Governing massified higher education

A cross-national comparative case study of policy instruments for relevance and quality

Hanne Kvilhaugsvik

UNIVERSITY OF BERGEN

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Name: Hanne Kvilhaugsvik

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Scientific environment

While writing this thesis I have worked as a PhD candidate at the Department of
Administration and Organization Theory, The Faculty of Social Sciences, University
of Bergen. I have been a member of the research group Knowledge, politics, and
organization at the department.

Acknowledgements

This thesis studies changes in higher education governance, which is a topic I first became acquainted with as a student representative. I campaigned for introducing digital school exams and was fascinated by the processes involved and the university as an organization. This interest then led me to the Department of Administration and Organization Theory, where I could study institutional theory and public management. Writing my thesis here has allowed me to immerse myself in higher education governance. As I submit the thesis, I want to thank colleagues, collaborators, and friends for support along the way.

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Abstract

Enrolment in higher education has increased drastically in the past decades, changing higher education from an elite phenomenon to a norm, or right, for major parts of the population. This entails a shift in higher education governance, from managing expansion to consolidation and steering of massified and more integrated higher education systems. As part of this, higher education policies have begun to attend to a wider range of considerations, such as the profile and dimensioning of study programmes, and the relationship to the world of work. In this thesis, I study three policy instruments for quality and relevance in study programmes, namely learning outcomes, employer panels, and quality assurance (QA) systems. These instruments have often been studied in terms of corporatization and New Public Management-inspired reforms of higher education. However, the instruments have varied backgrounds and are connected to several reform agendas. The thesis highlights distinct features of politico-administrative regimes and higher education governance in the Nordic context, where instruments for relevance and quality can be understood as shaped by multiple waves of reforms, welfare state ideals, and traditions for coordination with employers.

The thesis asks how policy instruments are shaped in massified higher education systems. To study this, I use a historical-institutionalist approach with an emphasis on contextual features, ambiguous instruments, and opportunities for several groups of actors to participate. Path dependencies and gradual institutional changes are also central concepts which I use to explain how instruments are shaped in different contexts. I draw on literature on politico-administrative and welfare state regimes, as well as features of the political economy. The articles use material from documents and interviews with university leadership, administrators, academic staff, and students.

The thesis includes four articles, which present comparative case studies of policy instruments in Denmark and Norway in the 2010s. The first article asks how learning outcomes are shaped in professional and disciplinary study programmes. The article

is based on a comparative case study of three disciplinary contexts at two Norwegian higher education institutions. The empirical material for the article consists of documents and interviews. The cases show the introduction of learning outcomes as a process involving several levels and groups of actors. A main finding is that learning outcomes were shaped through path dependent processes, leading to distinct versions of the instruments. The cases illustrate layering processes and temporal sequences, as well as ambiguities in the purpose and implications of using learning outcomes.

The second article studies the introduction of learning outcomes within one disciplinary context. The article asks why learning outcomes were introduced in a disciplinary context, and how they were translated in relation to disciplinary traditions and contextual characteristics. The article presents a comparative case study of learning outcomes in two study programmes representing the two main traditions in Norwegian engineering. The material consists of documents and interviews. The findings show that the introduction of learning outcomes was distinctly shaped by both the disciplinary traditions and the institutional context. Learning outcomes are studied as a circulating 'master idea' and the cases present layering processes and multiple understandings of the instrument. The article also illustrates challenges in the use of the instrument, as there are few changes in teaching and information practices.

The third article studies cooperation between higher education and the world of work on study programmes. The article compares four employer panels from one Danish and one Norwegian university, which mainly cover professionally oriented and technical study programmes. The article asks how university leadership seek to manage and align different interests in the organization of employer panels, utilizing a material including documents and interviews. The findings show similarities in the background of panels in the two countries and the cases suggest that cooperation can work as a bridging strategy building on established connections to the world of work. However, the findings also show differences in national regulations and in the organization of panels, with quite specialized Danish panels connected to study programmes and broader

Norwegian panels established at the institutional level. The article interprets these findings in light of different expansion patterns and features of the political economy. Furthermore, the article highlights university leadership's opportunities to shape employer panels by managing panels' representation, agendas, and reporting.

The final article studies the development in QA systems for higher education. Such systems have been established with similar features across countries due to European cooperation and harmonization policies. However, distinct differences remain, even between the Nordic countries. This article compares the development in national systems in Denmark and Norway by studying the composition and use of policy instruments. The article builds on document material and data on decisions. The article finds several similarities, but also notable differences between the countries. The Danish system shows stronger specialization and an emphasis on the study programme level through extensive periodic accreditations. In contrast, Norway has featured one-off institutional accreditations and supervisions. The article analyses these differences as path dependent developments and highlights the instruments' implications concerning workload in Denmark and the gradual development into a more unitary higher education system in Norway.

Overall, the thesis finds that learning outcomes, employer panels, and QA systems are instruments with multiple purposes, meanings, and uses. The instruments also target several levels and address a wide audience, ranging from policymakers and university leaders to academic staff, students, and employers. I discuss this in terms of ambiguity and opportunities for actors at higher education institutions to shape the instruments, as well as gradual change processes. The thesis considers the three instruments in light of characteristic features of the Nordic context such as welfare state ideals and traditions for coordination, in contrast to common portrayals of the instruments highlighting neoliberalism and corporatization. While these features are particular to the Nordic countries, the findings suggest a shift to stronger steering of relevance and provision in the governance of massified higher education systems.

List of Publications

Article 1.

Michelsen, Svein, Agnete Vabø, Hanne Kvilhaugsvik, and Endre Kvam (2017):
Higher Education Learning Outcomes and their Ambiguous Relationship to
Disciplines and Professions. *European Journal of Education*, 52 (1): 56-67.
https://doi.org/10.1111/ejed.12199

Article 2.

Kvilhaugsvik, Hanne (2020): Engineering Learning Outcomes: Translations of a
policy instrument in a disciplinary context in Nordic higher education. *Nordic
Journal of Studies in Educational Policy*, 6 (2): 116-127.
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Article 3.

Kvilhaugsvik, Hanne: Bridging higher education and the world of work? Employer
panels in Nordic university governance. Submitted to the *European Journal
of Higher Education* in December 2020, minor revisions requested.

Article 4.

Kvilhaugsvik, Hanne: Quality assurance in Nordic higher education: Relevance and
status. Submitted to the *Higher Education Policy* autumn 2020, minor
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Kvilhaugsvik, Hanne: Quality assurance in Nordic higher education: Relevance and status. Submitted to the *Higher Education Policy* autumn 2020, minor revisions requested.

Appendix:

- Interview guide for Article 1 and 2 (in Norwegian)
- Information to informants for Article 3 (in Norwegian)
- Interview guide for Article 3 – external panel members (in Norwegian)
- Interview guide for Article 3 – members from university (in Norwegian)
- Interview guide for Article 3 and 4 – experts and informal interviews (in Norwegian)
- Feedback on data management plan from the Norwegian centre for research data (in Norwegian

1. Introduction

The quality and relevance of higher education have become subject to much debate after decades of expansion and increased enrolment (Shin & Teichler, 2014; Tight, 2019). In the Nordic countries this can be seen in calls for stronger steering of higher education institutions (HEIs) and study programmes, both from the government and commissions (e.g. Kvalitetsudvalget, 2015; Meld. St. 16 (2016-2017), 2017). Debates have flourished on issues ranging from the lack of practical training, the role of the humanities, dimensioning between 'traditional' and professionally-oriented study programmes, as well as employers' needs for skills and qualifications (e.g. DA, 2014; Kvalitetsudvalget, 2015; NOU 2018: 2, 2018). Characterizations of 'overeducation' and 'mismatch' between higher education and the world of work have been used to describe the current situation (Danish Productivity Commission, 2013). In 2014 the Norwegian labour market organization NHO even diagnosed a 'master disease' (Sjøberg, 2014), calling attention to the increase in master degrees and the perceived seriousness of the situation.

These debates are reflected in the introduction of new policy instruments to improve the relevance and quality of higher education, including learning outcome descriptors for courses and study programmes, employer panels for cooperation with the world of work, as well as quality assurance systems. This thesis studies the introduction and use of these three policy instruments in the Nordic context as part of a shift in higher education governance, from managing expansion to consolidation and steering of 'massified' higher education systems.

Higher education governance has been through major changes in the past decades. In early research on higher education the unique character of universities was emphasized. This implied that universities could not be governed as other organizations, as they had distinct structures, missions, and history (Musselin, 2006). Universities were conceptualized as 'loosely coupled' organizations (Weick, 1976) and 'organized anarchies' (Cohen, March, & Olsen, 1972), indicating challenges for

governance. These aspects also illustrated that universities were clearly unlike businesses, and while they were publicly owned and funded in many contexts, they were not quite 'ordinary' public organizations either. Universities were also different from schools and regulated differently. For instance, issues on course content and teaching were for the most part up to the universities and professors, in contrast to current debates on stronger steering of quality and relevance. Moreover, higher education was an elite phenomenon, and most young people would not pursue a degree (Teichler, 2014).

After the Second World War, enrolment in higher education increased drastically (Tapper & Palfreyman, 2005). Accordingly, higher education governance was marked by policies for expansion and broadening access (Tight, 2019). In the Nordic context this can be understood in terms of welfare state ideals, as an aim was to ensure access for qualified applicants (Aamodt, 1995). Through expansions higher education gradually become 'massified' (Trow, 1970, 1973) and more integrated in national education systems, leading to an understanding of higher education as a norm or right for major parts of the population. The growth in enrolment also entailed rising expenses, particularly for countries with high public funding and benefits for students (Ansell, 2010), which could help explain increased public interest in the governance of higher education (Paradeise, Reale, Goastellec, & Bleiklie, 2009).

Waves of expansion have also transformed the higher education landscape into national 'higher education systems' consisting of different yet connected institutions (Guri-Rosenblit, Šebková, & Teichler, 2007). As part of this, the understanding of HEIs also changed gradually and reforms have aimed to transform them into ordinary and more 'complete organizations' (Brunsson & Sahlin-Andersson, 2000), which are subject to public management reforms, including New Public Management (NPM). The past decades have thereby brought changes in higher education governance, with more output-based funding, stronger leadership and hierarchy of HEIs, and instruments for accountability (Bleiklie, Enders, Lepori, & Musselin, 2011). Additionally, external influence and connections to the regional economy have

become more important, leading to characterizations of HEIs as 'penetrated hierarchies' (Bleiklie, Enders, & Lepori, 2015, 2017).

NPM reforms in higher education have been studied thoroughly, as I will discuss in the next chapter, and it is often assumed that policy instruments for relevance, quality, and connections to the world of work are part of NPM-inspired output-based or neoliberal governance. But higher education has also been influenced by other reform waves in the past decades, including network governance and Neo-Weberianism (Pollitt & Bouckaert, 2011), which build on other aspects than markets and competition. Research on higher education governance has also found continued national patterns rather than convergence to NPM practices (Capano & Pritoni, 2019; Paradeise, Reale, Bleiklie, & Ferlie, 2009). Recent studies have also indicated that policies and instruments in the Nordic context increasingly are connected to systemic goals and wider considerations, such as welfare state ideals of full employment (Ahola, Hedmo, Thomsen, & Vabø, 2014; Capano & Pritoni, 2019; T. Christensen & Gornitzka, 2017). These considerations have not been studied in much detail yet. In this thesis I therefore study policy instruments that are intended to improve the relevance and quality of mass higher education. The thesis focuses on the Nordic context and addresses the following main research question:

- How are policy instruments shaped in massified higher education systems?

The literature on expansion has been marked by an emphasis on policies *for* massification (Tight, 2019). Early studies were influenced by human capital theories and functionalism and argued that education systems adapt to the needs of the economy (Ramirez, 2012). The 'knowledge economy' has also been a key theme, where universities are seen as contributors to economic success through research and innovation collaborations (Leydesdorff & Etzkowits, 1998), as well as education (Grubb & Lazerson, 2004; Wolf, 2002). In this understanding, higher education is an

instrument for economic growth, and massification is therefore part of policies for increased competitiveness.[1]

Later on, contributors have used neo-institutional perspectives, particularly sociological institutionalism, and emphasized democratization and modernization (Ramirez, 2012; Schofer & Meyer, 2005). The prominent 'world society perspective' here highlights glocal 'scripts' and norms of modernization as drivers for massification (Ramirez, 2012). Meyer and Schofer argue that because expansion was a worldwide trend it must be understood as 'part of a global model of society and education' (Meyer & Schofer, 2007, p. 59). This entails an expectation of convergence. Other contributors have focused on access, differentitation, and stratification (Cantwell, Marginson, & Smolentseva, 2018) and diversity (Guri-Rosenblit et al., 2007).

