially cuts students off from powerful ways of thinking about and understanding the world, something which is problematic given the OECD’s increasing role in the governance of education systems globally.

# The Global Policy Context: The Knowledge Economy, the OECD and Transferable SkillsIn order to understand the OECD and its position on disciplinary knowledge in the *Learning Compass 2030*, it is first important to understand the discursive context the OECD, and indeed other global organisations, have historically drawn on when theorising about education: that of the ‘knowledge economy’. In the words of the OECD (1996, 7) in its foundational *Knowledge-based Economy* report, the knowledge economy is one ‘based on the production, distribution and use of knowledge’ where knowledge is ‘a driver of productivity and economic growth’ (4) rather than a combination of capital and labour (see also Drucker, 1993; Friedman, 2005). This idea of the ‘knowledge economy’ has had a profound effect on how education is conceptualised. By tying the ‘economy’ so strongly to ‘knowledge’, the knowledge economy necessarily becomes ‘a social imaginary that has education at its centre’ (Lauder et al., 2012, 1). This is because unlike in economies which are conceived as being dependent on labour (which at most requires a modicum of technical training) and capital, knowledge economies are imagined as being dependent on highly educated individuals who can manage the knowledge said to now be driving economic growth.

 The concept of the knowledge economy has had many impacts on the formation of education policy globally. It can be seen as a driver behind endless government reports and strategy documents, as nations seek ways to enhance their economic competitiveness through changes to their education systems (see for example Casey, 2006; DfE, 2010; DBIS, 2016; Obamba, 2013). Its influence can also be seen in initiatives like PISA (Grek, 2009; Pongratz, 2006; Sellar and Lingard, 2013), and in prominent education reports by organisations like the World Bank (Robertson, 2005; World Bank, 2011). However, the interest of this paper is in the vision the OECD puts forward for the kind of curriculum schools need to adopt in order to develop ‘a new kind of learner/worker for the twenty-first century knowledge economy’ (Robertson, 2005, 158).

Driven by the idea of needing to create agile, flexible individuals who can operate as ‘knowledge workers’ in the 21st century, from the late 1990s the OECD began calling for educational institutions to focus on developing transferable, domain-general knowledge, skills and capabilities in students rather than traditional subject-based disciplinary knowledge. From the perspective of the knowledge economy, disciplinary knowledge holds little value, because its roots in university academic communities ostensibly mean that it has no clear link to economically fruitful activities such as creating new products or solving business problems (OECD 1996, 2000, see also Lauder et al., 2012). As Winter (2012, 301) puts it, it has therefore been the case that for economically-focused global organisations like the OECD, “‘traditional” education systems with their separate subject framework are constituted as a source of the curriculum knowledge problem’ (see also Allais, 2012; Harris and Ormond, 2019), this ‘curriculum knowledge problem’ being the apparent misalignment between disciplinary knowledge which still dominates schooling (especially secondary schooling) via school subjects, and the needs of the economy. Until the arrival of the *Learning Compass*, the argument has been that removing, or at least reducing the amount of, disciplinary knowledge in school curricula will lead to better education systems which are more capable of preparing students for modern society. We can see this vision for curricula clearly by turning to two selected OECD reports, *KMLS* and *DeSeCo*, both of which give a clear insight into the OECD’s curricula priorities up to 2019, and therefore act as useful precursors to the *Learning Compass 2030*.

 The *KMLS* Report which came out in 2000, was the first OECD report to explicitly draw the lines between the knowledge economy and education and learning. Although it declared that the so-called ‘traditional curriculum’ was ‘not the focus of this study’ (37), it still included a ‘critique of contemporary schooling’ (Robertson, 2005, 158), making it a useful starting point to understand the OECD’s vision for education. Firstly, *KMLS* stated that we must ‘define a new role for schools in building and servicing a knowledge-based society’ (OECD, 2000, 11), thereby explicitly repositioning the school’s role as handmaiden to the knowledge economy. This repositioning was most clearly articulated in comments about the tertiary sector, but they apply equally to the report’s vision of the compulsory schooling sector. *KMLS* states that while ‘traditionally, the main purpose of tertiary institutions was the advancement and diffusion of knowledge through education and research in various disciplines’, governments are justifiably seeking to ‘make such institutions more responsive to “the market” and to place greater emphasis on immediately useful or applicable knowledge’ (68). The move to encourage tertiary institutions to focus chiefly on ‘immediately useful or applicable knowledge’ was wholeheartedly endorsed by the authors of *KMLS*, who agree that disciplinary knowledge has little value to the economy.

This idea is again visible in *KMLS* in the idea that so-called ‘know-what knowledge’ (14), that is, factual knowledge portrayed as being the mainstay of school curricula, is understood to be knowledge that ‘becomes obsolescent very quickly’ (69). Much more worthwhile are other types of knowledge, such as ‘know-why’: understand the principles and laws behind phenomena, or ‘know-how’: have skills, know how to do something (14).These types of ‘knowledge’ are valued as it is suggested they allow the ideal student/worker to not just know facts, but to become a ‘knowledge mediator and manager, a continuously updating and innovating cultural machine in the circuit of capital’ (Robertson, 2005, 158). Here then we see clearly the OECD’s initial solution to Winter’s (2012, 301) ‘curriculum knowledge problem’: disciplinary knowledge is rejected in favour of kinds of knowledges which ostensibly allow students to participate more readily in the 21st century economy as it is imagined by the OECD.

