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The vocational–academic divide in neoliberal upper secondary curricula: the Swedish case

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Highlights (maximum 85 characters including blanks):
A 'market relevance' curriculum has consequences for how knowledge is distributed. Students in VET are trained to 'do' and to 'adapt', while students in HEPP are trained to 'think' and to 'imagine possibilities'. Students from different social classes are thus prepared for very different roles in society.

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The vocational-academic divide in neo-liberal upper-secondary curricula. The Swedish case

There is a historical tension in post-compulsory education between a more general and a more specific focus, made visible in some educational systems by the division into more academic and more vocational programmes. Embedded in this tension are questions of social justice and the purposes of education. In addition, division into academic and vocational programmes has class dimensions, since youth with working class backgrounds are often over-represented in vocational programmes. This study investigates how this tension is handled in the Swedish upper-secondary curriculum, which reflects an international neo-liberal policy trend in promoting competition, employability and employer influence over the curriculum. By analysing how the educational content of vocational educational and training (VET) programmes and higher educational preparatory (HEP) programmes is contextualised we found that the two programme types were based on very different logics. In VET programmes knowledge is strongly context-bound and often related to regulating behaviours. This is in sharp contrast to how knowledge is contextualised in HEP programmes in which less context-bound knowledge and skills such as using concepts, models and critical thinking are dominant. Students on VET programmes are trained to 'do' and to 'adapt' while the students on HEP programmes are trained to 'think' and to 'imagine possibilities': thus students from different social classes are prepared for very different roles in society.

Keywords: Curriculum evaluation; vocational education; equal education; social class

1. Introduction

The distinction between vocational and academic education is one of the most pervasive and persistent divisions in the history of education. Like other long-term phenomena it has become 'natural' or hegemonic (Polesel 2008). However, this arrangement is not a given but has come about historically and has been determined by a range of often contradictory factors and actors (Bathmaker 2005; Young et al. 1997). Some of these factors, at least since the emergence of formal democracy, relate to struggles between societal forces such as unions, employers, and political parties over different ideas about knowledge, learning and the purpose of educational systems (Alexiadou et al. 2016; Apple 2004; Hickox and Moore 1992). The organisation of education matters because it has an impact on all from individual life chances to how knowledge and power are distributed in society. One might argue that the polarisation between proponents of 'the general' and 'the specific' during recent decades has been intensified by globalisation, with on the one hand less skilled labour moving to low wage countries or being replaced by technology and 'just in time' management (Odih 2007) and on the other higher demands regarding workers' technical and language competences (Niemi and Rosvall 2013; Weelahan 2010). To address the latter the European Commission has, since the 1990s, emphasised the need for life-long learning (Pépin 2007), and across Europe there are both examples of reforms in line with the Commission's promotion including general knowledge in vocational education, and reforms narrowing the education towards more specific skills (Avis and Orr 2016).

This article takes as its departure point a critical research tradition that focuses on how education systems and educational reforms impact on class relations (Apple 2004; Beach and Dovemark 2011; Bernstein 2000). Previous studies encompassing all parts of the education system from kindergarten through to higher education have shown that students' social class has a strong impact on factors ranging from teachers' expectations (Avis and Orr 2016) and assessment (Marcenaro-Gutierrez and Vignoles 2015) to students' educational choices (Alexiadou et al. 2016) and results (Gustafsson, Katz and Österberg 2016). In this critical tradition such class inequalities are understood primarily as expressions of power and control rather than as natural differences arising from for example genetic predisposition or innate talent.

Contemporary society holds an enormous amount of knowledge which is organised and contextualised in different ways in different fields. Which knowledge is it important to impart in schools? Who should make this selection? Which students should gain which knowledge? Different views about the goals and functions of education would give different answers to these questions, and the divisions between vocational and academic programmes in post compulsory education in Sweden are in part an expression of this (Hickox & Lyon 1998). Our aim in this study is to shed light on how knowledge is contextualised and distributed through curricula when vocational training is guided by a principle of 'market relevance', and to explore what this implies in terms of class, power and control. Class relations are often mediated through other structures, such as gender or ethnicity. Initially our analysis also included the distribution of knowledge in relation to gender, but at a paper presentation at the European Conference on Educational Research (Nylund, Ledman, Rosvall 2016) we were encouraged to split the paper into two in order to not treat each theme superficially.

1.1. The Swedish case

The vocational-academic divide in Sweden is particularly interesting because Nordic countries often are portrayed as socially just societies with educational systems that strongly promote equality (Lappalainen and Lahelma 2015). In Sweden this ambition is manifest in a comprehensive school system in which students all follow the same curriculum until the age of 15-16, at which point they select which track to follow in upper secondary school.

Post-war education policy in Sweden prioritised preparing all students for their role as active, critical workers and citizens, and reforms were implemented to reduce distinctions between vocational and academic education and create a less stratified educational system (Hickox & Lyon 1998). In 1971 vocational education was integrated into the upper secondary school system, and the first joint upper secondary curriculum in Sweden was created (Lgy70). Under this regime vocational education had, until recently, become progressively broader and more generalised, and less tied to specified tasks or occupations. From an international perspective (cf. Brockmann, Clarke, & Winch, 2010), Sweden's VET system has thus been regarded as being relatively undifferentiated from more academic pathways. Hickox & Lyon (1998) views this organisation as a consequence of a range of factors, the most important probably being the class power balance in Sweden that led to a 'class compromise' between labour and capital and a corporatist state management over education and other central welfare institutions. Combined with the absence of a strong and united political right, this led to a situation in which (primarily Social Democratic) ideas about promoting equality and fostering democratic citizens could dominate over traditional goals from educational

conservatives such as a strong division between academic and vocational education and direct employer control over the VET-curricula.