This thesis contributes with a different perspective on massification, by studying changes in higher education governance to improve relevance and quality, focusing on developments in the 2010s. The thesis studies three policy instruments, namely learning outcomes, employer panels, and quality assurance (QA) systems. To answer the research questions the thesis draws on studies on higher education governance, public management reforms, and organization theory. In contrast to the contributions emphasizing convergence, the thesis builds on a historical-institutionalist perspective with an emphasis on national trajectories based on politico-administrative regimes (Pollitt & Bouckaert, 2011), as well as features of welfare state regimes (Esping-Andersen, 1990) and the political economy (Hall & Soskice, 2001). The thesis highlights gradual change processes and embedded agency in the use of policy instruments, which entails that HEIs, university leadership, and academic staff can be active interpreters who shape instruments within national regulations. The thesis contributes to our understanding of higher education governance in massified

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[1] However, the assumed links between countries' economic results and investment in education have been challenged (Grubb & Lazerson, 2004; Wolf, 2002).

contexts by highlighting instruments for quality in public mass higher education and connections to the welfare state and political economy in the Nordic context.

In this chapter I will briefly introduce the context of the study and the theoretical framework before I present the three policy instruments I have studied. The chapter concludes with an overview of the structure for the thesis.

1.1 The Nordic context

The Nordic[2] countries have a shared history (Knutsen, 2017) and strong similarities, for instance in public management and higher education. The 'Nordic model', which is well-established in political science (Knutsen, 2017), is often described in light of features such as the combination of a central state and decentralization, universal social rights and a comprehensive welfare state, equality and small differences, traditions for coordination and collective action, as well as 'consensual governance' (A. W. Pedersen & Kuhnle, 2017, p. 221 f.). In their book on Nordic administrative reforms, Greve et al. consider a common presentation of the countries as 'efficient, successful economies and democracies' and even 'model states when it comes to government reform' (Greve, Lægreid, & Rykkja, 2016a, p. 1). This suggests that the Nordic context could provide interesting insights on changes and instruments in higher education governance.

The Nordic countries have also been characterized as 'social democratic welfare regimes', marked by ideals of equality, universal access, and full employment (Esping-Andersen, 1990, 1999). The countries also have a long-established 'Nordic Co-operation', which includes cooperation on higher education (T. Christensen, Gornitzka, & Maassen, 2014). The high public funding and participation in higher education have also been emphasized as distinct features of these countries (Ansell, 2010; J. Christensen, Gornitzka, & Holst, 2017). Current estimates suggest that the majority of the population here will receive a higher education degree at some point

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[2] I have chosen to focus on the 'Nordic context' rather than the 'Scandinavian', and I therefore use this concept consistently.

in their lifetime (OECD, 2019). This means that the countries are approaching 'universal higher education', according to Trow's much-cited definitions of massification (Trow, 1973). The high participation and connections to the welfare state are of particular interest for a study of policy instruments in massified higher education systems.

The Nordic countries have strong similarities in higher education systems, with regulations at the national level and systems mostly consisting of publicly owned and/or financed HEIs (Ahola et al., 2014). The countries also show strong similarities in recent reforms and instruments in higher education governance (e.g. Bleiklie & Michelsen, 2019; Pinheiro, Geschwind, Hansen, & Pulkkinen, 2019). Ansell characterizes the Nordic countries as examples of the 'Mass Public model' of higher education (Ansell, 2010, p. 167) based on the high participation and high public spending. This is a contrast to countries like England, which are described as 'partially private', and Germany, which is considered an 'elite' system (Ansell, 2010, p. 166). Furthermore, for the purpose of this thesis it is interesting that the expansion of higher education in the Nordic countries has shown an emphasis on ensuring broad access for students and qualified labour (Aamodt & Kyvik, 2005).

Higher education research has often studied Anglo-Saxon or continental European countries (Kosmützky & Krücken, 2014), where calls for improved quality, relevance, and stronger connections to the world of work could be explained by NPM policies, rising tuition fees and student debt, high youth and graduate unemployment, or austerity politics for the public sector. In the Nordic context, however, policy instruments for quality and relevance have been introduced despite the absence of tuition fees, relatively low unemployment rates, and comparatively stable welfare states. This suggests a distinct context for policy instruments to improve quality and relevance.

Massification is a global phenomenon (Shin & Teichler, 2014), and the policy instruments studied in this thesis have been widely introduced in recent years. However, a historical-institutionalist approach suggests that the implications for

higher education governance can vary between countries. In this thesis I therefore study policy instruments in Denmark and Norway. The two countries have a long, shared history and they are characterized as part of a 'Western Nordic administrative model' with ministerial rule and agencies with stronger connections to ministries compared to Sweden (Lægreid, 2017, pp. 83-84), leading me to expect similarities in higher education governance. Denmark and Norway have also introduced similar policy instruments for quality and relevance, such as employer panels.

There are also differences between the Nordic countries, and between Denmark and Norway in particular, that can highlight continued national trajectories. The countries have distinct aspects in traditions and recent reforms both in public management in general (Greve, Lægreid, & Rykkja, 2016b; Lægreid, 2017) and higher education systems (Bleiklie & Michelsen, 2019; Pinheiro et al., 2019). I will discuss central differences in the background sections in the next chapter and in Chapter 3 on the theoretical framework. For the purpose of this study it is of particular interest that higher education expanded in different patterns in the Nordic countries (Ahola et al., 2014), which I expect to lead to somewhat different conditions and challenges for higher education governance.

In the thesis I emphasize the countries' distinct national trajectories in expansion and governance of the higher education systems as the backdrop for these differences. In the rest of this section, I will briefly introduce the two higher education systems, which the subsequent chapters then will discuss further.

1.1.1 Denmark

The Danish higher education system was influenced by early expansion and a sharp increase in enrolment at universities (Börjesson, Ahola, Helland, Thomsen, & Frølich, 2014; Thomsen, 2014). Today it can be described as a binary or ternary system (Thomsen, 2014), with universities (8) on the one hand, and university colleges (7) and business academies (8) on the other hand[3]. The universities provide

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[3] The higher education system also includes some specialized HEIs, e.g. in arts and maritime education.

research-based education on all levels, while the university colleges mainly offer professionally oriented programmes, and the business academies focus on short-cycle programmes[4]. Danish HEIs are organized as self-owned independent institutions, and the different categories of HEIs have historically been subject to specialized regulations and different ministries. The quality and relevance of higher education has been criticized in recent years, for instance by the Productivity Commission, which described a mismatch between graduates and the needs of the labour market (Danish Productivity Commission, 2013), and called for measures to improve this. The Committee for Quality and Relevance in Higher Education also called for stronger steering and dimensioning, with an emphasis on relevance for the labour market (Kvalitetsudvalget, 2015).

1.1.2 Norway

The expansion in Norwegian higher education also involved increased enrolment at universities, but in contrast to Denmark a larger share of the new students in Norway enrolled at university colleges (Vabø & Hovdhaugen, 2014). After recent mergers, the higher education landscape currently mainly consists of public universities (10) and university colleges (6), as well as specialized university institutions (5) and privately-owned HEIs. Both universities and university colleges conduct research and provide education on all levels. The public HEIs are regulated as civil service organizations with extended authority under a common ministry and the same act since 1995. The Norwegian higher education system has been described as binary in principle and integrated in practice (Vabø & Hovdhaugen, 2014, p. 62). While some differences remain between categories of HEIs, it has been argued that they have faded somewhat following reforms and mergers in the past decades (Elken & Frølich, 2017). Although a slightly higher share of the population have degrees from higher education in Norway compared to Denmark (OECD, 2018, 2019), the Norwegian Productivity Commission argued that the provision of higher education mostly was in line with the labour market's needs (Finansdepartementet, 2015). However, in recent

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[4] The business academies are sometimes compared to Norwegian vocational schools (*fagskoler*), which are not formally included in the Norwegian higher education system.

years both the government and commissions have called for improved relevance and stronger connections between higher education and the world of work (Meld. St. 16 (2016-2017), 2017; NOU 2018: 2, 2018).

1.2 Governing massified higher education

To study changes in higher education governance the thesis uses a theoretical perspective based on historical institutionalism (Fioretos, Falleti, & Sheingate, 2016a; Mahoney & Thelen, 2010a). Path-dependency is therefore a central notion, and I expect to find continuity following national trajectories. However, the thesis also builds on more recent theoretical contributions of gradual institutional change (Mahoney & Thelen, 2010a; Streeck & Thelen, 2005), which highlights incremental developments through processes such as layering.

In contrast to depictals of convergence this perspective emphasizes contextual features for governance and policy instruments. The thesis contributes to the understanding of higher education governance by drawing on politico-administrative regimes (Painter & Peters, 2010; Pollitt & Bouckaert, 2011), welfare state regimes (Esping-Andersen, 1990), and aspects of the political economy (Hall & Soskice, 2001). This entails an understanding of higher education governance as embedded in such regimes. I follow Ferlie et al.'s definition of higher education governance, or steering, as 'the externally derived instruments and institutional arrangements which seek to govern organizational and academic behaviours within higher education institutions.' (Ferlie, Musselin, & Andresani, 2008, p. 326). Most of these instruments derive from the state (Ferlie et al., 2008), particularly in countries with high public funding. However, instruments increasingly also have a background from international organizations and cooperation such as the Bologna Process.

The historical-institutionalist understanding of institutions and agency is quite wide (Fioretos et al., 2016a) as they are seen as interdependent. In this thesis I highlight embedded agency and study actors' opportunities to shape policy instruments through developing new interpretations and enactments within the national regulations.

The next section introduces the institutionalist understanding of policy instruments used in this thesis and proceeds to give a brief presentation of the three instruments I study.

1.2.1 Understanding policy instruments

Policy instruments, or tools, are often conceptualized as part of studies on policy design and implementation (Howlett, 2019). Here, the understanding is that policymakers set goals and then develop policies consisting of the appropriate instruments (Howlett, 2019), followed by top-down implementation. This can for instance be seen in Vedung's definition of public policy instruments as 'the set of techniques by which governmental authorities wield their power in attempting to ensure support and effect or prevent social change.' (Vedung, 1998, p. 21). This can be considered an instrumental or a traditional approach to policy instruments (de Bruijn & Hufen, 1998), based on assumptions of rational actors (Schneider & Ingram, 1990) and unequivocal instruments. The main challenge in such an understanding is to identify the instruments that are most likely to lead to the intended changes. Indeed, in early studies it seemed to be taken for granted that instruments, if chosen strategically, would result in achieving the policy goals (Schneider & Ingram, 1990, p. 511 f.). However, even mapping of the instruments at the government's disposal has proved challenging, with numerous categorizations developed (Howlett, 2019; Vedung, 1998). Studies on implementation have also long highlighted challenges with such an understanding (e.g. Pressman & Wildavsky, 1984).

An institutional approach suggests an alternative understanding of policy instruments (de Bruijn & Hufen, 1998; Michelsen, Sweetman, Stensaker, & Bleiklie, 2016). Instead of instruments with clear-cut functions, this perspective can highlight ambiguities and interconnections (Cohen et al., 1972; March & Olsen, 1979). For instance, instruments could have symbolic aspects or be interpreted in different ways across contexts. Rather than distinct categorizations, this perspective suggests that instruments can have multiple meanings and sometimes even unclear purposes. This means that instruments can be given different functions than originally intended. Furthermore, this perspective includes more actors than policymakers alone. This

entails a broad understanding of the shaping of instruments as occurring through several levels, with opportunities for diverse groups of actors to participate. Following this approach, ministries, agencies, university leadership, academic staff, and even students can be involved in the shaping of instruments.

1.2.2 Categorizations of policy instruments

Within an institutional understanding it can be useful to consider common categorizations of policy instruments, for analytical purposes. The categories are usually presented in terms of ideal types, calling attention to the common techniques that are available for the state to achieve policy goals, for instance as part of higher education governance. As mentioned above, a multitude of categorizations have been developed over the decades, with some of the most influential being Hood's taxonomy of nodality, authority, treasure, and organization (Hood, 1983; Hood & Margetts, 2007) and Vedung's typology of regulation, economic means, and information (Vedung, 1998). In a study of instruments in higher education governance, Capano et al. build on the latter typology and highlight regulation, expenditure, taxation, and information as the main 'families' (Capano, Pritoni, & Vicentini, 2019). Regulation has been considered the most frequently used category in higher education governance (Capano & Pritoni, 2020). In this study I also draw on Schneider and Ingram's more differentiated typology, which includes authority, incentive, capacity, and learning tools, as well as 'symbolic or hortatory' instruments (Schneider & Ingram, 1990). Utilizing these categorizations in an institutional framework can help explain how instruments can have multiple purposes and how instruments are shaped at several levels and by different groups of actors.

In recent years, the literature on policy instruments has moved on from developing categorizations to studying 'mixes' of instruments (Howlett, 2009) and combinations and interactions between instruments (May, 2012, p. 282). Capano and Howlett therefore conceptualize national higher education governance as mixes of instruments with different aims and backgrounds (Capano & Howlett, 2020). In this thesis I study three policy instruments in individual articles, but the instruments should be understood as part of a mix of instruments that are intended to promote goals of

relevance and quality. In the final chapter I will address the relationship between the instruments.