 The *DeSeCo* was initiated by the OECD in 1997, with a final report released in 2003 and a more widely-cited summary in 2005. It built on the work of *KMLS,* as well as other OECD documents such as *Competencies for The Knowledge Economy* (OECD, 2001), and was the OECD’s first major attempt at explicitly articulating what kinds of curricular priorities it believes are worthwhile. Its stated focus was defining three competencies it believes are needed to be a ‘competent individual’ (Rychen and Salganik, 2003, viii) in the 21st century: 1.): use tools interactively; 2.): interact in heterogeneous groups; 3.): act autonomously. Although its final report did not explicitly refer to the ‘knowledge economy’, it is clear that its thinking was grounded in a consideration of how schooling needs to change in order to adapt to new economic realities. For example, in its justification of the ‘using tools interactively’ competency, the report asserted that ‘the social and professional demands of the global economy and the information society require mastery of socio-cultural tools for interacting with knowledge’ (OECD, 2005, 10).

In its promotion of these competencies, *DeSeCo* made no claims about disciplinary knowledge, which is ignored or is otherwise absent from its vision. The only reference to ‘knowledge’ at all involved comments about how competences go ‘well beyond the basic accumulation of knowledge’ (OECD, 2005, 8). It is clear that *DeSeCo*’s solution to the ‘curriculum knowledge problem’ (Winter, 2012, 301) was to simply eschew reference to disciplinary knowledge entirely, advocating instead just for students to develop the transferable competencies that the OECD believes will allow them to manage knowledge effectively. The *Learning Compass 2030*, then, is interesting in the way in which it brings the acquisition of disciplinary knowledge back into the curricular picture. Before we undertake an analysis of this however, we must first outline the theoretical framework which we use to conduct this analysis.

# Theoretical FrameworkWe draw on the work of Bernstein here to develop a theoretical framework through which to analyse the *Learning Compass 2030* and the position of disciplinary knowledge within it. Although Bernstein’s work does not specifically address the rise of the OECD and other supranational organisations, there is a growing recognition that Bernstein’s conceptual grammar has the potential to illuminate research into the way these organisations seek to govern education (Cobb and Couch, 2018; Robertson and Sørensen, 2018; Singh, 2015; Tyler, 2010). In what follows, Bernstein’s concept of the pedagogic device will be outlined, and his concepts of hierarchical and horizontal knowledge structures will be used to develop an understanding of disciplinary knowledge and its value.

## Bernstein’s Pedagogic Device

Bernstein’s concept of the pedagogic device captures the idea of a tool which acts as a ‘symbolic regulator of consciousness’ (Bernstein, 2000, 37), that is, it is a pedagogic tool which has particular rules of operation, and which attempts to regulate what can be thought about or not thought about in a given domain. For Bernstein, ‘governmental power is exercised through pedagogic means’ (Singh, 2017, 145), and therefore, if we wish to fully understand how populations are governed, we must understand the ‘intrinsic grammar of pedagogic discourse’ (Bernstein, 2000, 28), which is what the idea of the pedagogic device allows us to do. In this study, the OECD’s *Learning Compass 2030* will be considered to be a pedagogic device, with our analysis focusing on the ways its form and its message (in Bernsteinian terms, both the relay and what is relayed) regulate what can (and cannot) be thought about in the domain of disciplinary knowledge (cf. Robertson and Sørensen, 2018, and their analysis of the OECD’s *Teaching and Learning International Survey* [TALIS] as a pedagogic device).

How does a pedagogic device regulate what can be thought about within a given domain? Essentially, Bernstein (2000) says that any given pedagogic device ‘has internal rules which regulate the pedagogic communication which the device makes possible’ (27). These internal rules, and the pedagogic communication which emerges from them, then ‘act selectively on the meaning potential… [which is] the potential discourse that is available to be pedagogised’ (27; see also Singh, 2002; Moore, 2013a). In the case of this study, the ‘potential discourse’ available is that related to disciplinary knowledge: there are a wide variety of meanings that can be attached to such knowledge, and the pedagogic device of the *Learning Compass* acts selectively on this discourse to produce certain meanings which regulate how disciplinary knowledge is understood/seen/imagined.

 Bernstein offers us three interrelated rules which the pedagogic device operates through: distributive rules, recontextualising rules, and evaluative rules. We are focused here on the distributive rules, as the other two rules, the recontextualising and evaluative rules, are concerned with how the ideas initially developed by the pedagogic device are disseminated and ultimately turned into ‘any pedagogic practice’ (28), something which is beyond the scope of this analysis. The primary role of the distributive rules is to ‘distribute different forms of consciousness through distributing different forms of knowledge’ (28). Bernstein distinguishes primarily between two forms of knowledge, which he calls ‘thinkable’ and ‘unthinkable’ knowledge (28). These terms draw a division between knowledge which is practical and has utilitarian value (thinkable knowledge), and knowledge which is more esoteric, abstract and open-ended (unthinkable knowledge) (see Moore, 2013a). What defines the unthinkable in particular is the fact that this knowledge is ‘transcendental’ and it ‘postulates’ (29); that is, it has the capacity to take individuals beyond their current realities and allows them to imagine new and different realities.