However, the influence of neo-liberal ideas in political processes over the last decades have shifted the distribution of wealth and balance of power in societies (Harvey 2005; Hickox and Moore 1992), and the Swedish 'class compromise' seems to have been abandoned in this process as capital have become more powerful at the expense of labour (Wahl 2011). In parallel, the policy approach of promoting unification and citizenship has become marginalized in favour of promoting goals such as competition and employability. Though being a trend identified since quite a few years back (cf. Hickox & Lyon 1998; Hickox and Moore 1992) this is most clearly expressed through the latest reform of upper-secondary school initiated by a right wing government in 2011, in which VET programmes are characterised by stronger ties to working life and greater focus on apprenticeships, competition, employability and employer influence over the curriculum (Nylund 2012). The reform is departing from a dominant principle of 'market relevance', especially in how VET is perceived, where the main purpose of VET is described as being to:

> [...] match education supply with labour market demand to facilitate the transition of young people from vocational education to working life. (Govt. Bill, 2008/2009: 199: 47; our translation)

This tendency reflects a policy discourse that is also prominent in many other countries (Weelahan 2010) such as Germany and England (cf. Brockmann 2012). In this approach market principles steer vocational education which often has a focus on relatively low-skilled work-based learning (Canning 1998; Wheelahan 2007). A curriculum based on market principles in this way can be described as Competency Based Training (CBT) (Weelahan 2007) or neo-liberal CBT (Hodge 2016): that is, what constitutes relevant knowledge is determined by notions of competence (Bernstein 2000) or employability (Weelahan 2010). The 2011 reform of upper-secondary education in Sweden (Govt. Bill 2008/09: 199), which laid the ground for the curriculum (Lgy11) analysed in this article, is a clear expression of this broader trend in vocational education.

From a Marxist perspective, a key purpose of VET is socialising pupils for working class positions (Nylund 2012), i.e. positions defined by their low-skilled and subordinate character in the social relations of production (Wright 1997). Since a predominant proportion of the students attending these programmes have working class backgrounds (Broady & Börjesson 2006), there is a tendency of education contributing to a division between 'intellectual' and 'manual' labour (cf. Althusser 1972; Bernstein 1981; Bourdieu 1986). An illustration of the classed character of the different programmes in upper-secondary school is presented in the table below which sets out the educational background of parents of students applying to different programmes.

Table 1. Students background and upper-secondary programme

2. Theory and method

The study has the design of a comparative case study where we have conducted a two-stage qualitative analysis on the national curriculum regulating Swedish upper secondary education. The analytical framework draws primarily on Bernstein's notion of vertical and horizontal organisation of knowledge.

4

2.1 Theoretical frame

Existing research in curriculum studies (cf. Apple 2004; Davies 2015; Young 2008) and the sociology of knowledge (cf. Nylund and Rosvall 2016; Wheelahan 2010) has shown how the same educational content can be contextualised in different ways, with implications for what kinds of roles as workers and citizens students are prepared for. Drawing on concepts such as 'selective traditions' (cf. Apple 2004, Sund and Wickman 2011) and 'horizontal and vertical discourses' (Bernstein 2000; Wheelahan 2010) the existing literature shows how very different types of knowledge are built depending on how educational content is linked to different contexts and types of problem, e.g. technical, political, historical, mundane or disciplinary. Our study takes a similar approach to analysing how knowledge is bound to different contexts in different curricula, and what this implies for the type of knowledge that students are offered. We see this as a question of power and control in that who we are, what we think about and how we act in the world depend heavily on what we presume to know about the world. Thus, different types of knowledge enable or constrain different kinds of thinking and action, bestowing differing degrees of access to and legitimacy in different contexts (Bernstein 2000).

In our analysis the concepts of horizontal and vertical discourses (cf. Bernstein 2000, Young 2008) will serve as 'umbrella-concepts'. These represent different logics for contextualising knowledge. In a horizontal discourse the basic principle that guides the contextualisation of knowledge is its relevance in a local or everyday context such as a work-place setting. Horizontal discourses are usually created through the practical application of knowledge in such settings and they both begin and end in the empirical. Vertical discourses are, by contrast, theoretical, abstract and conceptual. They are based in disciplinary systems of meaning in which knowledge is arranged in order to raise questions of cause and effect, and to consider phenomena in different contexts through the use of concepts and models. It is knowledge with a purpose that goes beyond the empirical. Vertical discourses are thus powerful in enabling abstract thinking, whilst horizontal discourses are powerful in understanding specific empirical contexts. Bernstein (2000) described vertical discourses as creating a discursive gap between the material and the immaterial, thus offering alternative ways of thinking about the (social and natural) world. A crucial property of vertical knowledge discourses is that they are the means by which society conducts its conversation about itself, both what it is and what it should be. Access to vertical knowledge is thus a prerequisite for partaking in these discussions, i.e. a crucial part of the democratic role of educational institutions (Bernstein 2000; Weelahan 2010).

However, knowledge is rarely organised purely into one of these discursive forms. Rather most practices, from conducting research to taking care of an elderly person, involve both these discourses but to differing degrees. VET programmes sit in an interesting position in this regard. They are tied to work-place contexts, but the knowledge that underpins the relevant practices is simultaneously often based in disciplinary systems of meaning (Young and Gamble 2006). Thus how knowledge should be contextualised in VET is not a given. Knowledge could be contextualised through a more vertical discursive logic in which particular practices are related to different systems of meaning, opening up an understanding of the contingency of current practical arrangements. Alternatively, knowledge in VET could be contextualised according to the principle that students should first and foremost be able to perform specific tasks, or adapt to existing conditions, reflecting a more horizontal discourse. For example, shifting a camshaft in the Vehicle and Transport programme or doing book-keeping in the Business Management programme could focus only on the

'doing' or could be contextualised in relation to disciplinary knowledge that underpins the practice, the workplace environment in which those practices are performed, positions within and relations between occupations, natural resources use, and other considerations.

2.2. Method

In a process of several stages, data was collected, analysed and explained (cf. Carspecken & Apple 1992). We started our inquiry with a review of all the policy documents which govern upper-secondary education in Sweden, with the intent to identify how knowledge is contextualised in different programmes. As a result of that process, we selected two of the 12 VET-programmes (Vehicle and Transport, Restaurant Management) and three of the six HEP programmes (Social Science, Natural Science, and Business Management).