Selection of instruments

In this thesis I have selected three instruments that have been introduced as part of policies to improve the relevance and quality of higher education. The instruments are intended to contribute to changes in teaching, assessment, and relations to the world of work. The three instruments are: learning outcomes for courses and study programmes, employer panels, and QA systems. These instruments can be categorized as regulation and information, but for this thesis' historical-institutionalist approach they are intriguing because of their association with broad reform agendas and the many purposes they are intended to serve. Furthermore, they are instruments that address students, academic staff, study programmes, university leadership, and HEIs in activities such as teaching, assessment, and development of academic content. Such instruments can even be preconditional for funding, which suggests that they are intertwined with other instruments. During my work on the thesis there have also been striking debates and initiatives concerning funding of study programmes in the Nordic countries, e.g. based on criteria of relevance, which could be a purposeful topic for further studies.

While studies have examined the overall mixes of instruments in higher education governance (Capano & Pritoni, 2020; Capano et al., 2019; Hansen et al., 2019), there have not been that many contributions comparing different types of policy instruments in depth. This thesis contributes by comparing instruments across different levels and units – from the national level to HEIs and study programmes. In this way I study how policy instruments can be shaped as they are moved. Moreover, the selection of instruments should allow for some analytical generalization, as they are not exclusive to the Nordic context.

The following sections will give a short presentation of the three instruments and the basis for studying them as part of changes in higher education governance.

1.2.3 Learning outcomes

Learning outcomes are intended to promote goals such as quality, relevance, and transparency in higher education (Cedefop, 2016, 2017), through the use of relatively standardized written descriptions which state: '[…] what a learner is expected to know, be able to do and understand at the end of a learning process or sequence.' (Cedefop, 2017, p. 13). Learning outcome descriptors are usually separated into three categories (*knowledge*, *skills*, and *competences* or *attitudes*) and associated with distinct 'action' verbs (Cedefop, 2017), which hail from Bloom's taxonomy of educational objectives (B. S. Bloom, 1956). Learning outcomes have been introduced throughout Europe the past decade as part of qualifications frameworks, which use learning outcomes to describe levels of education. A framework of qualifications for the European Higher Education Area (EHEA) was developed as part of the Bologna process in 2005 (EHEA, 2005), followed by the European Qualifications Framework for lifelong learning in 2008 (Cedefop, 2018). Participating countries subsequently developed national qualifications frameworks, building on learning outcomes from the European level (Lassnigg, 2012). Within the national frameworks HEIs have then been mandated to develop learning outcomes individual study programmes and course units.

As part of qualifications frameworks, learning outcomes have been characterized as an instrument for regulation, reform, and change in education (Bjørnåvold & Coles, 2007; Young, 2003). As part of this they have also been analysed as a management tool for university leadership (Bleiklie, Frølich, Sweetman, & Henkel, 2017). In general, learning outcomes are associated with the broad reform agenda 'from input to output', as they emphasize the results or 'products' of higher education (Hussey & Smith, 2002, p. 223). This be considered a contrast to traditional forms of regulation in Nordic higher education (Michelsen et al., 2016; Prøitz, 2015), where input-factors such as content lists, curriculum, and numbers of students have been prominent. The introduction of relatively standardized descriptions for study programmes and courses therefore represents a shift in this context.

Learning outcomes also have a background as a pedagogical tool for teachers, as part of the movement promoting a shift 'from teaching to learning' (Biggs & Tang, 2011). Here, the emphasis is on the micro level and promoting new methods for planning and developing teaching and assessment activities. The aim is to replace input-based teaching with more student-centred learning, or 'constructive alignment' (Biggs, 1996, 2012), with course units and even study programmes designed based on intended outcomes instead of reading lists or course topics (Biggs & Tang, 2011). Through the qualifications frameworks learning outcomes have then become integrated in national and international policies for quality and relevance. This can be understood as a shift in higher education governance since issues on academic content for the most part have been up to HEIs and academic staff.

The multifarious purposes and connections to several reform agendas make learning outcomes an interesting instrument for this thesis. Additionally, learning outcomes are promoted as an instrument providing benefits for multiple actor groups, which suggests opportunities to shape the instrument.

1.2.4 Employer panels

The second instrument this thesis studies is employer panels, which have been introduced in Denmark and Norway in 2007 and 2009, respectively. This arrangement has similarities with advisory boards and alumni panels. Connections between universities, society, and the world of work have been conceptualized in terms of the 'third mission' (Laredo, 2007; Pinheiro, Langa, & Pausits, 2015). Much of this literature has focused on innovation and commercialisation of research (Laredo, 2007; Schnurbus & Edvardsson, 2020), often connected to models such as the 'Triple Helix' of academia, industry, and government (Etzkowitz & Zhou, 2017) and the 'entrepreneurial university' (Clark, 1998, 2004). Cooperation on education has received less attention (Laredo, 2007).

Cooperation between HEIs and the world of work is not new, but it can have implications for autonomy (de Boer & Enders, 2017) and entail significant tensions (Teichler, 2015). Several studies have also contrasted the logics of higher education

to those of enterprises and the market (e.g. Canhilal, Lepori, & Seeber, 2016; Scott & Kirst, 2017). Connections to the world of work may be taken for granted in some areas of study or associated with professional education, but it is increasingly called on for all HEIs and study programmes. The new emphasis on employers' needs has been criticized as part of NPM-inspired or market-based reforms (Schulze-Cleven & Olson, 2017), an instrumental approach to education (Clarke, 2018), and neoliberalisation entailing a shift in power balance 'in favour of employers' (Boden & Nedeva, 2010). In this understanding cooperation is considered a transformation, where the world of work descends upon higher education.

The features of the political economy and the welfare state in the Nordic context suggest that cooperation with employers here can build on other institutions than those discussed above. In Denmark and Norway employer panels for HEIs were established around the same time and the arrangements have strong similarities. The Danish panels (*aftagerpanel*) were made mandatory for universities in 2007 as part of a wave of reforms (Ministeriet for Videnskab, 2010, p. 26). Panels must consist of external representatives and they can make suggestions on 'all questions related to the education' (Universitetsloven, 2019). The act requires universities to consult panels on revisions and proposals for new study programmes (Universitetsloven, 2019).

The Norwegian 'Councils for cooperation with the world of work' (*Råd for samarbeid med arbeidslivet*) were introduced in a 2009 white paper (St.meld. nr. 44 (2008-2009)). The panels are organized by HEIs and the mandate is to ensure dialogue, particularly concerning study programmes and continuing education (St.meld. nr. 44 (2008-2009)). Norwegian panels must also consist of external members, including labour market organizations, but recruitment of members and organization of the panels have been up to HEIs to decide on.

The panels can be considered instruments of regulation and information, and an aim is that more formalized cooperation will inform HEIs about the labour market situation. The panels can thereby also resemble learning tools to help HEIs improve relevance, as well as symbolic tools that highlight cooperation. Relevance has

traditionally mostly been the responsibility of HEIs or managed at the national level through ad-hoc committees or councils for disciplines and professional education. Mandated cooperation with the world of work at the level of HEIs is a new development, and the panels can be considered instruments that are intended to serve multiple purposes.

1.2.5 Quality assurance systems

Quality assurance (QA) involves routines for all activities concerning accountability in and improvement of higher education (ESG, 2015, p. 7). Similar to learning outcomes, QA systems stem from European cooperation, for instance through the European Higher Education Area and the European Association for Quality Assurance in Higher Education (ENQA). QA systems have been introduced both at the national level and within HEIs since the 1990s, and consist of a range of practices, including accreditations, audits, assessments, and external evaluations (Harvey & Newton, 2007). QA systems can be considered mixes of instruments[5] with purposes ranging from regulation and information to learning and symbols.

The widespread introduction of QA systems has been studied in terms of accountability and NPM inspired reforms (e.g. Westerheijden, Stensaker, & Rosa, 2007), and it has also been characterized as a response to massification (Altbach, Reisberg, & de Wit, 2017). In expanded higher education systems, government may seek to set minimum standards and manage the use of public funding (Paradeise, Reale, Goastellec, et al., 2009). In Europe, the first generation of national QA systems in Europe were introduced in the 1990s, with an emphasis on introducing internal QA systems at HEIs with documentation of routines and processes (Westerheijden, 2007). Since then, the focus has shifted to continuous improvement (ibid.) – or 'quality enhancement' (Williams, 2016) – which indicates new aims and instruments.

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[5] I discuss the operationalization of QA systems as policy instrument in Chapter 3.2.

The past decades, national QA systems in the Nordic context have developed to include a multitude of measures and instruments with different aims and backgrounds, several of which emphasize quality and relevance. For instance, policy goals of relevance and stronger connections to the world of work have led to the introduction of new instruments. These developments are interesting for my aim to study changes in higher education governance, as it suggests stronger steering of study programmes.

1.3 The articles

The thesis comprises four articles that study the three policy instruments in the Nordic context. The articles operationalize the main research question for the thesis and study instruments at different levels. Table 1 shows an overview of the four articles and their position in the overall research design of the thesis.

The two first articles study the introduction of learning outcomes in Norwegian higher education. The first article, 'Higher Education Learning Outcomes and their Ambiguous Relationship to Disciplines and Professions', compares the introduction of learning outcomes in different disciplinary contexts, through case studies from the humanities, medicine, and engineering at Norwegian HEIs. The article addresses the following research question: How are learning outcomes shaped in professional and disciplinary study programmes? To answer this, the article uses historical institutionalism and theories of the professions. The article was co-authored by Svein Michelsen, Agnete Vabø, Hanne Kvilhaugsvik, and Endre Kvam, and published in the European Journal of Education in 2017.

The second article, 'Engineering Learning Outcomes: Translations of a policy instrument in a disciplinary context in Nordic higher education', proceeds to compare the translation of learning outcomes *within* the disciplinary context of engineering, at two Norwegian HEIs. More specifically, the article covers the following research questions: 1) Why were learning outcomes introduced in the disciplinary context of engineering, and 2) how were learning outcomes translated in relation to disciplinary

traditions and contextual characteristics? This article also incorporates the international policy context as part of the background for introducing learning outcomes. Moreover, by comparing translations within a discipline the article sheds light on the importance of disciplinary traditions and local context for new policy instruments. The article is authored by Hanne Kvilhaugsvik and was published in the Nordic Journal of Studies in Educational Policy in 2020.

The third article is titled 'Bridging higher education and the world of work? Employer panels in Nordic university governance'. During initial work on the thesis, I noticed that employer panels recently had been introduced in both Danish and Norwegian higher education. However, I also noticed a stronger emphasis on relevance and connections to the world of work in Denmark compared to Norway. This led to the research questions for Article 3: 1) How do universities organize cooperation with the world of work on study programmes? 2) How do university leadership seek to manage and align different interests in the organization of cooperation with the world of work? The article is based on a comparative case study of four employer panels from one Danish and one Norwegian university. The article is authored by Hanne Kvilhaugsvik and is currently under review at the European Journal of Higher Education.

In the fourth and final article the focus shifts to the national level, in a comparative study of national QA systems for higher education in Denmark and Norway. In my work on the literature review I found both strong similarities and distinct differences between higher education governance in Nordic countries, including in QA systems. Following the first articles' focus on HEIs and study programmes it was also purposeful to broaden the scope of the thesis and focus on the national level. The article asks why two countries with strong similarities developed noticeably different systems for QA in the period 2010-2019. The article is titled 'Quality assurance in Nordic higher education: Relevance and status', authored by Hanne Kvilhaugsvik. The article is currently under review at Higher Education Policy.

1.4 Structure of the thesis

The thesis consists of six main chapters, followed by the four articles. This first chapter has covered the research questions and background for studying policy instruments targeting study programmes. The second chapter presents a literature review of research on higher education governance, to contextualize the thesis' focus on policy instruments in Denmark and Norway. The third chapter then considers the background of the expansion and major reforms of the higher education systems in the two countries. The fourth chapter presents the overall theoretical framework for the thesis and articles and discusses operationalizations for the research design. The fifth chapter discusses the methods, including case selection, and data for the studies. In the final chapter the main findings of the articles are summarized, and the thesis' contribution and implications are discussed.

Table 1. Overview of articles for the thesis

Policy instrument	Article	Research question	Theoretical approach	Research design and methods
Learning outcomes	Higher Education Learning Outcomes and their Ambiguous Relationship to Disciplines and Professions	How are learning outcomes shaped in professional and disciplinary study programmes?	Historical institutionalism and theories of the professions	Comparative case study of three disciplinary contexts in Norwegian universities
	Engineering Learning Outcomes: Translations of a policy instrument in Nordic higher education	Why were learning outcomes introduced in the disciplinary context? How were learning outcomes translated in relation to disciplinary traditions and contextual characteristics?	Historical institutionalism and translation	Comparative case study within a disciplinary context in two Norwegian universities
Employer panels	Bridging higher education and the world of work? Employer panels in Nordic university governance	How do universities organize cooperation with the world of work on study programmes? How do university leadership seek to manage and align different interests in the organization of cooperation with the world of work?	Historical institutionalism	Comparative case study of two Danish and two Norwegian employer panels
Quality assurance systems	Quality assurance in Nordic higher education: Relevance and status	Why did Denmark and Norway develop distinctly different national QA systems?	Historical institutionalism	Comparative case study of national quality assurance systems in Denmark and Norway

2. Research on higher education

As I discussed briefly in the introduction, the understanding of higher education has undergone drastic changes the past decades. In this section I will review the literature on higher education governance, which I have categorized in three generations, or waves, of research. I have grouped contributions broadly based on the understanding of universities (and later, HEIs) as organizations and how these are governed. Through this review we will follow the development from a budding research field focusing on the distinctiveness of universities to more theoretically informed empirical studies on the governance of 'higher education systems'.