The distributive rules essentially govern what is to be categorised as thinkable and what is to be categorised as unthinkable, and then they ‘attempt to regulate those who have access to this site [the site of the unthinkable], and in this way control alternative possibilities’ (30-31). Bernstein argues that by strictly controlling the unthinkable, a given pedagogic device can strictly control the realm of alternative possibilities, i.e., can limit the citizen’s capacity to think outside the reality or ‘consciousness’ the creators of the pedagogic device wish for the citizen to be able to think within. It is important to recognise, however, that a pedagogic device cannot ever entirely control the unthinkable. Bernstein asserts that in its attempt to exert control over the unthinkable, the pedagogic device necessarily reveals the presence of the unthinkable**.** This means that even when a pedagogic device is attempting to control access to the unthinkable very tightly, there will always be a possibility of individuals gaining access to it. Using Bernstein’s pedagogic device, our analysis focused on how the *Learning Compass 2030* attempts to regulate access to unthinkable aspects of disciplinary knowledge, and in doing so, attempts to govern national education systems and ultimately govern the ‘forms of consciousness’ (Bernstein, 2000, 28) available to the citizenry.

## Understanding Disciplinary Knowledge and its Value

Our critique of notions of disciplinary knowledge in the *Learning Compass 2030* requires a theoretical framework to understand the nature of such knowledge. We turn again to Bernstein and his theories of vertical and horizontal discourse and hierarchical and horizontal knowledge structures to help us develop this. Bernstein (2000, 156) distinguishes between two types of discourse. The first of these is ‘horizontal discourse’, which is ‘usually typified as everyday or “common sense” knowledge’ (157). Knowledge which falls into the category of horizontal discourse is ‘context specific and usually context dependent’ (159), such as how to tie one’s shoelaces. In contrast, knowledge which falls into the category of vertical discourse ‘consists not of… segments but of specialised symbolic structures of explicit knowledge’ (160). Vertical discourse takes two forms. The first of these is the ‘hierarchical knowledge structure’ which is a ‘coherent, explicit and systematically principled structure’ (159) which ‘attempts to create very general propositions or theories’ (160) such as the sciences do. The second is the ‘horizontal knowledge structure’ which offers ‘a series of specialised languages with specialised modes of interrogation’ (161). For example, sociology offers specialised languages and methods of analysis associated with Marxism, post-structuralism and so on.

 Bernstein’s theoretical framework has been taken up and developed by many groups of scholars to develop an understanding of disciplinary knowledge and its benefits. Chief among these are the social realists, who are concerned with what they see as ‘a drift towards relativism’ (Moore, 2013b, 335) in education, where no knowledge is understood to be better than any other knowledge (Moore and Muller, 1999). Drawing on Bernstein’s understanding of vertical discourse, social realists maintain that academic disciplines offer access to ‘powerful knowledge’, that is, knowledge which is ‘better – epistemically, morally or aesthetically – than other [knowledges]’ (Young and Muller, 2013, 231). This is because they assert disciplines allow the careful development of conceptual knowledge over time, which is admittedly never perfect, but is constantly refined and improved by communities of experts largely located in universities (Morgan, Hoadley and Barrett, 2017; Young and Muller, 2013; see also Kelly, Luke and Green, 2008).

 The social realist understanding of disciplinary knowledge has been challenged by many. Firstly, critics have pointed out that university-based disciplinary communities are not necessarily the highly objective groups that social realists consider them to be. As communities which are dominated almost exclusively by white, wealthy men in Europe and North America, they have a number of inbuilt biases (Edwards, 2014; Ivinson, 2019; Rudolph, Sriprakash and Gerrard, 2018) and offer particular modes of understanding which are frequently intertwined with the European imperial project (see Driver, 2001; Simpson, 2014). As Rudolph, Sriprakash and Gerrard (2018, 27) write, disciplinarity has a ‘shine’, in that it can offer these new perspectives and frameworks, but also a ‘shadow’ in the way it is biased and can work to uphold ‘colonial modernity’ and distort our understanding of the world. Disciplines therefore construct particular realities and ‘occlude other ways of knowing’ (Ivinson, 2019, 5; see also Zipin, Fataar and Brennan, 2015). Other scholars have highlighted that the assertion that disciplinary knowledge should always be placed above so-called ‘every-day knowledge’ in schooling is deeply problematic. Ivinson (2019), for example, has highlighted how such an assertion means that much that might be useful in culturally-located, location-specific knowledge, such as indigenous knowledge or sensory knowledge needed to thrive or survive in particular places, is seen as not valuable for students to acquire.

 These critiques and weaknesses of disciplinary knowledge acknowledged, it is still the case that, as Bernstein allows us to see, disciplinary knowledge grants us access to general principles or theories (hierarchical knowledge structures), and specific languages and modes of inquiry (vertical knowledge structures) which are not accessible to us via our everyday experiences, and which help us understand the world and approach it from different perspectives (see also Becher, 1989; Deng, 2018; Neumann, 2009). Importantly, these knowledge structures are developed at least somewhat independently of the market by specialised academic communities. This means that disciplinary knowledge, although imperfect, may continue to be focused on questions of truth and ‘the development of human powers and dispositions’ (Deng, 2018, 374) in a broad sense, rather than being shaped by whether it has ‘market relevance’ (Bernstein, 2000, 86), as knowledge increasingly is within the knowledge economy (see also Ball, 2004; Lyotard, 1984).