Each of the two selected VET programmes shares several similarities with other VET-programmes. Vehicle and Transport shares similarities with Building and Construction, Electricity and Energy, Industrial Technology and HVAC and Property Maintenance. The Restaurant Management shares similarities with Business and Administration, Handicrafts, and Hotel and Tourism programmes. The two selected VET programmes also span significant differences in the social backgrounds of students with the Vehicle and Transport programme attracting the fewest students with highly educated parents and Restaurant Management being on the upper end of this scale. Between them, then, these two programs can be said to share similarities with 9 of the 12 vocational programs. Two of the VET programmes - Health and Social Care and Children and Recreation – were not selected because they differ significantly from the others in terms of involving less context-bound knowledge. This is illustrated inter alia by the fact that disciplinary subjects are a part of their programme core. In addition, university studies are needed in most cases within the employment field, which make them differ in relation to most other VET programmes. The same is also true of the Natural Resource use programme, although to a lesser extent.

Besides having the highest enrolment, the selected HEP programmes illustrate the two main categories of higher education programmes, i.e. social and natural sciences. Business Management can be regarded as a form of applied social science and is thus particularly interesting for analysing the contextualisation of knowledge. Amongst the HEP programmes the Social Science and Business programmes have the lowest proportion of students with highly educated parents whilst the Natural Science programme has the highest proportion. The Humanities programme was not selected because it has relatively few students.

Our analysis is based on national curriculum texts operating on different levels of upper-secondary school (Lgy11). On the highest level we find the introductory chapters, which stipulates general objectives and common goals such as fostering active citizens capable of critical thinking. These chapters are not included since they do not differentiate between the programmes. At the next level programme-specific 'diploma goals' are set out. The Diploma goals are central to this enquiry since they are to permeate all teaching in the respective programmes.[1] Below the diploma goals are subject plans, which classify and frame the knowledge to be covered in various subjects. The subject plans, in turn, contain a number of course syllabuses and the corresponding

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[1] The diploma goals, including the descriptions of programme specialisations, consist of approximately 1-2 pages (700 words) and can be found in Lgy 11.

criteria for assessing student performance. Subjects fall into three types: (i) foundation subjects, which are compulsory for all students attending any upper-secondary school programme; (ii) programme-specific subjects ('programme core') which all students on that programme take; and (iii) specialist subjects. Our analysis looks at the diploma goals, foundation subjects and programme-specific subjects of the selected programmes. Regarding the foundation subjects, we include the subjects that have different courses for HEP and VET programmes, which is Swedish, Social science, Natural science, History and Mathematics. Specialist subjects are excluded since these subjects involve a deepening of disciplinary knowledge in HEP programmes and a deepening of applied knowledge in various professional contexts in the VET programmes and thus would only accentuate the patterns identified in this study. In conclusion, the subjects analysed in this study are:

Table 2. Programme-specific and Foundation subjects

2.3. Data analysis

The documents were approached with a query of how knowledge is legitimised. We sought to unveil ideas and thoughts of what knowledge and abilities the learners in respective programme need in relation to their social and economic position (cf. Prior 2004). The first stage of analysis of the entire corpus, i.e. the entire national curriculum for upper secondary school (Lgy11), resulted in the selection of programmes and their respective diploma goals, subjects and courses. In the second stage, the texts underwent a process of close reading where we sought to identify discursive logics for how content is contextualised in the different programmes. The questions guiding the analysis were: (i) what key contexts is the content bound to? (ii) What knowledge, skills and abilities are promoted/ downplayed? (iii) What type of social and epistemic relations underpins the knowledge? (iv) How does different levels of the curriculum, in terms of what knowledge that is promoted, relate to one another? In the process, a number of themes were identified[2]. These are below organised under three broad themes, which permeates the contextualisation of educational content – language and communication; skills and abilities; perspective pluralism and disciplinary knowledge – followed by a comparative analysis of the foundation subjects. Our analysis was conducted using the original texts in Swedish. In this English version of results we have used the English version of the curriculum as translated by the Swedish National Agency for Education.

　　　　Before moving on to the results, two points need to be stressed. Firstly, as stated above, it is not a given how knowledge in VET should be organized. It has historically clearly been the case that horizontal discourse is more prominent in VET while vertical discourses are more prominent in HEP, but this has varied between and within countries over time and is not an argument for that this always should be the case. Knowledge in disciplinary subjects could be contextualized towards specific practices[3] while knowledge in vocational subjects could be contextualised towards

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[2] Examples of themes are: Language and communication; A scientific approach; To do or to think; Subordination/Control; Knowledge Verbs; what the student will be able to do?; Exam work; what shall the student be able to do at the end of training?; What is the role of the student in, and what relationship to, society?; Classification and knowledge in horizontal and vertical discourses; The "Range" of knowledge.

[3] In fact, this is, according to Bernstein (2000) one of the most fundamental trends in the latest transition of capitalism and the global organisation of knowledge in (especially higher) educational institutions. Bernstein describes this as singulars becoming increasingly regionalised, e.g. physics being

conceptual systems of meaning. Secondly, through this understanding of knowledge, different types of knowledge have different powers. Vertical knowledge is fundamental for making possible educational goals such as critical thinking, exploring alternatives and partaking in 'societies conversation' (Weelahan 2010; Young 2008). Access to vertical discourses thus becomes a question of social justice, especially in a class context since access to this type of knowledge historically has been limited for working class students (Apple 2004; Bernstein 2000), e.g. in Swedish VET-programmes. With this in mind, lets move on to the results.