Higher education is an interdisciplinary research field (Kosmützky & Krücken, 2014) and I have focused on the parts of the literature that study organizational aspects and governance. I have aimed to cover overall developments in structure, mangement, policy instruments, national or systemtic governance of HEIs, as well as international cooperation. I also draw on research on public management reforms. The literatures on learning outcomes, employer panels, and QA systems are covered in more specialized reviews in the four articles. I have primarily used *relevance* as selection criteria for the review (Maxwell, 2006), and found literature through the databases Oria and Google Scholar, as well as manual searches in reference lists of articles and books.

2.1.1 University ideas and models

The first wave of research into higher education was marked by writings on the distinct character of universities and national university models. The object of study was thereby *universities*, not HEIs, which illustrates that higher education was not understood as an integrated system at the time. Contributions from this first generation were often written from a normative or idealist position (Bleiklie, 1998), where the 'idea of the university' (Jaspers, 1961) had a strong position. The normative basis meant that many contributions were not based on empirical studies. Instead, they presented principles and ideals for how universities should be governed or, preferably, be ensured autonomy and internal governance as a 'Community of

Scholars' (Goodman, 1962) or a 'Republic of Science' (Polanyi, 1962). What is more, even when empirical studies were included, the point of departure was often 'the assumption of steady decline' (Bleiklie, 1998, p. 89) and an aim to discuss the woeful state of universities (e.g. A. Bloom, 1987). Such contributions often built on criticism of expansions and ensuing changes in governance.

National university models featured prominently in this first wave of research, highlighting the distinct origin and national trajectories of universities. This indicates an understanding of stable organization types with long traditions, embedded in their national contexts. The most prominent models were the Anglo-Saxon, Napoleonic, and Humboldtian (Ben-David, 1992 [1977]; Ben-David & Zloczower, 1962), and contributions thus focused on the UK, the US, France, and Germany. There was no Nordic university model and few studies on this context in this first wave. When Nordic countries were considered, they were often presented as strongly influenced by the Humboldtian model (Michelsen, 2010).

The Humboldtian model, and its associated principles of *Lehr- und Lernfreiheit*, *Bildung*, and *Einsamkeit und Freiheit*, has been studied thoroughly and continues to hold a leading position as an ideal for universities (Josephson, Karlsohn, & Östling, 2014), also in the Nordic countries (Michelsen, 2010). The model has often been called upon to highlight the importance of institutional autonomy and internal governance, both in normative contributions and current debates. However, the state originally figured as a guardian of universities' autonomy in the model (Nybom, 2007). While teaching and content for the most part were to be up to academic staff, the state was to decide on employment of new professors (Michelsen, 2010). The model has also become associated with state funding and centralized governance (Sam & Van Der Sijde, 2014), and thus includes both local autonomy and state control.

In addition to the national models, contributions in this first wave also examined general aspects of universities' structure and decision processes. Universities were described as decentralized bureaucracies (Blau, 1973) and professional bureaucracies

(Mintzberg, 1979), as well as 'organized anarchies' characterized by 'problematic preferences, unclear technology, and fluid participation' (Cohen et al., 1972, p. 1). This was also conceptualized as examples of garbage can decision processes (ibid.). On a similar note, universites were studied in terms of 'loose couplings' (Weick, 1976), entailing local variation and separateness of units within the organization. This painted a picture of universities as decentralized and complex organizations (March & Olsen, 1979), and many of the contributions suggest that local autonomy over teaching and research were highly regarded. However, the depictals also indicated several challenges for university governance, which I will revisit in the next section.

The first wave of research into higher education was thus marked by an emphasis on the distinct character of universities and national models. Many of the contributions were written by academics reflecting on their experience and practices (Teichler, 1996). The literature thematized autonomy and professorial governance, which reflects that issues for state governance at the time mostly were related to funding and establishing new universities. Before moving on to the second generation of research, I will note that the literature on university ideals has continued to grow[6] and influence debates on higher education governance.

2.1.2 Reforming higher education

After the first wave higher education research was still characterized as a 'relatively new and undeveloped' field (Altbach & Engberg, 2001, p. 2). Perhaps as a result of this, many publications still did not engage explicitly with theory (Goedegebuure & Van Vught, 1996; Tight, 2004). However, more empirical research contributions came to the fore and the field gradually developed into an interdisciplinary area involving researchers from disciplines including political science and education. Higher education had undergone great changes from the 1960s to the 1990s, and accordingly, the contributions in the second wave reflect changes in the understanding of universities and higher education governance.

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[6] The titles of two recent contributions also suggest that the assumption of steady decline prevails in this literature: 'Universitetskamp' by Aksel Tjora (ed.) (2019) and 'The Breakdown of Higher Education: How It Happened, the Damage It Does, and What Can Be Done" by John M. Ellis (2020).

In the second wave authors studied reforms aiming to transform universities into 'ordinary' organizations. The internal governance forms were reformed to focus on hierarchy, management was professionalized, and the institutional level at universities was strengthened (Krücken & Meier, 2006; Musselin, 2006). Krücken and Meier argue that universities were reformed into more strategic organizational actors (Krücken & Meier, 2006). On a similar note, Brunsson and Sahlin-Andersson used universities as one example of public sector reforms to establish local identity, hierarchy, and rationality and thereby construct 'more complete organizations' (Brunsson & Sahlin-Andersson, 2000). This suggests that universities previously had been 'incomplete', and that governance reforms were necessary.

The development into 'ordinary' organizations was connected to NPM policies and reforms (Lægreid & Christensen, 2011), which had made their entry into the public administration from the 1980s on (Hood, 1991). These instruments proceeded into universities (Bleiklie, 1998), which illustrates that HEIs had become more integrated into the public sector (Bleiklie, 2018). I will expand on some aspects on NPM below, incorporating contributions from public management research.

NPM includes a multitude of policies and instruments (T. Christensen & Lægreid, 2011; Pollitt & Bouckaert, 2011). Studies on NPM reforms have often categorized countries, with the common portrayal being of the UK and US as 'frontrunners' or 'trailblazers', and continental Europe and the Nordic countries as 'laggards' or slower reformers (T. Christensen & Lægreid, 2011; Pollitt & Bouckaert, 2011). Higher education has been studied as an example of contexts for reform (Ferlie, Fitzgerald, & Pettigrew, 1996), and NPM has been covered extensively in research on higher education. Contributors have, for instance, studied QA and evaluation (Harvey & Green, 1993; Westerheijden et al., 2007), accountability (Huisman & Currie, 2004), performance measurement (Alexander, 2000; Deem, 1998), as well as instruments of 'new managerialism' (Amaral, Meek, & Larsen, 2003). Neave described the changing relationship between government and higher education, with new policies for 'product control' of outputs (Neave, 1988, p. 10).

New university models were also coined in this second wave of research, with names that highlight the influence of NPM: the 'entrepreneurial university' (Clark, 1998), the 'enterprise university' (Marginson & Considine, 2000), 'McUniversity' (Parker & Jary, 1995), and the 'service university' (Cummings, 1998; Tjeldvoll, 1998). These descriptions are a strong a contrast to the models portrayed in the first wave, particularly as they do not refer to national contexts. This suggests a shift to expect convergence in higher education governance, which has also been a major topic in NPM research.

NPM policies have definitely been influential, but comparative studies have also found national differences in their implementation and implications (Pollitt & Bouckaert, 2011). Studies have emphasized national patterns and path-dependent developments and Pollitt and Bouckaert therefore highlight 'multiple omegas' and suggest a new conceptualization of countries as 'marketizers' and 'modernizers' (Pollitt & Bouckaert, 2011). Here, the Anglo-Saxon countries are considered the exception, while continental Europe and the Nordic countries are depicted as reformers emphasizing the role of the state through reforms for quality and transparency.

Comparative research on higher education has also found distinct national trajectories, for instance in a research project on changes in university governance in Western Europe (Paradeise, Reale, Bleiklie, et al., 2009). While NPM policies featured prominently and led to changes in hierarchy and autonomy (Paradeise, Reale, & Goastellec, 2009), the findings also showed complexity and continued national patterns. In Norway, NPM policies were even found to be embedded into existing governance features rather than replacing them (Bleiklie, 2009). These findings also add nuances to the impression of Norway as a 'tortoise' in terms of reforms (ibid.). Still, Norway has been described as 'more reluctant reformer' compared to Denmark and Sweden concerning NPM policies (Hansen, 2011, p. 129).

A further major change in the second wave of research was the increase in international cooperation and governance through, for instance, the European Higher

Education Area (EHEA) and the Bologna process, the European Union, the OECD, and UNESCO. This entailed that reforms and policy instruments increasingly had an international or even global background. While the nation state still was seen as the main actor in higher education governance, it was necessary to stress the international aspects (Enders, 2004). The research field therefore developed to include studies on multi-level governance (Maassen, 2008), internationalisation (Enders, 2004) and European integration (Amaral, Neave, Musselin, & Maassen, 2009), as well as more international comparisons (cf. Bleiklie, 2014; Kosmützky & Krücken, 2014). This comparative literature predominantly studied the Anglo-Saxon countries (Kosmützky & Krücken, 2014), which also could explain the emphasis on NPM discussed earlier. These developments are important parts of the background for this thesis, as several policy instruments are introduced through international cooperation.

The understanding of universities as 'specific organizations' (Musselin, 2006) seems to have faded during the second wave, and this was lamented by many contributors[7]. However, after decades of reforms, Musselin argued that universities still were highly specific on several aspects, due to the 'unclear technologies' of teaching and research, as well as continued organizational characteristics (Musselin, 2006). This is reflected in contributions in what I have characterized as a third wave of higher education research, where the emphasis on NPM reforms also has been succeeded by studies addressing global ideas, complexity, and continued national patterns.

2.1.3 Recent contributions

Increasingly, studies highlight the influence of multiple broad reforms waves on higher education governance (Bleiklie, Enders, et al., 2017; Paradeise, Reale, Bleiklie, et al., 2009). New public governance, network governance, and the Neo-Weberian State are some of the most influential models in addition to NPM (Pollitt & Bouckaert, 2011), which have also made their way into higher education (Ferlie et al., 2008). Ferlie et al. therefore argue for studying higher education governance 'as part

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[7] Many of the newly coined university models built on criticism of NPM-inspired reforms. For instance, Slaughter and Rhodes portrayed a 'neo-liberal university' (Slaughter & Rhoades, 2000).

of a broader pattern of public sector reforming' and not as a detached sector (2008, pp. 344-345).

The models of new public governance and network governance emphasize flexibility and partnerships rather than hierarchy (Pollitt & Bouckaert, 2011). International cooperations (including the Bologna process, EU, OECD, UNESCO) can be understood in light of these models, as they lead to changes in the role of the state in higher education governance (Ferlie et al., 2008). The approaches also entail inclusion of non-state actors in governance (Ferlie et al., 2008), for instance in networks for evaluations and accreditations in higher education (Bleiklie et al., 2011). Contributions highlighting the state 'steering at a distance' (Capano, 2011) could also be seen in connection with these models.

In contrast, the Neo-Weberian State model, which describes continental Europe and the Nordic countries, highlights modernization and the distinct role of the state (Pollitt & Bouckaert, 2011). This implies steering through administrative law and hierarchy, combined with a new emphasis on transparency and efficiency (Ferlie et al., 2008). Paradeise et al. discuss how such policies in higher education could be a response to the expansion of the system, to manage demand and diversity (2009, p. 244). Furthermore, the Neo-Weberian state includes targets and instruments that often are associated with NPM, which reiterates that an institutional understanding of complex reforms and instruments with varied backgrounds can be beneficial.

Recent contributions highlight layering processes and complexity. Paradeise et al. found that policies and instruments associated with the 'old Weberian state', markets and quasi-markets, and networks co-existed in national higher education governance (Paradeise, Reale, Bleiklie, et al., 2009). Bleiklie et al. even conceptualize HEIs as 'penetrated hierarchies', which accentuates the combination of increased influence of external actors and networks with stronger organizational control and leadership at HEIs (Bleiklie et al., 2015). Capano and Pritoni also argue that principles of hierarchy, market, and network all have been prominent in reforms the past decades (Capano & Pritoni, 2019). The combination of layers of reform models and continued

national patterns lead them to argue that national higher education governance should be understood as hybrids incorporating instruments with different backgrounds (ibid.). These contributions suggest ambiguities in policy instruments' purposes and implications for HEIs. The emphasis on higher education's embeddedness in the public sector reforms also reiterates the rise of broader considerations in higher education governance, including transparency, relevance, and quality, as discussed in the introduction.