We understand disciplinary knowledge in this light; we must remain deeply cognisant of its weaknesses and recognise it is not the only useful knowledge, but at the same time, it still has some ‘power’ in the way it can, in Bernsteinian terms, offer us access to both ‘specialised modes of interrogation’ and ‘very general… theories’ (Bernstein, 2000, 161) not available to us elsewhere. This, at least, is our account of disciplinary knowledge at its best. As we shall see when we move to our analysis of the *Learning Compass 2030*, it is possible to imagine disciplinary knowledge in much more reductive, utilitarian terms which deny the ways in which disciplinarity can open students up to new understandings and perspectives. Before arriving at this analysis, however, we outline our methodology.

# Methodology

This paper draws on Bernstein’s theory to conduct a critical discourse analysis (CDA) of documents related to the *Learning Compass 2030* which focus on disciplinary knowledge. CDA is concerned with deconstructing textual constructions of the world. These may ‘appear, given, commonsensical, or “natural”’ (Luke, 1999, 168) but actually constitute a particular view of the world designed to uphold asymmetric power relations (Fairclough, 2003, 2010). It is possible to see Bernsteinian theory and CDA as not particularly compatible, given that Bernstein (2000, 4) is often critical of what he calls the ‘Parisian version’ of social analysis: the poststructuralist work that CDA is typically understood to be aligned with. However, Bernstein (2000, 4) remained dedicated throughout his work to a detailed analysis of the ‘structure of discourse itself’, its ‘inner logic’ and developing a language to describe the precise ways in which the construction of any given text or piece of discourse is shaped by a ‘dominating distribution of power and principles of control’ (see also Atkinson, 1985; Robertson and Sørensen, 2018; Singh, 2017). Accordingly, a number of researchers have made use of Bernsteinian concepts within a CDA framework (see for examples, Chouliaraki, 1998; Chouliaraki and Fairclough, 1999, 2010; Krzyżanowski, 2016; McDougal, Walker and Kendall, 2006; Svendsen, 2015), and the analysis we conduct below builds on the work of these scholars.

Our analysis makes use of all publicly available documents related to the *Learning Compass 2030*, with a focus chiefly on those documents which deal directly with disciplinary knowledge. The *Learning Compass* is not captured by a single document or ‘final report’: instead, it is made up from a wide variety of material mostly located on the following website: https://www.oecd.org/education/2030-project/teaching-and-learning/learning/. This material includes a position paper, overview documents, ‘concept notes’ on key aspects of the *Learning Compass* (including one on knowledge), and videos which are accessed off the main site through hyperlinks. We restricted our analysis to all documents accessible from this initial *Learning Compass 2030* portal. In addition, this website is constantly being added to and updated. Therefore, it is important to note that this study was conducted on the website between the period of December 1, 2019 to January 31, 2020, with the specific dates that resources were accessed included in this paper’s reference list.

Following the identification of relevant documents, both authors separately examined these. In line with our CDA approach, each author’s focus was not only on the content of the OECD documents, but also on the particular dialectical-relational contexts of the social discourses, power and social processes within which these documents were constructed (Chouliaraki, and Fairclough, 2010; Fairclough, 2010). This involved an ‘oscillation’ when reading the texts between the immediate semiosis and broader ‘macro-level’ social structures and discourses (Fairclough, 2010). In particular Fairclough (2010, 234) suggests that in CDA one should focus on ‘how social agents pursue their strategies semiotically in texts’. In our case, this involved looking at how the OECD, as an agent, pursued broader strategies such as the promotion of the idea of the ‘knowledge economy’, vis-à-vis the semiotic construction of disciplinary knowledge in the *Learning Compass*. Bernstein’s conceptual grammar provided the primary means through which we interrogated this semiotic construction, allowing us to better see the assumptions, silences and incongruities around representations of disciplinary knowledge in these documents. Both authors read all documents multiple times, and engaged in an iterative process of annotation and note making as they considered how particular semiotic constructions could be dialectically related to broader contexts and the OECD’s particular positionality. They then compared their initial analysis and collaborated to produce the analysis in the following section.

# Analysis: Disciplinary Knowledge in the *Learning Compass 2030*

We now come to look at the *Learning Compass 2030* itself and examine its portrayal of disciplinary knowledge. It is first important to locate the *Learning Compass* in the context of knowledge economy discourses, as unlike previous OECD work, it does not explicitly use the terms like ‘knowledge economy’ or ‘knowledge society’ to frame the problem it is trying to solve. Nevertheless, it is clear that the *Learning Compass*, and the *Education and Skills 2030* project as a whole, continue the trend of the OECD imagining education through the lens of how it can contribute to the development of a dynamic market economy, thereby participating fully in the ‘learning = earning’ (Lauder et al., 2012, 2) discourse at the heart of the idea of the knowledge economy.

In the *OECD Future of Education and Skills 2030 Project Background* paper (OECD, 2019c), which outlines the purpose of the project, we are first told that the aim of the project is broad. It should help students ‘adapt to, thrive in and even shape whatever the future holds’ so that they can ‘help propel humanity towards a bright future’ (1). However, the specific meanings of these rather ambiguous first phrases remain vague. As the paper develops, it is clear these particular capacities are imagined with reference to the world of work and of the economy more broadly. The OECD claims that economies are facing ‘unprecedented challenges, including an exponentially faster rate of technological change’ (3). In response to this, it is the case that ‘education systems need to undergo transformative change too’ so that they support individuals ‘to create new products and opportunities’ and ‘maximise the period of “prosperity” for all’ (3).