3. Results

3.1. Language, communication and critique

3.1.1. Language, communication and critique in diploma goals
Clear patterns emerge from comparing how VET and HEP programmes contextualise language, by which we mean both direct skills in various languages and more general skills such as communication and source criticism. In HEP programmes language is presented as an important intellectual tool, and it is put in the context of mastering a scientific approach, including skills such as source criticism, which is itself a central objective of these programmes. The use of ICT in HEP programmes is linked to skills such as seeking out, presenting and communicating information, meaning it is also placed in the context of broader language skills. The excerpt below illustrate how language is contextualised in HEP programmes:

> Students should thus be given the opportunity to develop the skill of assessing different types of sources, and the ability to distinguish between statements based on scientific and non-scientific grounds. […] The ability to search for, select, process and interpret information, and acquire knowledge of new technology is important for scientists and mathematicians. The education should thus provide good practice in using modern technology and equipment. (…) Language is a tool for communication, as well as for reflection and learning. The education should thus develop students' ability to argue and express themselves in advanced writing and speaking situations related to science and mathematics. (Natural Science programme)

The contextualisation of language in VET differs substantially from that in HEP programmes, binding the use of language to specific workplace contexts. The following extract from the Vehicle and Transport programme, which constitutes the only mention of language in the relevant diploma goals, illustrates this:

> The education should give students skills in managing and developing relationships with co-workers and customers. Students should also develop appropriate use of language that functions in different situations using vocabulary that is adapted to the area in both Swedish and English. In addition, students should develop their

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contextualised towards engineering or chemistry being contextualised towards medicine. This is, according to Bernstein, a part of a dramatic change in how knowledge is being organised and transmitted in which market relevance is the guiding principle. In line with this discussion one way of describing the dominant organisation of knowledge in VET under a market-steered curriculum would be 'generic'. However, this discussion is beyond the scope of this article.

ability to document their work in accordance with the requirements existing in the industry. (Vehicle and Transport programme)

This context-boundedness in the VET programmes is also evident in how the importance of language and the use of ICT are framed. There are no objectives that relate to source criticism. The extracts below show how both ICT and more general communication skills are tied to professional contexts with weak links to scientific contexts or more general skills:

> Knowledge of different computer systems is needed in all the occupations the education leads to. The education should thus develop students' ability to use computers and computer systems as required in their work. (Vehicle and Transport programme)

> Communication is an important part of functioning in a team. Since work in the vocational area is usually carried out by people working together, the education should develop students' ability to cooperate with others, irrespective of gender, cultural background, age, position or competence. (Restaurant Management)

In the Restaurant Management programme there is no explicit mention of ICT, nor of what related skills the student should learn.

In conclusion, two different discursive logics emerge from scrutiny of these texts. The discourse in HEP programmes is of a more vertical character and rewards more general skills while the dominant discourse in VET programmes is more horizontal and rewards more contextual skills. The HEP discourse links language to learning, communication and abilities such as argumentation and source criticism, and the ability to use ICT tools is presented as a resource in this context. In contrast the VET discourse links language and the use of ICT to anticipated roles in the labour market, and goals relating to source criticism are absent.

3.1.2. Language, communication and critique in programme-specific subjects

We identify a similar pattern at the next level in the curriculum. The Vehicle and Transport programme includes two programme-specific subjects (see Table 2) from which goals concerning language in general and source criticism in particular are largely absent. Both courses do include one or two points relating to language and communication, such as '... concepts and phrases that are relevant to the subject area' (Vehicle Technology) but there are no goals or content that relate to students becoming able to assess different types of sources. Similar patterns are apparent in the programme-specific subjects in the Restaurant Management programme: source criticism is absent, and mentions of language and communication are primarily framed around students' ability to adapt to different work-related situations:

> Students should also be given opportunities to develop the ability to handle both positive and negative reactions in service situations. Teaching should contribute to students developing the ability to be sensitive and flexible in different sales situations and think in result oriented ways. (Service and Reception, aim of the subject)

Again, the contrast with HEP programmes is stark: in these, language and communication are positioned in relation to more general contexts and competencies,

and closely related to abstract and critical thinking. The examples below are drawn from the aims of Philosophy and Biology subject areas:

> Students should be given the opportunity to develop tools for analysing and assessing information and thereby develop critical and independent thinking, and the ability to adopt personal standpoints based on well thought out arguments. Furthermore, students should be given the opportunity to develop the ability to understand nuances of language, and to reason logically. (Philosophy, aim of the subject)

> Teaching should also help students participate in public debates and discuss ethical issues and views from a scientific perspective. (…) (…) Teaching should give students the opportunity to discuss and present analyses and conclusions. (Biology, aim of the subject)

At this level in the curriculum too, then, language within HEP programmes is linked to source criticism and critical thinking, a connection that is absent in the equivalent VET programme courses. Unlike the VET programmes, HEP programmes also include modern languages within the programme core, further accentuating the different role of language and communication in the two programme types.

3.2. Skills and Abilities

3.2.1. Skills and abilities in diploma goals

A second key theme relates to what skills and abilities students are expected to master, and in what contexts these are to be applied. When analysing the diploma goals in this context it became clear that very different logics operated under the two programme types. One way to analyse these differences is to look at what we choose to call 'knowledge verbs' and how these permeate the diploma goals for HEP and VET programmes. These knowledge verbs are presented (in non-hierarchical order) in Table 3 below:[4]

Table 3. Knowledge verbs permeating the diploma goals

As the table shows, there are differences between the programme types in this regard. Furthermore, knowledge verbs such as 'understand' and 'discuss' that appear in both programme types, however more common in HEP programmes, are contextualised in different ways. In HEP programmes these and similar verbs are related to skills such as source criticism and a scientific approach. In the VET programme these and other knowledge verbs are related to employees, customers and workplace conditions and the student's abilities in this context. In the same way, knowledge verbs such as 'take initiative' or 'work independently' do appear in HEP programmes, but less frequently and in a less context-bound way than in VET programmes. When it comes to the verbs

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[4] The verbs presented in the table are often used in the diploma goals, but do not always represent the exact wordings, i.e. the table is not based on an exact word count. For instance, formulations such as "… a person works alone with many different tasks…" "… develop students' ability to work both independently, and in teams…" "… solve problems independently.", "… functioning in a team." "… ability to cooperate with others…" (Diploma goals, Vehicle- and transport programme, Restaurant and management programme) all fall under the verb 'Work independently/ in group" in the table.

'to read' and 'to write', these are placed in 'advanced' (Natural Science programme) or 'varying' (Social Science programme) contexts in HEP programmes. They are much more marginal in VET programmes and where they appear the contexts are industry or workplace-related, following the logic of a horizontal discourse.