Studying the Nordic context

The review above has discussed distinct university models, multiple reform waves, and continued national patterns. This illustrates that contextualization is crucial. For this thesis' focus on Denmark and Norway, it is notable that there has not been an established 'Nordic model' in this area, despite the abundance of university models. Some contributions have studied the Nordic countries with an aim to map the commonalities, and their findings show several strong similarities in higher education governance. Christensen et al. describe affinities in public administration and higher education, and find 'overall convergence' in policy aims in governance reforms but also differences in the use of instruments (T. Christensen et al., 2014, p. 44). Pinheiro et al. present similar arguments and findings in a comparative study of changes in leadership and management structures in the Nordic countries (Pinheiro et al., 2019). Furthermore, Bleiklie and Michelsen argue that the countries sometimes use different instruments and arrangements but pursue similar goals (Bleiklie & Michelsen, 2019).

In addition to these aspects, some studies have emphasized instrumentality as a distinct aspect in Nordic higher education governance. In their study on national higher education governance Capando and Pritoni (2019, p. 20 ff.) accentuate the prominence of 'systemic government goals' in the Nordic countries. This is a contrast to findings from England, where there is a strong emphasis on performance, and France, which is marked by detailed regulations of core activities (Capano & Pritoni, 2019, p. 20). They therefore categorize the Nordic countries in a systemic goal-oriented mode, together with the Netherlands (Capano & Pritoni, 2019). The authors also point out the high public funding and distinct use of information instruments and

goals for teaching as characteristic features (Capano & Pritoni, 2019, p. 14). This is pertinent to this thesis' focus, as the three instruments I study all have aspects of tools for information and an emphasis on teaching.

A further aspect for research in the Nordic context concerns the influence of welfare state ideals on higher education. In the welfare state literature there is a clearly established 'Nordic model' (Kildal & Kuhnle, 2005) or 'social democratic regime' (Esping-Andersen, 1990), with a distinct emphasis on universalism. Capano and Pritoni argue that the 'Nordic style' of linking education to the welfare state (2019, p. 24) could be a possible explanation for the prevalence of systemic goals. On a similar note, Christensen and Gornitzka discuss Nordic ideas where HEIs are understood as 'instruments for national policy goals' as part of an overall public education system (T. Christensen & Gornitzka, 2017, p. 131). However, higher education has traditionally not been regarded as part of the welfare state.

In an influential book on the welfare state and inequality Wilensky argued that 'education is special' (Wilensky, 1975, p. 3) because it mainly ensured mobility for qualified *individuals*. Accordingly, the overall purpose of education was not reducing socioeconomic inequality (Busemeyer, 2014, p. 1) or bettering 'absolute equality' (Wilensky, 1975, p. 3). This may ring true for 'liberal welfare states', including the US and the UK, and continental European 'conservative welfare states' (Esping-Andersen, 1990), but such goals have in fact been prominent for all levels of education in the Nordic context, including higher education (Vabø & Hovdhaugen, 2014). As the background section in this thesis will discuss, ensuring access has been both a priority and driver for expansion. Busemeyer even argues that education is an 'integral part of the welfare state' in the Nordic model (Busemeyer, 2014, p. 5), and that the connections between education and the welfare state have not been addressed sufficiently (Busemeyer, 2014, p. 2 ff.). In higher education the connections have hardly featured at all, as the welfare state literature and higher education research rarely have been combined (Willemse & de Beer, 2012).

Some contributions in higher education research have used welfare state perspectives in studies of policies for expansion and funding (Pechar & Andres, 2011), decommodification and stratification (Willemse & de Beer, 2012), participation (Andres & Pechar, 2013), academic research systems (Bégin-Caouette, Askvik, & Cui, 2016), as well as changes in funding, competition, and autonomy (Schulze-Cleven & Olson, 2017). These studies find several commonalities and patterns associated with the established welfare state regimes, especially for the social democratic model. This suggests that it can be purposeful to include welfare state literature in research on higher education governance, particularly for studies of Nordic countries. Welfare state ideals of universalism and full employment, and traditions for coordination with the world of work can be helpful concepts to study changes in higher education governance here.

2.1.4 Conclusion

This review has explored how higher education research has developed from a 'remarkably inward oriented' (Goedegebuure & Van Vught, 1996, p. 390) to a more mature and expanded research field with connections to organization theory and empirical studies of public management reforms. The review has identified two key themes that this thesis aims to contribute to. First, that policy instruments in higher education governance should be studied as part of multiple reform waves in the public sector and with an understanding of complexity and layering. Second, while higher education governance increasingly is influenced by international cooperation and global ideas, distinct national trajectories remain.

In this thesis I will therefore explore the characteristic features of universities and higher education governance in the Nordic context, and how these contribute to shaping policy instruments. This suggests that a historical-institutionalist perspective can be a suitable approach. Following this review, the next chapter will give a short presentation of the expansion and reforms of higher education in the two countries studied in this thesis, beginning with Denmark.

3. Background: Expansion and reforms of higher education in Denmark and Norway

This chapter gives a brief presentation of the context of the study. The backgrounds in expansion and reforms in Denmark and Norway show several parallels in reforms and policy instruments, but also variation within a Nordic pattern, which I will draw on to discuss the findings from the four articles.

3.1.1 Denmark

Higher education in Denmark went through a massive expansion after the war, particularly during the 1960s (Thomsen, 2014). The policies for expansion were influenced by human capital theories, but also by social democratic ideals of a qualified workforce and universal access (Aamodt & Kyvik, 2005; Thomsen, 2014). Several committees were established to advise on the expansion, including a planning committee for overall strategies (Planlægningsrådet, 1965). The committee expected a continued increase in enrolment, which they suggested should be managed by expanding the existing universities and establishing new 'university centres' (Planlægningsrådet, 1965). Three new universities were accordingly established in the 1960s and 1970s, one with a traditional structure and two with more innovative aspects. The Danish university colleges also expanded, although less than the universities (Thomsen, 2014, p. 21). The strategy of expansion at universities was similar to that of Finland, while Sweden and Norway favoured the establishment of new university colleges (Aamodt & Kyvik, 2005).

Expansion continued in the next decades, although at varying pace. Admissions were open, which resulted in disproportionately high numbers of students in some departments (Folketinget, 1976). Regulations of admission were then introduced in the 1970s (Folketinget, 1976), which reduced the overall enrolment somewhat (Thomsen, 2014). Rationalization policies and unemployment rates also led to policies targeting the humanities and social sciences (Aamodt & Kyvik, 2005). The rising number of students also led to strong demands of democratization of the university governance, which resulted in new arrangements in the 1970s (Whitehead,

1985). A directorate for higher education was also introduced, indicating formalization in higher education governance.

In the 1990s the expansion continued, particularly at the universities and university colleges (Thomsen, 2014). Several changes in higher education governance were also made, both concerning funding and management. Performance-based funding of education had been introduced (Hansen, 2010), and universities were delegated more financial autonomy after a revision of the act on universities in 1992 (Universitetsloven, 1992). The 'taximeter principle' model for funding of teaching meant that HEIs were rewarded for students' enrolment and activity (Hansen, 2010). The internal governance of universities was also reformed to emphasize leadership rather than participation (Thomsen, 2014).

The 2000s were marked by extensive reforms. A new university law was passed in 2003, introducing substantial changes in university governance (Hansen, 2010). University leaders were now hired rather than elected, and new university boards were established with a majority of external members (Danish Government, 2002). The reform also sought to increase universities' autonomy, for instance through simplifying regulations of study programmes (Danish Government, 2002). However, the reform also brought new measures which entailed an escalation in documentation and applications for universities (Danish Ministry of Science, 2010). Several of the changes can be understood as reforming into more 'complete organizations', and the reform has been been studied as part of market-based or NPM-inspired reforms (e.g. Wright & Ørberg, 2011).

Higher education policies in the 2000s also emphasized expansion, quality, and the knowledge economy. The Globalization agreement of 2006 presented the goal that 'at least 50 % of young people will have a higher education degree in 2015' (Globaliseringsaftalen, 2006), which would be an increase of 5 percentage points (ibid.). Reforms of professional and short-cycle study programmes were among the priority areas in the agreement, and in 2007 HEIs offering professionally-oriented programmes were reorganized as professional university colleges

(*professionshøjskoler*) (Danish Ministry of Higher Education and Research, 2007). The reform emphasized that the colleges were to offer practically oriented higher education (ibid.) and thus have different tasks and profiles than the universities. Several universities also merged with research institutes in a 2007 reform, as part of policies for competitiveness and innovation (Aagaard, Hansen, & Rasmussen, 2016).

After decades of expansions, the 2010s have featured tendencies of more strategic steering of the results and dimensioning of higher education. For instance, the Danish Productivity Commission criticized the quality, relevance, and results of higher education, and recommended stronger steering of study programmes in line with the labour market's needs (Danish Productivity Commission, 2013). The commission argued that the taximeter financing, as well as the political goals of increased enrolment, had contributed to rampant expansion at universities, particularly at the master level and within the humanities and social sciences, while the more 'in demand' professionally oriented HEIs and programmes had experienced less growth (Danish Productivity Commission, 2013).

The commission pointed out that the number of study programmes at universities had almost doubled from 2000 to 2015 (Danish Productivity Commission, 2013, p. 117). A government-appointed committee for quality and relevance in higher education echoed the call for stronger steering, but also requested increased autonomy for HEIs (Kvalitetsudvalget, 2015). Policies for improved completion of degrees, relevance, dimensioning, and quality have followed, and in the 2018 statistics on enrolment the results numbers suggested stabilization and even a slight reduction (Danmarks statistik, 2018). These aspects indicate a shift from expansion to more strategic steering of provision.

3.1.2 Norway

The Norwegian higher education system expanded later than many comparable countries, with an increase in applications in the 1950s and escalation in the 1960s (Vabø & Hovdhaugen, 2014, p. 62). This made expansion a current topic and government commissions were appointed to advise on further development. The

Ottosen commission recommended to establish shorter, practically oriented programmes and regional study centres, as supplements to the university studies (Innstilling nr. 1, 1966). New 'district colleges' were established throughout the country afterwards, as an alternative to the universities (Jerdal, 2002), although many of them were technically not new but rather 'upgraded' institutions offering professionally-oriented education (Aamodt, 1995). The policies for expansion thereby had a regional emphasis, which reflected ideals of universal access (Aamodt, 1995), as well as an emphasis on democratization, which entailed a need to break away from the old university governance forms and ideals (NOU 2008: 3, p. 20; Vabø & Hovdhaugen, 2014).

The number of students increased rapidly during the 1960s, first within the two universities (Vabø & Hovdhaugen, 2014, p. 63). During the next decades, the number of university colleges also grew, including more 'upgraded' institutions. The regional colleges absorbed a large share of the new students (ibid.), as did the other colleges. Norway therefore came to have a 'relatively greater proportion' of students enrolled at colleges and other institutions compared to other countries (Aamodt, 1995, p. 65). However, the diversity of these HEIs also encompassed challenges for higher education governance, as there were almost 100 university colleges in the 1990s (Michelsen & Halvorsen, 2002).

The 1990s were marked by further increases in enrolment and a major reform of the university college sector in 1994. The increases can be seen in light of unemployment (Aamodt & Kyvik, 2005) and were managed through expansion, but also through caps and more coordinated admissions. The university college reform came after debates on the results in higher education and the challenges of numerous, scattered HEIs. The government-appointed Hernes commission had argued that reforms were necessary to ensure that 'the population is not undereducated' (NOU 1988: 28, p. 7), and that the quality was improved. The commission recommended consolidation and better division of labour (NOU 1988: 28), leading to the extensive reform where 98 HEIs were re-organized into 26 university colleges (Kyvik, 1999). The university colleges were still intended to have a different profile than universities, but there were

also signs of development towards a more unitary higher education system, particularly with the new, common act of 1995 (Universitetsloven, 1995).

The 2000s were characterized by the major Quality reform of higher education in 2003, which had been proposed by a government-appointed committee. The expansion and more diversified student groups formed the backdrop for the reform, as did issues of quality, internationalization, and the knowledge economy (NOU 2000:14). The reform included a new model of financing with incentives for quality and students' completion of exams rather than number of admitted students (St.meld. nr. 27 (2000-2001)). New teaching methods and emphasis on students' completion were also key issues, and the reform introduced a new degree structure (St.meld. nr. 27 (2000-2001)). HEIs were also given more autonomy to make changes in study programmes locally, but the ministry emphasized the need for more coordination and dimensioning (St.meld. nr. 27 (2000-2001)). The reform also made changes in governance structures at HEIs, including more external board members, and argued for division of labour between the four 'classic universities' and other HEIs (St.meld. nr. 27 (2000-2001)).