Although, in a departure from some previous OECD work, the future world imagined is explicitly stated to be one that is ‘inclusive and sustainable’ (3), the fundamental dynamic of education as serving economic development by supporting human capital formation remains unchanged. The paper is filled with graphics focused on the way the economy is changing (one focuses on how we are in ‘Industry 4.0’ [3], another on how working is becoming more ‘non-routine’ [5]), and frequent reference is made to changes in technology and the workplace. From a Bernsteinian perspective then, it is therefore clear that when the *Learning Compass* as a pedagogic device ‘act[s] selectively on the meaning potential’ (Bernstein, 2000, 27) of disciplinary knowledge, it does so governed by the logic of knowledge economy discourses, even if these are not named as such. Such discourses form a key context which the semiotics of the *Learning Compass* can be seen in relation to (Fairclough, 2010). We shall see how this knowledge economy logic, fundamentally concerned as it is with education as serving a practical, utilitarian role in support of the economy, ‘regulate[s] the ideal universe of potential pedagogic meanings’ (Bernstein, 2000, 27) of disciplinary knowledge, restricting the meaning of this knowledge to something more practical, utilitarian, and economically-oriented.

 To examine closely how the *Learning Compass* acts on the meaning potential of disciplinary knowledge, we analysed its ‘concept note’ for knowledge. This outlines four types of knowledge that are seen as valuable for students to acquire (see Table 1). These are:

[Table 1 approx here]

This is a significant change from the types of curricula priorities advocated for in both *KMLS*, and *DeSeCo*, which were focused on domain-general, non-disciplinary knowledge and transferable competencies and skills. Here, three of the four knowledges are disciplinary in some sense. However, the way in which disciplinary knowledge is imagined brings it more into line with the non-disciplinary, ‘immediately useful or applicable knowledge’ (OECD, 2000, 68) advocated for by the OECD previously. This is because disciplinary knowledge here is almost always conceived of in a limited, utilitarian sense of knowledge which is useful either for the acquisition of other types of knowledge, or for solving largely practical, work-oriented problems.

 This is captured most clearly in the section specifically dedicated to disciplinary knowledge in the knowledge ‘concept note’, which begins with the sentence: ‘disciplinary knowledge is needed in order to understand the world, and as a structure through which other types of knowledge can be learned and developed’ (OECD, 2019a, 5). Initially the arguably less utilitarian phrase ‘understand the world’ is used here, potentially hinting at how disciplinary knowledge can be useful in the way it offers access to, in Bernsteinian terms, ‘specialised modes of interrogation’ or ‘general propositions and theories (Bernstein, 2000, 161; see also Deng, 2018). However, this idea is not developed. Instead, the idea that disciplinary knowledge is ‘a structure through which other types of knowledge can be learned and developed’ (OECD, 2019a, 5) comes to the fore, as the value of disciplinary knowledge is imagined in terms of how it can support the acquisition of other, more useful, types of knowledge. The opening paragraph of this section continues:

As students acquire disciplinary knowledge, they also become able to connect knowledge across different disciplines (interdisciplinary knowledge), they learn how this knowledge is applied in different situations by practitioners (epistemic knowledge), and they learn about different processes and methods for using this knowledge (procedural knowledge). (OECD, 2019a, 5)

These latter three knowledges are presented as much more immediately useful knowledges for students to acquire. For example, the concept note’s section on interdisciplinary knowledge opens with the statement that ‘identifying multiple solutions to complex problems requires thinking across disciplines, or connecting the dots’, a capacity which is identified as ‘interdisciplinary knowledge’ (OECD, 2019a, 6). In this way, interdisciplinary knowledge is figured as something useful, something which has ‘market relevance’ (Bernstein, 2000, 86), (it can be used to solve complex problems), while disciplinarity is figured as something which builds towards interdisciplinarity, rather than being an end in itself.

 When disciplinary knowledge is talked about on its own, the terms in which this is done are peculiar. For example, the only concrete example of disciplinary knowledge given in the concept note is in the following paragraph:

The subject-specific concepts and detailed content of disciplinary knowledge that students learn are also influenced by the knowledge, skills, attitudes and values that are prized in society at the time. One major trend shaping the economy and society is the increasing use of artificial intelligence (AI). Because of this technological development, researchers find that students will need to acquire different types of knowledge and understanding. According to Luckin and Issroff (2018), people should understand basic AI concepts, be digitally literate, be data literate, know online safety, understand basic AI programming, understand the ethics of AI, and, for some people, know how to build AI systems. (OECD, 2019a, 5-6, references in original).