It is again clear that there are two different discourses of knowledge in operation: in HEP programmes the discourse is geared towards analysis and developing the ability to argue on the basis of that analysis, while in VET programmes it is more about fostering desirable behaviours than about building skills that can be linked to clear fields of knowledge. This observation is reinforced when examining the ways in which knowledge content is bound to different types of relationship. In HEP programmes the focus is on more abstract and general relationships – [society-individual], [man-nature], [thought-action], [theory-practice] – whilst VET programmes essentially focus on relationships in the workplace: [worker-customer], [colleague-colleague], [worker-work place]. A more general pattern is that HEP programmes offer knowledge that enables students to analyse and understand different circumstances and contexts, while VET programmes largely offer knowledge that enables students to adapt to existing conditions.

3.2.2. Skills and abilities in programme specific subjects

Looking at the lower level in the curriculum these conclusions are further amplified. Throughout the subject plans, syllabuses and assessment criteria similar knowledge verbs dominate within each programme type to those identified within the diploma goals. Within HEP programmes verbs such as 'analyse', 'understand', 'interpret', 'reflect' and 'critically assess' permeate the content while the respective verbs in the VET programmes are such as perform, collaborate, follow and use. However, it should be noted that within both the Restaurant Management and the Vehicle and Transport programme there is one programme-specific course that deviates somewhat (see 4.3.2). The pattern of more abstract abilities, such as to reflect, being tied to workplace contexts within VET programmes is also found on this level:

> ...reflect on how the work process influences results. (Catering and Industry Knowledge, aim of the subject)

> ...reflect over the impact of their own attitudes on the quality of service. (Service and Reception, aim of subject)

There is also a clear similarity with the findings at diploma goal level in terms of the relationships knowledge is bound to. In VET programmes relationships concerning everyday business-related discourse dominate. There are some instances of relationships which are more abstract in character such as [man-machine], [business-society], [nutrient function in the body] and [diet-health], but these are subordinate to workplace relationships. In HEP programmes more abstract relationships such as [law-social relations], [law-power], [business-society], [theory-practice], [social context-human behaviour] and [theory-understanding] are central to the content. The HEP course in modern languages partly deviates from this pattern in that the content is bound to more mundane and private settings than the other courses. Additionally, the content of the Business Economics and Law syllabuses within the Business and Management programme are bound to more specific contexts, having a more 'applied' purpose. However, on balance there is still a clear difference in the discursive character of knowledge between the two programme types.

Analysing the subject plans reveals more evidence of differences in how skills and abilities are contextualised in the two programme types. In the HEP programmes abilities that relate to handling knowledge is at the centre, and both course content and assessment criteria focus on building student's abilities to analyse and derive understanding from comparing empirical realities with what theories, models and concepts suggest. VET programmes focus, instead, on fostering behaviours by students which are appropriate and desirable within existing relationships, i.e. the status quo. This is particularly evident in the criteria by which students are assessed. There are some examples of less context-bound knowledge within individual VET courses, for instance topics such as 'orientation about the effects and consequences of alcohol' or 'how people are affected by social contacts, influence and stress' (Catering and industry knowledge). However the latter topic does not form part of students' assessment and the former is assessed in a non-progressive way (i.e. it is a pass/fail topic). Similarly within the 'Service and Reception' course the one content area of a more vertical nature – 'cultural differences in communication patterns' – is a non-assessed topic. Overall, students in VET pathways seem to be assessed largely on the basis of whether they can adapt to the way things are, not the ability to be able to understand situations as contingent and come up with alternative possibilities for action.

The examples below are taken from the assessment criteria for grade A, i.e. the highest grade a student can obtain, within the VET courses and illustrate this focus on steering students' behaviours towards adapting to what is:

> Students take responsibility for material assets and for their own safety and that of others, and keep the workplace well-organised. In their work, students give an account in detail of laws and other regulations governing their work. In addition, students work in accordance with requirements on safety, quality and the environment. (Vehicle technology)

> Students manage with certainty customers or guests in several different service situations in relation to their expectations. Students do this with a correct attitude. In addition, students handle reactions from customers or guests with good results. (Service and reception)

These can be contrasted with the assessment criteria for one of the more application-oriented courses within the HEP programme, Business Economics:

> With the help of some examples, students describe in detail and in a balanced way conditions for companies in relation to basic laws and other regulations, and also in relation to political and socio-economic conditions. (…) Students give an account in detail and in a balanced way of the meaning of business economic concepts. Furthermore, students choose and use with certainty business economic models. By means of models, students explain business economic phenomena and contexts. Students evaluate in balanced assessments the usability of the models.

Business Economics is a subject which is based in Economics as a discipline but is also explicitly geared towards companies. Even so, the way in which the content is contextualised within in the subject plan means that it is not instrumental in the same way that many VET courses are. The content does not simply address the issue of 'what to do at a company', but involves understanding and analysing phenomena and relationships in a critical and confident way. Although the skills are contextualised as 'doing' they do not just amount to adaptation in the same sense as in VET programmes.

An example of this difference is how students' knowledge of laws and regulations is framed: in VET programmes it is essentially following and adapting to laws that is underlined, while in HEP programmes the emphasis is on understanding their controlling effect and what conditions they establish in different contexts.

3.3. Perspective pluralism and disciplinary knowledge

3.3.1. Perspective pluralism and disciplinary knowledge in diploma goals

A strong feature of HEP programmes is that students should have the opportunity to see things from different perspectives, that is, to gain a 'wealth of perspectives'.

> The education should develop, not only the ability of students to reason from the perspective of the individual, company and society, but also their ability to draw conclusions and reflect on the arguments for their standpoints. […] The education should also develop students' ability to structure and present their results in accordance with scientific norms and adapted to their target group. (Business Management programme)

> This includes knowledge about people as individuals, as members of groups, and as participants in a social community, and about structures in society, activities and functions. (Social Science programme)

A pluralism of perspectives, or 'perspective wealth', is expressed in different ways in the various HEP programmes, but the common theme is that students in these programmes should be able to see the same phenomenon in different contexts and from different perspectives. In all HEP programmes students are expected to understand the contemporary with the help of historical knowledge; to understand ideas and theories as historical processes, and to consider cause and effect. This again contrasts with VET where the contextualising logic is dominated by concern for 'the present' and 'how it is'.