The most recent reform is the Structure reform of 2015, which aimed to increase the quality in higher education through mergers and 'fewer but stronger' HEIs (Meld. St. 18 (2014-2015), p. 3). Similar structural changes and mergers had been recommended by a commission in 2008 (NOU 2008: 3) but had been met with strong criticism. After the reform there were 10 state-owned universities, five university colleges, and six specialized university institutions – a dramatic change from the situation in the 1990s.

While Norway has continued to expand the number of students and the places of study offered (Statistisk sentralbyrå, 2020), there has also been a shift to policies for learning outcomes, relevance, and dimensioning. For instance, the 2017 white paper on quality in higher education highlighted relevance and cooperation with the world of work, and declared that HEIs should ensure that students find employment (Meld. St. 16 (2016-2017)). The white paper also stated that study programmes should

emphasize relevant learning outcomes and adaptability (ibid.). A Committee on Skill Needs then published a report stating that the provision of higher education to a great extent was decided by HEIs themselves and that considerations of 'labour market needs' were not prominent (NOU 2018: 2, p. 9). These concerns were echoed in an OECD report in 2018 (OECD 2018a), which argued for stronger steering. A report on the dimensioning of higher education in Norway also found that the expansion the past decades to a great extent had been driven by applicants' choices (Høst, Aamodt, Hovdhaugen, & Lyby, 2019). These developments indicate a new emphasis on steering the dimensioning and provision of higher education.

3.2 Conclusion

This background section has covered features of the expansion of higher education in Denmark and Norway, as well as major reforms the past decades. The section shows variation within what can be considered a Nordic pattern of higher education structure and governance (Ahola et al., 2014). Following this background section, the next chapter presents the overall theoretical framework.

4. Theoretical framework

Historical institutionalism has been the overall perspective for the thesis. In this chapter I discuss the understanding of institutions and agency that this entails. I then consider the concepts path dependency and gradual institutional change, which have been important for the study. I also expand on the institutional understanding of policy instruments in these sections.

Contextual features were highlighted in the literature review, and such features are crucial for studies in historical institutionalism. The chapter therefore discusses aspects of politico-administrative regimes, which I expect higher education governance to be shaped by. I also consider features of welfare state models, which the review highlighted as important for the Nordic context, and the political economy, which is pertinent to instruments for relevance and cooperation between higher education and the world of work.

Within this overall framework the four individual articles then present more specialized theoretical approaches in line with their research questions and designs.

4.1 Historical institutionalism

Historical institutionalism is a theoretical perspective within new institutionalism and it is characterized by an emphasis on 'the legacy of the past' (Peters, 2019). For higher education research, this entails an expectation of HEIs as 'specific' organizations (Musselin, 2006) that have been reformed gradually but retained several distinct features. Fioretos et al. describe historical institutionalism as a perspective that also highlights 'how temporal processes and events influence the origin and transformation of ideas that govern political and economic relations.' (Fioretos et al., 2016a, p. 1). Historical institutionalism has been used in a wide range of studies since the 1990s (Fioretos, Falleti, & Sheingate, 2016b), both within economics, comparative politics, public administration, and organization theory. The perspective has also been influential in research on higher education governance, as

the literature review indicated. The emphasis on organizations and the meso level in the perspective also makes it purposeful for studies of higher education governance.

In this perspective institutions are commonly understood as formal and informal rules and practices that shape understandings and actions (Hall & Taylor, 1996; Mahoney & Thelen, 2010b; Steinmo, Thelen, & Longstreth, 1992). Historical institutionalism has, however, often given prominence to institutions associated with formal organizations (Hall & Taylor, 1996), and in some versions the definition only includes formal rules and practices (e.g. Streeck & Thelen, 2005)[8]. In this thesis I mainly study formal institutions in higher education governance.

Historical institutionalists have generally used 'relatively broad terms' in explanations of the relationship between institutions and agents (Hall & Taylor, 1996, p. 938). Steinmo et al. argue that institutions shape actors' understandings and behaviour (Steinmo et al., 1992). Some versions of the perspective highlight conflict and calculation, while others argue for cultural explanations of conventions and habits (Hall & Taylor, 1996, p. 938). These are often combined in a wide definition of agency (Fioretos et al., 2016a). In this thesis I follow Mahoney and Thelen's understanding that institutions distribute power and resources, but also provide space that allows for new interpretations and enactments (Mahoney & Thelen, 2010a). This implies an expectation of embedded agency.

4.1.1 Change in historical institutionalism

Path dependency is central in historical institutionalism. This entails that choices made at the formation of a policy shape further developments by creating patterns and institutional stability (Fioretos et al., 2016a). Much of the literature in this tradition has therefore emphasized equilibrium and stability (Peters, Pierre, & King, 2005, p. 1275). Change was understood as rare events caused by conflicts and external shocks. Such events were often studied in terms of punctuated equilibrium (Krasner, 1984) and critical junctures (R. B. Collier & Collier, 1991), both of which

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[8] Some studies also focus on informal institutions (Culpepper, 2010), and some argue for including ideas more explicitly (Béland, 2009).

highlight the importance of temporality. Change processes are here understood as 'structured in time and space' (Hall, 2016), which entails that studies have to take account of contextual features and the 'causal ordering' of events (Mahoney, Mohamedali, & Nguyen, 2016). However, the research tradition has been criticized for a narrow understanding based on stability and rare shocks, and for insufficient explanations of change, as studies suggest that change often takes place incrementally and in less dramatic ways (Streeck & Thelen, 2005).

Gradual institutional change

While path dependency and critical junctures have remained important concepts in the literature (Capoccia, 2016), new models have improved the perspective's explanations of change. Gradual institutional change emphasizes internal drivers and incremental development (Mahoney & Thelen, 2010a; Streeck & Thelen, 2005). The model argues that gradual developments also can lead to profound changes in the long term (Hacker, 2005), sometimes in unintended ways. Gradual change is still based on an understanding of path dependency, since aspects of the political context and institutions are expected to explain the type of gradual change (Mahoney & Thelen, 2010b, p. 15). Using a historical institutionalist perspective, I expect higher education governance to be marked by path-dependent developments, as well as gradual changes along the way. For instance, I expect patterns of expansion and traditions for reform to shape the introduction of new instruments. I do not expect new policy instruments to be radical transformations caused by conflict or external shocks, but rather a series of incremental changes in line with institutions in the context. These expectations are a contrast to research on NPM-inspired reforms, as I discussed in Chapter 2. Historical institutionalism entails an emphasis on continued patterns rather than convergence.

The main types of gradual change are displacement, layering, drift, and conversion (Hacker, Pierson, & Thelen, 2015; Mahoney & Thelen, 2010b; Streeck & Thelen, 2005). The two first imply that new rules are introduced, while the latter two refer to how existing rules are interpreted and enacted. As mentioned above, characteristics of the context are used to explain which type of change is most likely. For higher

education governance, the national political context mainly includes ministries, agencies, HEIs, and disciplinary communities. At the organization level of HEIs and disciplines in the Nordic context, there are relatively high levels of discretion for university leadership and academics. I therefore expect layering and drift to be the most relevant forms of change for this study. Layering means that new rules are added to the *existing* ones, for instance through adjustment and additions (Mahoney & Thelen, 2010b, p. 16). Drift, on the other hand, occurs when the context changes but the rules remain the same, which means that the consequences of the rules also change (Hacker, 2005; Hacker et al., 2015). I mainly use this concept in Article 2, to study the results of the introduction of learning outcomes.

Historical institutionalism and policy instruments

Historical institutionalism and gradual change entail a distinct understanding of policy instruments. As I discussed in the introduction, policy instruments are commonly defined in terms that emphasize power and government's steering to achieve goals (e.g. Hood & Margetts, 2007; Vedung, 1998). This suggests that instruments have clear purposes, are introduced through top-down processes, and that they are used in line with policy-makers' intentions. The understanding of agency and change in this thesis means that I instead expect policy instruments to be ambiguous (Cohen et al., 1972; March & Olsen, 1979). Instruments can be considered through categorizations, as I discussed in the introduction. I study three instruments which have aspects of regulation and information (Capano et al., 2019; Hood & Margetts, 2007; Vedung, 1998), but they can also be considered tools for learning and symbolic or hortatory purposes (Schneider & Ingram, 1990). However, a historical-institutionalist understanding of instruments entails that they can have unclear or multiple purposes, particularly when they address a wide audience. Instruments can also be introduced in ways that allow for several different interpretations, which can differ from what was intended in policies and regulations. The same policy instrument can also be used for different purposes, even in similar contexts.

I expect policy instruments to be shaped by the context, for instance through gradual changes. Such processes can also resemble translation (Czarniawska & Sevón, 2013;

Westerheijden & Kohoutek, 2014), since the definition of agency in this framework entails opportunities to interpret and enact aspects of instruments at different levels. As such, I expect new instruments to offer not just contraints bot also opportunities (Capano & Pritoni, 2020). As HEIs have been reformed into organizations with stronger hierarchies and more professionalized leadership arrangements than those of the organized anarchies (Bleiklie et al., 2015; Brunsson & Sahlin-Andersson, 2000), I expect leadership at different levels within HEIs to be central actors in the introduction and use of policy instruments. Academic staff also have opportunities to shape instruments concerning teaching and assessment, similar to professionals who can interpret instruments for their own purposes instead of resisting them (Noordegraaf, 2011). In this way HEIs can be understood as active interpreters of management trends and reforms (Stensaker, 2007), contrary to a common perception of them as reluctant to external reforms.

Layering processes

A further aspect is that policy instruments are not introduced in isolation. In most contexts there are already myriads of other instruments and practices. Studies of policy instruments must therefore attend to the context for new instruments and the relations to other practices. Layering highlights such processes (Mahoney & Thelen, 2010b). However, the historical-institutionalist literature has been criticized for using this as a 'catch-all concept' (Capano, 2019). In this thesis I will use it on two levels of analysis. At the national level it can be understood as a 'mode of institutional design', as Capano suggests:

> I propose to define the concept of layering as a specific means of formulating policies through which 'something new' is added to the existing institutional arrangement in a specific policy field, no less but no more. (Capano, 2019, p. 594)

Capano further argues that this 'something new' can be a policy instrument, an idea, or an inclusion of new actors (Capano, 2019). At HEIs layering can also be a way to shape instruments at different levels and by different groups of actors, such as university leadership and academic staff.

Layering can lead to changes or stability, depending on what is added. Mahoney and Thelen's presentation of layering is not quite clear on this account, as they state that layering does not lead to 'changed impact/enactment of old rules' on the same page that they argue that it '[changes] the ways in which the original rules structure behavior' (Mahoney & Thelen, 2010b, p. 16). In this thesis I follow the latter assumption, and I expect new and existing instruments to be interpreted in light of each other, as part of a mix. Furthermore, I expect this mix to consist of instruments with different backgrounds and purposes, which have been layered gradually and shaped by the context. This implies that the interpretation and use of instruments should be studied in depth with attention to contextual features and relations between instruments.

The previous sections have highlighted the importance placed on contextual features in this tradition. In the next sections I will therefore discuss distinct features at the national level. These aspects will then be operationalized in section 4.2 Research design.

4.1.2 National trajectories

In historical institutionalism politics is not just structured in time, but also in *space* (Hall, 2016). Accordingly, this tradition has highlighted 'distinct national trajectories' (Hall & Taylor, 1996, p. 938), based on a large body of comparative studies. Painter and Peters argue that the national systems are varied and that their distinct features persist despite global trends (Painter & Peters, 2010). An influential conceptualization of national trajectories is that of politico-administrative regimes, which is based on features including the state structure, executive government, and administrative culture (Pollitt & Bouckaert, 2011). These features are understood as relatively stable 'fundamentals' compared to new policy instruments and reforms (Pollitt & Bouckaert, 2011, p. 48), and they can be utilized to explain continued national trajectories. In this thesis I study higher education governance as embedded in such regimes.

A key aspect of politico-administrative regimes is that countries are associated with different administrative traditions and paces of reform. Studies have often set a dividing line between two main models here: the Rechsstaat model, where the role of the state and administrative law is in focus, and the Public Interest tradition, where the government and common law instead are central concepts (Pollitt & Bouckaert, 2011; Verhoest, Roness, Verschuere, Rubecksen, & MacCarthaigh, 2010). The first model, which the Nordic countries are associated with, is expected to favour slow or gradual reforms, while the latter includes Anglo-Saxon countries and is understood as more prone to major changes.

Regimes are also connected to different types of reform trajectories, which lead Pollitt and Bouckaert to distinguish between modernizers or marketizers (Pollitt & Bouckaert, 2011), as discussed in chapter 2. The latter includes the Anglo-Saxon countries, which have featured prominently in research on both public management and higher education governance. This model is associated with NPM-inspired reforms and ideas of the market, competition, and transforming public organizations. In contrast, modernizers include the continental European and Nordic countries (Pollitt & Bouckaert, 2011), which instead have renewed their emphasis on the distinct and strong role of the state (Pollitt & Bouckaert, 2011). Modernizers have combined traditional administrative law, hierarchy, and coordination with new features such as citizen-orientation, quality culture, transparency, and management of results (Pollitt & Bouckaert, 2011, pp. 118-119). Pollitt and Bouckaert entitle this the Neo-Weberian State model, which nuances the understanding of these countries as laggards concerning reforms.