This example is peculiar for a number of reasons. Firstly, it positions what students learn as they acquire disciplinary knowledge as deeply influenced by ‘society at the time.’ In some sense, this is undoubtedly true. However, stating this without a recognition of the ways disciplinarity communities are also at least somewhat independent from the immediate concerns of society in the way they draw on ‘specialised language’ (Bernstein, 2000, 161) developed over time within the academy rather than in relation to market demands again represents a limited conception of disciplinary knowledge. It positions it as immediately useful, and in doing so downplays the fact it can offer a beneficially critical distance from society’s immediate concerns. Secondly, the examples given here of knowledge related to AI are in no clear sense examples of ‘disciplinary knowledge’. Instead, the idea of being digitally literate or knowing online safely are far more akin to the generic, transferable competencies favoured by DeSeCo. It is possible to imagine disciplinary knowledge related to AI, grounded in disciplines such as computer science, mathematics, or even philosophy. Instead however, the examples given in this paragraph consist largely of functional skills. One imagines the outcome of a student acquiring such skills being that they can advance the development of artificial intelligence, and so contribute to the development of the economy and society, but not that they necessarily have access to, for example ‘general propositions and theories’ (Bernstein, 2000, 161). We therefore have here a clear example here of how disciplinary knowledge is represented in incredibly limited terms; indeed in this case, it is not even clear that what is represented as disciplinary is even disciplinary at all, or, if it is, the disciplinary aspects of such learning are not highlighted.

In Bernsteinian terms, the ‘meaning potential’ of the concept of disciplinary knowledge is selectively acted upon in these examples so that the unthinkable aspects of disciplinary knowledge, its ability to be ‘transcendental’ or to ‘postulate’ (Bernstein, 2000, 29), to allow one to move beyond the immediate and day-to-day concerns of society and economy and imagine them differently, is almost eliminated here. Instead, disciplinary knowledge is represented only in terms of the thinkable, the mundane. It is given a practical value. Sometimes this is located in its capacity to allow access to other types of knowledge, such as interdisciplinary knowledge which is considered to be more useful for problem solving. At other times this is located in its capacity to offer understanding of phenomena ostensibly directly related to economic prosperity, such as artificial intelligence. From a CDA perspective, it becomes clear that the ostensibly ‘neutral’ portrayal, or semiotic form, of disciplinary knowledge here is actually influenced by its dialectal relation to broader discourses and the broader purposes of the OECD. Principally, the idea that we live in a ‘knowledge economy’ and education must at least to some extent serve the neoliberal purpose of human capital formation has shaped the conception of knowledge, positioning it as something which has a principally practical application.

This narrowed conception of disciplinary knowledge is carried through into the other parts of the *Learning Compass* website, such as the example videos provided in its ‘knowledge’ section (OECD, 2019d). Four videos are provided which are intended to demonstrate what the teaching of knowledge might look like in actual schools. However, instead of there being one video for each of the four knowledges listed in the table above, the OECD provides two videos for epistemic knowledge, one for interdisciplinary knowledge, and one for procedural knowledge. There is no video for ‘disciplinary knowledge’, further reinforcing the idea that disciplinary knowledge is simply a tool through which to access these other types of knowledge, rather than being a useful end in and of itself.

In a few of these videos, learning that could in some way be classed as disciplinary is occurring. For example, in a video focused on epistemic knowledge (which we must recall the *Learning Compass* defines as knowledge of how experts in particular disciplines think, see Table 1), a number of schools in Chile are shown engaging with a programme called ‘*Experimento’*. This is a programme designed by the international non-profit organisation Siemens-Stiftung, which is funded by the international technology company Siemens. *Experimento* involves a discovery-based learning approach, where students conduct practical scientific experiments with kits provided by Siemens-Stiftung. In the video, an education academic is heard saying that through these experiments, students are learning ‘how to think scientifically’ and ‘how to think using these new languages of technology’ (OECD, 2019e). Therefore, in some sense they are engaging with disciplinarity, that is, they are potentially learning to engage with ‘specialised languages with specialised modes of interrogation’ (Bernstein, 2000, 161) though this learning.

However, the video does not go into detail as to what particular scientific disciplines are being explored, and what particular languages and modes of inquiry might be being developed. Instead, it prefers to dwell extensively on how the project-based learning approach of *Experimento* is engaging and interesting for students. In this sense, though disciplinarity is potentially present, its richness is not laid out, and it only receives a momentary reference. Again too, it is constructed in terms of the thinkable or mundane, not the unthinkable. The way that disciplinary knowledge is imagined here is practical - it is acquired through and used in the process of conducting experiments with Siemens-Stiftung kits (we see clips of students engaging with things such as small electrical circuits and soil trays). There is no depiction of students engaging with either hierarchical knowledge structures associated with science and the access they provide to ‘general propositions and theories’ (Bernstein, 2000, 161), or the horizontal knowledge structures associated with science such as modes of inquiry specifically related to chemistry, for example. Indeed, *Experimento* is positioned by an education academic speaking in the video as much better than ‘learning a concept and then forgetting it’. In this sense, the possibilities of disciplinary knowledge in science to allow deep and rich inquiry into fundamental theoretical or conceptual questions is elided here; at most it is presented as something which has practical application and practical utility.

Bernstein (2000, 30) writes that one thing that characterises the thinkable is when there is a ‘direct relation to a material base’ (30), that is, where knowledge is tied to its immediate context, rather than in some sense abstracted from it. In this video, disciplinary knowledge, despite, in Bernsteinian terms, ideally being able to offer access to ‘specialised symbolic structures’ (Bernstein, 2000, 160), is always constructed semiotically as directly tied to a practical, physical context. It is never positioned as something through which students might acquire complex, theoretical perspectives and bodies of knowledge through which to view the world. The other videos (OECD, 2019d) confirm this. Each depicts students engaging with largely practical tasks within the context of project-based programmes of learning. Disciplinary knowledge again sometimes emerges in the broad sense of learning to ‘think scientifically’ or ‘do scientific things’, but beyond that, these videos, which are ostensibly about teaching knowledge, are principally concerned with extolling the values of active, discovery pedagogies. Notably, no examples are offered for the humanities or other subject areas where disciplinary learning is likely to be less immediately practical or have less clearly tangible outcomes.