Perspective wealth is strongly connected to disciplinary knowledge in that they are both based on reasoning using theories, concepts and models. Both the Business and Management and the Natural Science programmes make explicit references to disciplinary fields, a connection that is very weak in most VET programmes. This contrast is further illustrated by the diploma goals for HEP programmes, which make repeated reference to concepts and abstract meaning systems such as 'legal system', 'physical phenomena', 'national economy', 'chemical processes', 'organisations', 'structures'. These concepts are explicitly connected to abilities such as analytical thinking and explaining different phenomena.

> The education should develop students' scientific awareness by helping them to formulate and investigate questions, and applying the theories and methods used in the social sciences. (Social Science programme)

> Through the education, students should develop a scientific approach. This covers the ability to think critically, reason logically, solve problems, and make systematic observations. […] Understanding of sciences is based on the interaction between theory and practical experience. (Natural Science programme)

The VET programmes refer to many fewer concepts that can be linked to more

theoretically organised systems of meaning. Those concepts that are of a more abstract kind, e.g. hydraulics and pneumatics, are nonetheless strongly linked to a workplace context. The purpose of these concepts in VET is not primarily about gaining intellectual skills but rather mastering the ability to perform tasks, or to reflect on different tasks and practices in the workplace.

> The education should also develop students' ability to work with planning, organisation and finance. […] The education should give students the knowledge needed to work in ways that are correct from the perspective of the working environment, and in accordance with laws and other regulations in the professional area. (Restaurant Management programme)

> The education should develop students' knowledge of technology used in different vehicles or managing transport. […] Students should also develop knowledge about and skills in choosing the right equipment and methods for carrying out tasks with regard to the environment, quality, safety and finance. (Vehicle and Transport programme)

In conclusion, clear differences between the programme types emerge yet again. The contextualisation of knowledge in HEP programmes involves engaging concepts, models and theories, i.e. adopts a vertical discourse, often with explicit disciplinary connections. Students are expected to develop an ability to see phenomena from different perspectives and through systems of meaning that place them in abstract contexts, enabling analysis and explanation. The relationship between theory and practice is also stressed in HEP programmes. In contrast, within VET programmes knowledge is contextualised according to a horizontal discourse, 'how it is' and 'how to do things', and by the absence of connections to knowledge organised in vertical discourses.

A further illustration of how the diploma goals show different contextualising logics at work relates to the final piece of work that students must carry out to obtain their diploma. In HEP programmes this task is intended to demonstrate that students are prepared for higher education by formulating a question and writing a paper on a relevant topic, using scientific principles. On VET programmes the final piece of work aims to show that students are prepared for a specific profession by performing tasks relating to a specific professional area, sometimes in authentic work situations.

3.3.2. Perspective pluralism and disciplinary knowledge in programme specific subjects
Table 2 showed that at a headline level programme-specific subjects in VET and HEP vary with regards to how knowledge relates to specific disciplines. HEP programme subjects have disciplinary titles while VET programme courses are labelled according to the context in which the relevant knowledge is to be applied. The same pattern prevails at the level of subject plans for the different programme types: again more abstract concepts originating from vertical systems of meaning dominate in HEP programmes. This is most clear in disciplinary courses such as Philosophy and Biology, but the pattern is also strong in those courses that are more application oriented.

The two programme specific courses in the Vehicle and Transport programme both have a clear horizontal logic, but do vary somewhat in this respect. Vehicle Technology is mainly about developing abilities to perform various tasks relating to vehicles, with a clear focus on 'behaviour regulation'. The second course, Vehicle and

Transportation Industry, includes more knowledge that is less context-bound, but it is still clearly discursively framed by an industry context. Examples include objectives such as 'knowledge of the industries' activities, areas, structure and role in society.' and 'knowledge of current vocational areas in the industries and the conditions that apply to these areas.' (Aim of subject). This syllabus also sets knowledge goals about conditions, history, professional ethics and the relationship between man and machine. This shows there is more content in this course that extends beyond the purely empirical. The discursive logic is less straightforwardly horizontal, but the dominant context is still the workplace and the disciplinary connections are weak when compared with those in HEP programmes.

Perspective wealth is not only made possible through disciplinary knowledge but can also be acquired by putting knowledge into societal or historical contexts. This type of contextualisation is marginal within VET programmes but is a key element of HEP programmes. For example programme-specific courses in HEP programmes consistently stress that the content should be placed in a societal perspective, something that is rare in VET programmes.

> Teaching in the subject of business economics should aim at helping students develop their understanding of the role and conditions of business in society from local to global levels. (Business Economics, aim of subject)

> It should contribute to students developing their understanding of the importance of biology in society, such as quality of life and health through medicine, and for the protection of the Earth's ecosystems through ecology. (Biology, aim of subject)

The Restaurant Management programme has four programme-specific courses. Three of these courses follow a clear horizontal logic where the content emphasises doing rather than understanding. However, one course, Food and Nutrition, deviates clearly. This course includes significant content and multiple concepts that are tied to more general contexts, for example understanding different food and raw materials' '…nutritional content, chemical structure and functions in the body' (aim of subject). The syllabus also includes knowledge verbs such as 'to problematise issues concerning the nutrition situation in the world'; 'to understand laws and regulations relating to food and raw materials' and 'knowledge about the importance of food and drink for health, at both individual and society level' (aim of subject). These contextualisations are rather unique in VET programmes and the knowledge is clearly intended to go beyond the empirical, thus making perspective wealth possible. At the same time, there still is a major difference between this course and for example Chemistry in the Natural Science programme which has a much stronger scientific and disciplinary character. Although some concepts in Food and Nutrition - such as chemical processes, nutrients and health - are of a more abstract nature, the connection to theories and models is still relatively weak and the relation to society and history less prominent when compared with HEP programme courses.

3.4. Foundation subjects

We now turn our attention to the foundation subjects which play an important role in the upper-secondary curriculum for two main reasons. Firstly they are key to gaining admission to university studies, and secondly they are important in relation to schools' role in educating active and critical citizens (cf. Swedish government official report

2016). Overall, the knowledge offered the foundation subjects is less context-bound than what is otherwise covered in VET programmes.