I expect policy instruments in Nordic higher education governance to be shaped by these aspects of politico-administrative regimes, which entails that their use in this context may differ from Anglo-Saxon countries. As I have discussed above and in chapter 2, the understanding of Nordic countries as slow reformers has been nuanced, leading me to expect 'eager' (Bleiklie, 2009) yet incremental introductions of instruments at the national level. When it comes to the three policy instruments targeting study programmes, I anticipate that they will be introduced through

administrative law. The emphasis on layering and complexity suggests that instruments can have connections to multiple reform waves and include aspects of both NPM and NWS. In light of the NWS model I expect instruments to be influenced by ideals including coordination, transparency, and public organization's obligations to citizens.

While there are strong similarities, the emphasis on national trajectories also leads me to expect some differences between Denmark and Norway. Denmark has overall been considered a more eager NPM reformer compared to Norway and Sweden (Hansen, 2011). Denmark, and several other European countries, has also experienced extensive rationalization in public management in the aftermath of the financial crisis (Sørensen, Hansen, & Kristiansen, 2017), in contrast to Norway, where these developments had less of an impact (Kickert, Randma-Liiv, & Savi, 2015). There are also differences in higher education governance. Wright and Ørberg discuss portrayals of Denmark as a country pursuing 'extreme versions of current international agendas for university reform' (Wright & Ørberg, 2011, p. 269), and Pinheiro et al. also find more radical reforms in Denmark and Finland compared to Norway and Sweden (Pinheiro et al., 2019). While Bleiklie (2009) discusses Norway's development from reluctant to a more eager reformer, I expect a quicker pace of reforms and changes concerning instruments in Denmark, as well as a stronger emphasis on radical – including NPM-inspired – policies and instruments.

The strong welfare orientation (Painter & Peters, 2010a) and traditions for coordination (Hall & Soskice, 2001) are two features of the Nordic context that distinguish the countries from 'marketizers' and the continental 'modernizers'. I will consider aspects of this in the next sections, as I expect them to influence instruments for quality and relevance.

Welfare state regimes

Strong connections have developed between historical institutionalism and welfare state research (Béland, 2005; Lynch & Rhodes, 2016), among other things due to the shared emphasis on formal political institutions and national trajectories. As I

discussed earlier, recent contributions suggest that it also can be purposeful to apply welfare state literature in higher education research.

Esping-Andersen's conceptualization of welfare state regimes builds on the structures and relations between the state, the market, and the family in different countries (Esping-Andersen, 1990, p. 21), which goes beyond comparing levels of spending or categorizing citizens' rights. The Nordic countries are grouped as part of the social democratic welfare state regime, which is marked by universalism and de-commodification (Esping-Andersen, 1990, p. 21). Universalism is pertinent to higher education, as expansion in the Nordic context has been based on ensuring access for all qualified applicants (Ahola et al., 2014). De-commodification entails that arrangements are a matter of right and that the individual is not dependent upon the market (Esping-Andersen, 1990, p. 22). Pedersen and Kuhnle highlight free or tax-funded (higher) education as part of the 'pillar[s] of the Nordic welfare state model' (A. W. Pedersen & Kuhnle, 2017, p. 228). Other relevant features in higher education which can be covered here include benefits for students and regulations of quality and relevance, as they apply all study programmes and the higher education systems mostly consist of public HEIs. These features can be considered measures for equality, in contrast to elite and privatized systems (Ansell, 2010).

Full employment is a main goal in the social democratic welfare regime (Esping-Andersen, 1990), and it is also decisive for its success. As more and more jobs require formal qualifications and larger shares of the population graduate with degrees, this could lead to increased attention to HEIs as providers of education and qualified workers. Higher education is also central in social investment policies aiming to support the labour market and knowledge economy (Morel, Palier, & Palme, 2011). Furthermore, expansion into a massified higher education systems entails significant costs in countries with high public funding (Ansell, 2010), which can bring attention to the structure and provision (Paradeise, Reale, Goastellec, et al., 2009, p. 244). The active role of the state in the Nordic welfare state model (A. W. Pedersen & Kuhnle, 2017), and the tendencies to use higher education as instruments to achieve the state's policy goals (J. Christensen et al., 2017; T. Christensen et al.,

2014), suggest that instruments for quality and relevance here can be shaped by ideals of universalism and full employment rather than NPM policies alone.

I expect to find some variation between the countries on welfare state aspects, for instance based on expansion patterns and the budgetary constraints mentioned earlier. Furthermore, Danish welfare state reforms have been characterized as a shift to the 'competition state' (O. K. Pedersen, 2011, 2018), with reforms amining to improve competitiveness in the knowledge economy. Wright and Ørberg have studied Danish university reform in light of autonomy, market-based ideals, and welfare state reforms, and argue that universities are subject to 'strong mechanisms for steering' (Wright & Ørberg, 2008, p. 52), in order to reach government's goals of competitiveness. This could suggest a stronger emphasis on dimensioning and higher education's role in ensuring full employment. In Norway, I expect the regional dimension to be more central, as this has been a priority in the expansion, based on welfare state ideals. As mentione earlier, regional considerations have also been reflected in the structure of Norwegian higher education system (cf. Jerdal, 2002).

Welfare-state models have been criticized for limiting research, ignoring transnational aspects, and disregarding specific national developments (Kettunen & Petersen, 2011a). In this thesis they are used as analytical tools for conceptualization (Kettunen & Petersen, 2011b, p. 3), building on an understanding of a model in development (A. W. Pedersen & Kuhnle, 2017, p. 237).

Political economy

The Nordic countries are characterized as coordinated market economies (Hall & Soskice, 2001), and they have been described as small, flexible countries (Katzenstein, 1985). Distinct features of the political economy are the traditions for collective action and a corporatist model of association (Martin & Swank, 2012). This entails traditions for coordination and collective preference formation, for instance on education and training systems and labour market policies (Thelen, 2014). Accordingly, enterprises in the Nordic context are accustomed to cooperate with the state and unions, through what has been called democratic corporatism (Katzenstein,

1985). They can thereby promote shared interests through peak associations, as well as sector groups. Martin and Swank categorize the Nordic countries as 'macrocorporatist', which makes them distinct from the stronger sectoral coordination associated with countries like Germany. However, Denmark has experienced stronger liberalisation and decentralisation in the past decades (Thelen, 2014), which suggests a stronger emphasis on segments there, while labour market and peak organizations have a more prominent position in Norway. Still, these features are a strong contrast to liberal market economies (Hall & Soskice, 2001) – also called 'pluralist' countries (Martin & Swank, 2012) – where such cooperation is weak, and enterprises might promote distinct interests.

These features highlight institutions which I expect to structure connections between higher education and the world of work in Nordic countries. Furthermore, I expect these features to influence policy instruments that aim to improve relevance, leading to uses that can contrast portrayals of neoliberalism (Boden & Nedeva, 2010) and NPM-inspired market-based policies (Schulze-Cleven & Olson, 2017).

4.1.3 Conclusion

Summing up, the theoretical framework highlights path dependency, embedded agency, and gradual change. I expect to find similarities between Denmark and Norway due to their many shared features, but the framework also leads me to anticipate continued variation within a 'Nordic trajectory'. I expect policy instruments to be shaped by distinct features as well as incremental developments through layering and interpretation, both at national level and within HEIs and disciplinary contexts.

4.2 Research design

A research design can be defined as the plan connecting the research questions, theoretical framework, data, and findings in a study (Yin, 2018, p. 26). This entails operationalization of key concepts, dimensions, and indicators in light of the theoretical perspectives. Research designs are not always considered in detail in

empirical studies (Yin, 2018, p. 26), but clarification of these aspects can make the analysis and implications clearer and address common criticisms of case studies as lacking in rigor and generalizability. In this section I will consider propositions and operationalizations of dimensions pertinent to the four articles.

The main research question for the thesis is: How are policy instruments shaped in massified higher education systems? Overall, the framework's emphasis on contextual features and path-dependent changes led me to expect continued differences between countries, HEIs, and disciplines in the use of policy instruments. Furthermore, the understanding of embedded agency meant that I expected to find opportunities for actors on different levels to shape instruments, both through introduction processes and use thereafter.

4.2.1 Operationalizations

Contextualization and operationalization of the key concepts are vital for a study's research design and measurement validity (Adcock & Collier, 2001; Yin, 2018). In the following I will revisit the research questions for the individual articles and specify the concepts, dimensions, and indicators pertinent to each of them. The operationalizations also introduce selected concepts from the specialized frameworks I developed for the articles.

Article 1

Article 1 asks how learning outcomes are shaped in professional and disciplinary study programmes. This entailed that the article would focus on study programmes, which we expected to be embedded in structures and processes at HEIs and disciplinary traditions. Disciplines have been called 'academic tribes' with different epistemological assumptions and knowledge structures (Becher & Trowler, 2001), which has implications for how they structure research and education, and thereby for how they interpret instruments like learning outcomes, labour market panels, and QA. We also approached the study with an understanding of study programmes as complex structures consisting of diverse groups of actors. The lack of studies on learning outcomes in disciplinary contexts suggested that we should have an

exploratory aim for the article. Furthermore, the research question implied an interest in comparing different study programmes.

We decided to include the following groups of actors: academic leadership at the instituional, faculty, department, and study programme levels; student representatives; academic staff, administrators, and students. Next, we operationalized the 'shaping' of learning outcomes as the process when learning outcomes were formally introduced at HEIs through national qualifications frameworks. Here we were interested in the development of learning outcome descriptors for courses and study programmes, as well as the use of learning outcomes in teaching, assessment, and academic development. The theoretical framework's emphasis on temporality and sequences of events also made it important to study conciding projects and developments in the context.

Article 2

The point of departure for this article was to study the introduction of learning outcomes from the national level to HEIs and study programmes. Since learning outcomes were formally introduced through national qualifications frameworks, I expected to find adaptations as the instrument was moved between levels, based on the theoretical framework's emphasis on path-dependent developments. The article asks: 1) why learning outcomes were introduced in the disciplinary context of engineering, and 2) how they were translated to the disciplinary traditions and contextual characteristics.

I expected that national regulations of HEIs and disciplines could help explain the introduction, and the emphasis on disciplinary contexts in the research questions entailed that I would focus on study programmes. I also included the faculty and department levels for the study, based on an understanding of study programmes as embedded in HEIs. As question 2 shows, I conceptualized the introduction process in terms of translation and gradual change, based on expectations of path-dependent developments and temporal sequences. This made it important to include concurrent processes in the study, and to be open to new explanations for why and how learning

outcomes were introduced. Since Article 1 compared different disciplines I decided to study *traditions* within one discipline for Article 2. I identified the following actor groups for the study: academic leadership at the faculty, department, and study programme levels; academic staff; and students. These dimensions entailed that the study should examine processes in depth, cover background developments and concurrent events, and study different actors' involvement and participation.

Article 3

The article asks how universities organize cooperation with the world of work, and how university leadership seek to manage and align different interests in such cooperation. I conceptualized Danish and Norwegian employer panels as 'cases of' universities' cooperation and third mission activities. An important dimension in this study was the introduction and regulatory background of the panels at the national level, which I expected to provide the frames for the panels' function at universities. Next, the research questions entailed that I would focus on universities. I operationalized the organization of panels in terms of formal structure, recruitment of external members, mandate, and activities. I expected university leadership to shape these aspects within the national regulations and I was particularly interested in which level of universities panels were associated with. The theoretical framework also led me to expect that cooperation could build on established connections to the world of work, based on traditions for coordination and corporatism and/or cooperation for professional study programmes on training placements and similar arrangements. This meant that external members must be included in the study in order to cover different interests and panels' influence on study programmes.

In terms of universities' response to the arrangement I developed three main hypotheses, with expectations of employer panels as 1) mostly symbolic units decoupled from core activities at universities, 2) strategic units managed by the university leadership, or 3) an intrusion on HEIs' management and autonomy that university leadership would oppose. These expectations meant that the study should focus on university leadership. I operationalized their management of panels in terms

of recruiting members, setting the agenda, and deciding how to follow-up panels' recommendations. Panel meetings were therefore essential for this study.

Article 4

The final article asks how national QA systems for higher education have developed in Denmark and Norway, as two countries with high public funding and high enrolment. This suggested that the national level should be in focus in this article, as the countries are unitary states with ministries and national agencies responsible for QA. In the theoretical framework I have emphasized features of politico-administrative and welfare state regimes, which I expected to influence national QA systems. The article should therefore study the development in the systems in light of reform trajectories and cover the ministries and agencies involved.

In the thesis I have conceptualized national QA systems as a policy instrument, but for the research questions in Article 4 it was purposeful to operationalize the systems as *mixes* of policy instruments. To study the development in the systems I could then map the instruments which are used and categorize these, which I did based on their consequences for HEIs and their frequency of use. My interest in the development of such systems also indicated that a longitudinal approach was essential for this article. Furthermore, the historical-institutionalist approach meant that background developments and contextual features should be addressed in the study.