Overall then, disciplinary knowledge emerges from the *Learning Compass* in a limited form. Its ‘meaning potential’ (Bernstein, 2000, 27) is reduced so that it is imagined as something which can help students access other knowledges, or is something which has practical utility – it can help students master AI, for example. In this sense, the unthinkable aspects of disciplinary knowledge, its ability to allow one to transcend their immediate context, to imagine ‘the possibility of an alternative order, an alternative society’ (Bernstein, 2000, 30) is eschewed. There is very little focus on how students may be inducted into specific, specialised disciplinary ways of thinking or how they may engage with bodies of specific content which they can draw upon to approach the world in novel, and therefore potentially critical, ways.

Finally, it is important to recognise how this vision of disciplinary knowledge gains power from the form of the *Learning Compass* itself. Part of the power of the OECD is that because it sits outside of national governments, it is able to position itself as a ‘neutral facilitator’ and present its ideas as ‘neutral and logical’ rather than partisan (Matus and Talburt, 2015, 239). The *Learning Compass* does exactly this. It does not present its ideas as one option among many, just one perspective in a debate over what is important for students to learn, or how disciplinary knowledge is to be understood and made use of. Nor does it actively declare the ways in which it is imagining disciplinary knowledge explicitly from the perspective of how it might be better integrated into the knowledge economy. Instead, through the use of simple, factual language and declarative statements, combined with the weight of the OECD brand, it presents what it says as obvious or apparent: a clear and unbiased guide for all nations to follow, upheld by statements that it ‘is the product of collaboration among government representatives, academic experts, school leaders, teachers, students and social partners… who have a genuine interest in supporting positive change in education systems’ (OECD, 2019a). While our CDA has critiqued the ostensible neutrality of the OECD and its discursive outputs, we must recognise that the way the *Learning Compass* projects itself as the neutral product of consensus gives it the potential to wield enormous normative power. We turn more fully to this issue in the next section.

# Discussion

It is useful at this point to return to the problem referred to near the start of this paper, Winter’s (2012, 301) ‘curriculum knowledge problem’, which highlighted the apparent gap between the practical, instrumentalist, utilitarian view of knowledge promoted under the idea of a knowledge economy, and the way in which schools are still mostly wedded to the teaching of academic, disciplinary knowledge which in large part is not designed to service the economy. As we have seen, before the *Learning Compass 2030*, the OECD, in its advocacy of curricula which would serve the knowledge economy best, dealt with this fundamental problem either by advocating for schools to move away from disciplinary knowledge, or by ignoring the question of disciplinary knowledge altogether through advocating for the development of broader competencies.

However, the *Learning Compass* presents a novel solution to what Harris and Burn (2011) call this ‘ideological fracture’ (248) between disciplinary knowledge and the needs of the knowledge economy. Instead of calling for moving away from such knowledge, a move which clearly has not been successful given the way that the vast majority of schools are still organised, we have revealed that it instead attempts to subtly reshape the meaning of disciplinary knowledge, there-by co-opting it for the knowledge economy project. We have previously discussed how disciplinary knowledge, by its nature, is in some sense detached from the economy, at least to a degree. It does not necessarily ‘have self-evident educational value’ (Kelly, Luke and Green, 2008, vii) in the sense that it does not add any kind of immediate value to businesses or economic productivity, at least not through simple application. However, the way it is constructed discursively in the *Learning Compass* brings it into line with the understanding of knowledge promoted in knowledge economy discourses, where knowledge is ‘seen as a codifiable commodity which is produced, measured, marketed, sold and distributed in the marketplace’ (Winter, 2012, 298). Disciplinary knowledge, in being imagined as a route to other ‘useful’ knowledges or as a way to develop capacity in an economically-relevant area like AI, is figured as a kind of practical, useful knowledge rather than something which offers the capacity for critical distance.

 In order to grasp this more fully, it is useful to consider the kinds of examples of disciplinary knowledge which the OECD could have included in their *Learning Compass* material beyond the examples discussed above, but chose not to. Harris and Burn (2011), for example, in their discussion of the ways in which disciplinary knowledge in history is marginalised by the logic of the knowledge economy, discuss the potential ways in which a disciplinary understanding of history may give students certain insights and capabilities that a more ‘practically’-oriented education does not. They note here how learning to assess the validity of sources like a historian will allow students to be engaged and critical citizens, rather than those who are unable to distinguish fact from fiction in both public and historical discourse:

If students are to acquire the historical knowledge that politicians of all parties regard as essential to the development of responsible citizenship, they need sufficient understanding of the discipline to recognise what makes such knowledge genuinely historical, as distinct from myths or legends. They also need sufficient knowledge to give them a coherent overview – a meaningful framework – that will enable them to accommodate and process the new ideas and insights they will go on acquiring about past events. (Harris and Burn, 2011, 257)

One could imagine, in an alternative universe, a *Learning Compass* which gave an example of students using the concepts, methods and notions of validity unique to history, that is, history’s ‘specialised languages with specialised modes of interrogation’ (Bernstein, 2000, 161), to analyse and then write about either historical or contemporary representations of their society, as part of their development towards being more empowered citizens. This example offers a case of what Pring (1999 cited in Winter, 2012, 307) means when he writes that when students come to master humanities disciplines, this ‘initiation into such a tradition gives a certain political independence, the power to resist the persuasions and propaganda of those with political power’. One can imagine similarly transformative examples of students developing disciplinary knowledge within specific scientific disciplines such as chemistry or physics, where such knowledge gives them a degree of understanding which goes well beyond the practical scientific knowledge or general ability to ‘think like a scientist’.