Whilst foundation subjects are important to both HEP and VET programmes they are given different amounts of time. VET programmes give 600 hours to foundation subjects whereas HEP programmes give 1100-1250 hours, depending on the specific programme. This quantitative difference is the main reason why VET programmes do not give students access to higher education.[5]

At the same time, most HEP programmes include courses which give 'merit points' to students when they apply to university courses: these include modern languages, advanced mathematics and advanced English. This gives HEP students an additional advantage when competing for places on the more attractive university courses or programmes. The ways in which HEP and VET programmes cover foundation subjects also varies. In part this is a result of the 2011 reform which sought to make foundational subjects more closely linked to the specific vocational purposes of the various VET programmes. One key difference is that foundation courses in VET programmes are significantly shorter. Therefore, although the VET and HEP syllabuses for foundation courses are similar up to a point, the VET courses inevitably cover significantly fewer areas of content. The table below presents some examples of content areas which are included in the longer HEP courses but excluded from the shorter courses in VET programmes:

Table 4. Foundation subjects: examples of knowledge areas covered in HEP programmes and absent from VET programmes.

This table does not give an exhaustive list of all differences in foundation courses between the programme types as this would be excessively detailed, but it is sufficient to highlight general patterns. For instance, both the HEP and the VET programme syllabuses for Social Science involve studying personal economics but the VET programme syllabus does not cover national or international economics, nor does it offer content relating to understanding ideologies. The HEP programme syllabus, though, covers personal, national and international economics as well as 'political ideologies and their linkages to social structures and welfare theories.' (Social Science 1b). Overall, the course content in foundation subjects that are shared across both VET and HEP programme syllabuses is more focused on the individual while the HEP programme syllabus gives a more extensive account which includes a structural level. Mathematics is not included in the table since this is a subject area in which differences between HEP and VET programmes are more extensive. In short, it follows the same discursive logic; VET mathematics is contextualised as less disciplinary and more closely tied to what is "typical of a programme [and] the opportunities and limitations of mathematics in these situations" (Mathematics 1a).

These results reinforces our analysis of the diploma goals and programme-specific subjects discussed above, that the VET programmes offer less in terms of source criticism, methods and concepts for systematic analysis and historical contextualisation. Although the foundation subjects do indeed contain content of a less context-bound nature, often with explicit aims to enable students to participate in

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[5] Access to university would require students to do an additional 300 hours study in order to complete two courses in Swedish and one in English. It is worth noting that some VET programmes include foundation subjects as part of the programme core, meaning that for example a Health and Social Care student 'only' needs to take one extra course in English and one in Swedish to become eligible for higher education.

'society's conversation', a direct comparison clearly shows that the distribution of this knowledge is very uneven between the programme types. Foundation subjects provide an important curricular space for VET students to acquire knowledge that goes beyond the empirical, but it is rather marginal to the curriculum compared with HEP programmes.

4. Conclusions

Taking the preceding analysis as a whole, our overarching conclusion is that there are clearly two different discursive logics at work in organising the content of VET and HEP programmes in Sweden today. The knowledge offered through VET programmes is firmly rooted in the empirical, relating particularly to workplace practices. We can find few attempts to contextualise workplace content so that VET students get chances to see beyond 'how it is', either through disciplinary connections or through putting empirical knowledge in societal, historical, political or other contexts. Besides being rooted in the empirical, it is also apparent that the knowledge is distinguished by a focus on 'correct behaviour' as much as knowledge. Knowledge organised in vertical discourses such as content aiming at skills like source criticism or a scientific way of thinking is largely absent in VET programmes. In contrast such skills is the guiding principle for the contextualisation of knowledge in HEP programmes (cf. Avis and Orr 2016; Bathmaker 2005; Young et al. 1997).

These differences lead to a clear division in upper-secondary school that is in turn likely to lead to a clear division in society based on which programme students have followed. We find little evidence that VET programmes prepare students to contribute to 'society's conversation'. This is evident from the absence of attention to both 'makro-issues' like justice and power in society, down to questions relating to the workplace the student is likely to end up in. Very little knowledge is contextualised so that VET students get opportunities to see the relations and practices they engage in as contingent. On the contrary, we find that the dominant principle is to equip such students to adapt to these contingent arrangements and see them as given. Besides from the absence of vertical discourses, this conclusion is strengthened by the observation that VET programmes do not cover topics such as labour laws, unions, questions of power in working life, or how the creation and distribution of value works. Perspective wealth, which is a core idea in the European Commission's notion of lifelong learning (Pépin 2007) and is emphasised at the 'top level' in the Swedish Lgy11 curriculum, is weak within VET programmes.

It is not the case that learning at or gaining knowledge in relation to a workplace is necessarily horizontal or less valuable. On the contrary, important knowledge and socialisation can be gained in this context and horizontal knowledge has distinct powers and purposes. However, vertical knowledge is also very important. Different types of knowledge have different powers, and we believe it is important to view the differentiation of knowledge in VET and HEP programmes critically, and relate it to questions about power and social justice. Our aim is not to devalue the vocational but rather shed light on the problematic and horizontal character knowledge takes in a curriculum heavily guided by a principle of market relevance.

If one does not take the division between VET and HEP programmes for granted, as a natural phenomenon, important questions arise. For instance, why is relating theory to practice important in HEP programmes but absent in VET programmes? Why should students on VET programmes not be enabled to view their own practices from different perspectives? Why are subjects such as Psychology and Philosophy core parts of HEP programmes but not VET programmes? Why is critical

thinking not considered important for students on VET programmes? It is not logically obvious why a course in Biology considers social context whilst courses in Vehicle Technology or Service and Reception do not. At the same time questions could be raised the other way around: for instance why is 'behaviour regulation' not relevant for students on HEP programmes even though they may also end up in social environments where service is important?'

We do find that there are some elements within VET programme courses where content is less context-bound and, for instance, rules are presented not just as things to be complied with but also to be understood. We would like to think that these elements will not be lost in the dominant horizontal logic of VET programmes but may be built on as examples of how to raise more critical questions within them. In our view, reducing boundaries between general and vocational subjects at times could be a good thing and both might be enriched by being understood in the context of the other. However, our concern is that current trends in VET programmes are rather collapsing the vertical elements of knowledge in both these subject areas thus tending to further narrow, rather than open up, vocational curricula. The curriculum reform of 2011 was implemented by an alliance of neo-liberals and neo-conservatives and parallels can be drawn to Hickox and Moore's (1992) analysis of the British New Right educational reform in the 1980's. The idea of 'modernisation' in the reforms can hardly in either the British or in the Swedish case be seen as a response to the needs of industry. Rather, as Hickox and Moore argue, the narrow view of the world of work as represented by the reforms can result in a pronounced lack of correspondence between VET and labour market conditions.

Outside the scope of this paper is the question of how curriculum plays out in the lived experience of students and teachers. However, previous research following pedagogic practices prior the reform implemented 2011 in Sweden gives examples of both practices narrowing down (Korp 2012; Rosvall 2011a) and going beyond (Rosvall 2011b) the aims stated in the curriculum. For example Rosvall's study (2011b) shows an example of when a vehicle mechanic teacher places union work in relation to questions of which arguments that are considered valid, and how to work structurally to collect valid data to support arguments. However, most research, in Sweden and Europe, seems to conclude that there are even fewer attempts in the pedagogic practice of VET to put vocational content into different perspectives than policy offers (Brockmann, Clarke and Winch 2010; Korp 2012; Niemi and Rosvall 2013).

The curriculum analysed in this article is an expression of an international policy trend in which market principles steer vocational education. Earlier studies have pointed out problems with this type of curriculum (Canning 1998; Hickox and Moore 1992; Wheelahan 2007) in terms of steering VET towards a focus on low-skilled work-based learning. Our results concur with these conclusions. If one takes into account the patterns of class differentiation in upper-secondary school one might say, in line with Althusser (1972), Bernstein (1981) and Bourdieu (1986), that there is one curriculum in place for working class youth whilst there is another for those of a more middle class background, and that this prepares students for very different roles in society. Indeed, our analysis fits well with the critique that schools are upholding a division between manual and intellectual labour. Further, previous critical studies have often shown how an 'obedient worker' is created through a 'hidden curriculum' that is apparent mostly in educational practice (cf. Bourdieu 1986). Our analysis contributes that this may actually be explicit, as fundamental patterns in the official or explicit curriculum, when the guiding principles for the contextualisation of knowledge are derived from a principle of market relevance.

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Table 1. Students background and upper-secondary programme

Programme	Total students year one 2014/2015	% Students with highly-educated parents
VET-programmes	(1)	*Mean*: **33.2%**
Handicrafts	2 426	32
Health and social care	3 123	29
Hotels and tourism	1 213	34
Natural resource use	2 765	40
Children and recreation	2 762	33
Business and administration	2 746	31
Restaurant management	2 224	34
Vehicle and transport	3 694	26

Industrial technology	1 529	37
Building and construction	4 256	32
Electricity and energy	4 943	38
HVAC and property maintenance	1 180	32
(2)	(3)	(4)
HEP-programmes	(5)	*Mean*: **63.2%**
Humanities	814	65
Arts	7 640	59
Social science	19 010	58
Natural science	14 055	73
Business management	12 180	58
Technology	8 900	66

Source:
http://siris.skolverket.se/reports/rwservlet?cmdkey=common&report=gyelever_lgy11&p_ar=2015&p_lan_kod=&p_kommunkod=&p_skolkod=&p_hman=0&p_inriktning=0 Retrieved 20160819. 'Highly-educated parents' are those who have completed university studies which have earned them a joint credit of at least 30 ECTS.

Table 2. Programme-specific and Foundation subjects

Higher education (HEP) programmes			Vocational (VET) programmes	
Programme-specific subjects				
Business Management	**Social Science**	**Natural Science**	**Vehicle and Transport**	**Restaurant Management**
Business economics	Philosophy	Biology	Vehicle and transport industry	Hygiene
Law	Psychology	Physics	Vehicle technology	Food and nutrition
Psychology	Modern languages	Chemistry	(6)	Catering and industry knowledge
Modern languages	(7)	Modern languages	(8)	Service and reception
Foundation Subjects				
Swedish 300 hours			Swedish 100 hours	
Natural Science 100 hours (or physics and chemistry separately)			Natural science 50 hours	
Social science 100 hours			Social science 50 hours	
History 100-200 hours depending on programme			History 50 hours	

Table 3. Knowledge verbs permeating the diploma goals

HEP	VET
Understand	Do
Explain	Use
Reason	Be perceptive

Interpret	Choose
Discuss	Work independently / in group
Analyse	Plan
Write	Take initiative
Read	Work

Table 4. Foundation courses: examples of knowledge areas covered in HEP programmes and absent from VET programmes.

Swedish	Structure, language and style in different types of texts, and summaries and critical analysis of texts. Written communication of investigative and argumentative texts. Norms and stylistic features associated with such types of texts. The relationship between fiction and societal development, i.e. how fiction has been formed by conditions and ideas in society, and how it has affected societal development.
Natural science	The relationship between the individual's health, daily habits and lifestyles in society, covering issues such as training, diet, drugs, consumption, and impact on the environment. How science can be used as a point of departure for critically examining the content and norms of the media.
Social science	Economics, such as economic structures and flows in Sweden and internationally. Support, growth and business enterprise, use of resources and distribution of resources based on various conditions. (9) Concepts, theories, models and methods of the social sciences in connection with investigations into social issues and conditions. Examples of methods for collecting information are interviews, questionnaires and observations. Examples of methods for processing information are statistical methods, social science text analysis, of arguments and criticism of sources. Role of the mass media and information technology in society. Their opportunities to influence people and social development, and the opportunities they give people to exercise influence. Content of media and assessing news.
History	Long-term historical perspectives on changes in power relationships and their different historical explanations. Critical examination, interpretation and use of different kinds of source material based on critical source criteria and methods.

The citations for Table 4 are from the syllabus for each subject stated in the left column retrieved from http://www.skolverket.se/om-skolverket/andra-sprak-och-lattlast/in-english/the-swedish-education-system/upper-secondary-school/about/subjects-available-in-english-1.209453 [2016-09-06]