None of this is to say, of course, that the acquisition of disciplinary knowledge, and the more unthinkable, conceptual or abstract aspects of it in particular, is the only thing necessary for students to have a ‘good’ or ‘empowering’ education. As discussed in the section above on disciplinary knowledge, it remains the case that there can be immense value in non-disciplinary ways of thinking, including those which draw on practical or indigenous traditions (Ivinson, 2019). It also must be remembered that disciplinary knowledge does have a ‘shadow’ to its ‘shine’ (Rudolph, Sriprakash and Gerrard, 2018). Although it can offer access to propositional knowledge and uniquely powerful modes of inquiry, it can also induct us into ways of thinking which are Eurocentric in nature and which therefore can be used to uphold the hegemony of colonial structures (Driver, 2001; Simpson, 2014), something we must continually be wary of.

These qualifications acknowledged, it is clear that the OECD’s vision of disciplinary knowledge is one which does not necessarily embrace either the ‘shine’ or ‘shadow’ of disciplinarity. Instead, it embraces an instrumentalist view of disciplinary knowledge as something with utility, rather than as something which can enliven and enrich one’s ability to reason and critique. This should be of concern to educators, especially given Schleicher’s hope that the *Learning Compass* framework will make national curricula worldwide more ‘predictable’, that is, more homogenous and more in line with the vision of education espoused by the OECD. Schleicher here clearly articulates the way in which the *Learning Compass* as a pedagogic device can be seen to govern pedagogically. That is, through its particular discursive construction of disciplinarity and the way it promotes this, it has the capacity to act, as Bernstein (2000, 37-38) says, a ‘regulator of consciousness’ and, at a broader level, as a ‘condition for the production, reproduction and transformation of culture’.

We have not had space here to explore the pedagogic device’s recontextualising and evaluative rules, and therefore cannot empirically map the ways in which the *Learning Compass* may be seen to be governing national education systems and their students. There is clearly potential for this kind of research to be carried out in the near future, however, with the OECD already beginning to use the *Learning Compass* as a framework through which to assess the quality of national curricula (see OECD, 2019b, although this report does not specifically refer to disciplinary knowledge). What is clear from our critical discourse analysis here though is that in promoting its narrow, limited vision of disciplinarity, the *Learning Compass* has the capacity to shift national understandings of disciplinary knowledge and through this potentially regulate the consciousnesses of students such that they no longer have access to a critical, open-ended understanding of disciplinarity. If the view of disciplinary knowledge articulated here were to penetrate national curricula and eventually impact upon students’ consciousnesses, then the education students would be receiving would almost certainly be poorer, not richer.

# Conclusion

With the creation of the *Learning Compass 2030*, the OECD continues to assert itself as a leader for education in the 21st century. Moving beyond commenting on education in broad terms or making claims such as those in *DeSeCo* about particular competencies students should master, the *Learning Compass 2030* sees the OECD attempting to shape the whole of the curricular design process, providing a comprehensive roadmap for reform. This paper has shown that despite at times appearing to present a view of education as something powerful and useful in its own right, this curricular roadmap ultimately remains committed to a vision of education in service to the ‘knowledge economy’. Focusing specifically on disciplinary knowledge, we have shown that such knowledge is imagined by the *Learning Compass* in a narrow, utilitarian way which emphasises ‘market relevance’ (Bernstein, 2000, 86) rather than the way it can offer access to ‘specialised modes of interrogation’ or ‘very general propositions and theories’ (Bernstein, 2000, 161).

 However, it is also clear that the *Learning Compass*’s vision is not a *fait accompli*. Bernstein (2000, 31) writes that while the distributive rules ‘attempt to set the outer limits of legitimate discourse’, in this case what can be thought and said about disciplinary knowledge, they can never control any given discourse entirely, as discussed above. In other words, the pedagogic device is ‘not deterministic in its consequences’ (38). It is often the case that the OECD’s vision of education has enormous normative impact, owing to its apparently neutral stance. However, as has been shown here, the OECD is in fact tied to a very particular view of education which is grounded in the idea that education’s role is in primary service to the economy (Kallo, 2020). If we imagine education less as handmaiden to the economy, and more as concerned with the formation of human powers more generally (see Deng, 2018; Levine, 2006), then it is possible to see a future in which disciplinary knowledge in the fullest sense, not the limited sense captured in the *Learning Compass*, plays a vital part in the development of students and in the formation of an educated citizenry.

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**Acknowledgements**: Thank you to friends Kieran Gainsford and Chris Carr, who provided useful feedback on earlier drafts of this article. Thanks too to our reviewers, whose comments have allowed us to significantly strengthen our arguments here.

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