Connecting operationalizations and methods

As these operationalizations have shown, the four articles cover several dimensions pertaining to three policy instruments. The operationalizations also highlighted different levels of analysis, as displayed in Table 2. These aspects suggested that a comparative case study could be a purposeful approach for the thesis, since it would allow me to study several policy instruments in depth and in light of contextual features, historical background, and temporal processes for a few selected cases. Moreover, this approach meant that the articles could be part of an embedded case study (Yin, 2018), which covers several subunits and different levels. An embedded case study would also improve the opportunities for analytical generalization for the

thesis as a whole, since the case studies of different policy instruments and levels then could be informed by each other. In the next chapter I will proceed to discuss the methods and data used in the thesis.

Table 2. Levels of analysis in the articles

	Article 1	Article 2	Article 3	Article 4
Study programme	X	X	X	
Discipline	X	X		
HEI	X	X	X	
Politico-administrative regimes			X	X

5. Methods and data

This chapter elaborates on the methods and data for the thesis, starting with a presentation of the comparative case study design and discussion of case selections and comparisons between disciplines, HEIs, and countries. Next, the chapter proceeds to consider the data, which mainly consists of document material and semi-structured interviews. The chapter ends with a section on analytical strategies for the thesis and opportunities for generalization.

5.1 Comparative case study

The research design for the thesis and the articles builds on the case study approach. Yin defines a case study as:

> *[…] an empirical method that investigates a contemporary phenomenon (the "case") in depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident.* (Yin, 2018, p. 15)

This is a purposeful approach for this thesis, as the theoretical framework and operationalizations indicated. A case study approach meant that I could study the three policy instruments in light of change in higher education governance, and the opportunity to study a phenomenon in depth was important to address the actors and processes discussed in the operationalizations. This form of research design also follows the strong tradition for case studies and techniques of historiography in historical institutionalism (Fioretos et al., 2016a, p. 16).

A further strength of case studies is that they can build on an adaptive research design and be modified as the researcher gains more insight on the cases, the data material, or the phenomenon of interest (Yin, 2018, p. 63). This flexibility was important for the development of this research design, which can be characterized as a two-step process and a somewhat inductive approach. I first began with comparative studies of the introduction of learning outcomes in HEIs and disciplines in Norway. During my work on these case studies, which make up Article 1 and 2, I encountered related

instruments on quality and relevance targeting study programmes. I also noticed that similar instruments had been introduced in other Nordic countries in somewhat different versions. This led me to study employer panels and QA systems in article 3 and 4, where I expanded the research design by adding a comparison between Denmark and Norway. This process illustrates the flexibility and opportunities of adaptive case study designs and shows how the thesis developed into a broader comparative case study.

Higher education research has long traditions for comparative studies (Bleiklie, 2014; Kosmützky & Krücken, 2014), including juxtaposition of national cases and cross-national comparison, as discussed in the literature review. For this thesis, comparisons were important for contextualization of the cases and for studying hypotheses on path-dependent developments. The design includes comparisons between study programmes, disciplines, and HEIs, as well as cross-national comparisons. However, comparisons can entail a 'problem of equivalence' (Goedegebuure & Van Vught, 1996, p. 379), so contextualization of operationalizations and in case selection was important to ensure measurement validity (Adcock & Collier, 2001) in the articles and opportunities for generalization from the thesis.

5.1.1 Comparative-historical approach

I have also included a comparative-historical approach in the thesis, which entails an aim to study complex mechanisms in their 'temporal settings' (Thelen & Mahoney, 2015, p. 20). Such studies seek to explain intricate, gradual changes, as well as multiple factors and intertwined processes (Thelen & Mahoney, 2015). In this way the approach shares many similarities with case studies, although some argue that case studies mainly focus on contemporary events (Yin, 2018, p. 9).

A key aspect in the comparative-historical approach is that timing and sequences matter (Thelen & Mahoney, 2015). For instance, the introduction of a policy instrument can have different implications depending on events that preceded it. This

approach can be used with different theories, but it builds on many of the same assumptions as historical institutionalism.

5.1.2 Case selection

Definition of the cases is important for the aim for analytical generalization in case studies (Gerring, 2004), as our understanding of what something is a 'case of' delimits our opportunities to argue for implications of our study. However, case definitions can change underway (Ragin, 1992; Yin, 2018), as we gain more insight on the selected cases or the phenomenon we set out to study. This is pertinent to this study, as I mentioned above. In this section I will discuss the definition and bounding of the cases as an evolving process.

Comparing countries

The selection of countries to compare has not always been justified in higher education research, and this lack of specification has been criticized in earlier contributions (Goedegebuure & Van Vught, 1996). In this thesis I have studied Denmark and Norway, which I have presented as cases of massified higher education systems and, more specifically, Nordic welfare states. This comparison is based on the strategy of 'most similar' cases (George & Bennett, 2005), as the countries have strong similarities and a shared history. However, there are also differences between the countries, both in the politico-administrative regimes and higher education systems. My overall expectation was therefore that the two countries would show strong similarities but also path-dependent developments, leading to different uses of policy instruments. Since I have not utilized a variable-orientation in the comparisons, the 'most similar cases' strategy could be understood as a heuristic tool for my case selection.

The first two articles study the introduction of learning outcomes at Norwegian HEIs. Norway was part of a large group of countries that introduced learning outcomes through qualifications frameworks, either as part of the European Higher Education Area or the European Union. However, Norway had been relatively slow to introduce a comprehensive framework and the ensuing process was described as a 'technical

exercise' at the national level (Helgøy & Homme, 2015, p. 130). Traditionally, higher education governance in Norway has also been based on mostly input factors (Michelsen et al., 2016), such as number of students admitted. This made Norway a highly relevant context to study the introduction of learning outcomes into the HEIs and disciplinary contexts.

The research design was then expanded to include Denmark in Articles 3 and 4, adding a cross-national comparison. The two countries are characterized by strong similarities, but as discussed earlier I had also noticed striking differences in their use of employer panels and QA systems. Denmark and Norway were also compelling cases for a study of employer panels since they have high enrolment, high public funding, and traditions for collective action and coordination. These aspects indicated a distinct context for cooperation between higher education and the world of work that differed from portrayals of neoliberalisation. Features of the higher education systems, politico-administrative regimes, and welfare state ideals such as universal access and full employment also made the countries relevant cases for a study of QA systems in massified contexts.

Comparing HEIs

Articles 1-3 study policy instruments at HEIs and study programmes, and I selected cases strategically for each of these, based on the research questions and operationalizations. For Article 1 we selected two established universities. Article 2 compares two study programmes at two HEIs which I selected based on their long traditions for engineering education. Article 3 studies employer panels at one Danish and one Norwegian university, both of which have profiles emphasizing professional study programmes and established connections to the world of work. The HEIs studied in Articles 2 and 3 can be understood as 'most likely' cases, as I expected the policy instruments to work well due to traditions for professional study programmes and cooperation with employers. The case selection for Articles 1-3 can also come close to 'most similar' cases based on their strong similarities. While I could have studied the same two HEIs throughout the three articles, the selection of different

cases ensured variation in the thesis and meant that I could study different hypotheses, for instance on the age and profile of HEIs.

Comparing disciplinary contexts and study programmes

The disciplinary context has been central for the thesis, and I analyse study programmes as embedded in HEIs and broader disciplinary traditions. Clark described the organization into disciplines as a defining aspect of HEIs (Clark, 1983), and several influential contributions have highlighted the disciplines' particularities. Snow discussed the strong differences between science and the humanities (Snow, 1959), and Becher portrayed disciplines as 'academic tribes', who inhabit different territories and organize teaching and research in distinct ways (Becher, 1989; Becher & Trowler, 2001). The theoretical framework's emphasis on context meant that it was important to address these features. The thesis mainly covers study programmes from engineering, and Article 1 also includes medicine and the humanities. Article 3 also includes an employer panel connected to professional programmes in teacher education and health and sociale care at a Norwegian university. I included this since it was one of two relatively interconnected, broad employer panels organized at the institutional level and chaired by the university leadership. My case selection strategy was thus based on universities' organization of panels, but a purposeful alternative strategy could have been to select panels with an aim for more symmetrical representation of disciplines.

Engineering and medicine have well-established connections to professional fields and national regulations, while the humanities have weaker traditions for such connections and regulations. This case selection covers the two 'extremes' of hard-applied (engineering, medicine) and soft-pure (humanities), from Becher's categorization of disciplines (Becher & Trowler, 2001, p. 36). This grouping should here be understood as a heuristic tool for case selection, as debates on disciplinary traditions highlight other features and nuances, as I discuss in Article 2.

Engineering and technical study programmes hold a prominent position in the thesis, as they feature in three of the articles. These study programmes were selected as

'most likely' cases for the studies on learning outcomes and employer panels, since they are commonly perceived as relevant and in-demand (e.g. Rørstad, 2018), with traditions for cooperation with local businesses on training placements and innovation (Geschwind, Broström, & Larsen, 2020). These study programmes could therefore be expected to accommodate instruments emphasizing relevance and connections to enterprises.

My selection of disciplinary contexts and study programmes entails some limitations for the thesis and opportunities for analytical generalizations. First, the emphasis on engineering and technical study programmes means that I mainly have focused on 'most likely' cases. This was purposeful for my aim to explore the introduction of new policy instruments, and the findings can be supplemented by further studies on other cases, such as 'typical' or 'least likely' disciplinary contexts. The findings also show several challenges for the introduction and use of the policy instruments and illustrate how disciplinary contexts can shape new tools. These findings can be utilized for analytical generalization and further studies. A second limitation is that the thesis is not designed as a structured, focused comparison of three policy instruments in the same disciplines. Such a design might have strengthened the opportunities for generalization, but an expansion of cases would also limit the space for in-depth understanding and within-case analysis (Yin, 2018).

Period of study

The thesis studies the period 2010-2019, since my interest was to study a recent shift in higher education governance from managing expansion to steering relevance and quality. The historical-institutionalist framework meant that it was important to address background and contextual features as well. I have incorporated this through including background sections on Denmark and Norway in Chapter 3, as well as by addressing recent developments and historical background of policy instruments and cases in the four articles. This contextualization was important to broaden the scope of the thesis and improve the opportunities for analytical generalization.

5.2 Data

The data material for the thesis includes documents and semi-structured interviews. Additionally, the thesis builds on previous studies on higher education governance and policy instruments. This selection of data material is based on the principle of using multiple sources of evidence (data triangulation), which is crucial for case studies' aim for in-depth understanding (Yin, 2018, pp. 126-127)

This section will present and discuss the material, as well as analytical strategies and generalization. Before proceding to these aspects, it should be noted that since the four articles cover different topics, they utilize different parts of the data material, e.g. Articles 1, 2, and 3 include interviews, while Article 4 does not. Furthermore, parts of the material presented in this section constitutes background material, which is not necessarily cited in the articles since these have been edited to fit the format and scope of research journals. Articles 1 and 2 also build on a broader data material as they were developed as part of an interdisciplinary research project with several strands and research questions.

5.2.1 Documents

The document material includes publicly available documents from the national and local level, as well as international organizations. Documents were important due to my interest in formal institutions, which implies a focus on guidelines, regulations, and acts. The historical-comparative analysis approach also meant that it was important to study the context and timing for introducing policy instruments, which is covered in documents like white papers and reports. Documents are also stable sources of information, which provide details both on single events and longer developments (Yin, 2018, p. 114).

The main categories of documents are summarized in Table 3 at the end of this chapter. The documents were selected mainly from the period 2007-2019, with an aim to cover structural features of higher education governance, reforms, and changes, as well as processes and results of changes at HEIs and study programmes.

Documents concerning reforms and changes in the 1990s and 2000s were also included as background material for the study.

The collection of document material was organized as a structured, symmetrical process for each of the case studies, with adaptations for the policy instrument in question. Information from organizations and public administration is increasingly available online (Moss, 2009), particularly in the Nordic context, where transparency and open government have a strong position (Greve et al., 2016b). Extensive documentation was therefore easily accessible online for this study, both for the national level and for HEIs. Documents that were not available online, e.g. missing annual reports or minutes from meetings, were made available upon request to the relevant organization or unit.

The material from the national level of Denmark and Norway includes guidelines, articles and overviews from the webpages of ministries, directorates, and agencies; annual reports from agencies, debates in parliament and standing committees, reports from government-appointed committees, white papers, regulations, and acts. The documents were available online, through official webpages that are frequently updated. Documents from this level were important to study how policy instruments are formulated and presented, as well as to understand the policies and aims they are associated with. The material from this level is varied, with different authors, issuing organizations, and 'genres', all of which must be considered during data collection and analysis. For instance, the conventions for committee reports entail mapping problems and solutions, while articles on ministries' webpages often aim for a favourable presentation of the government's efforts on an issue. This illustrates the importance of using multiple sources of evidence in a case study.

Documents from HEIs were essential for the thesis' aim to study the use of policy instruments for relevance and quality. The material from HEIs includes articles from webpages, presentations of study programmes and employer panels, QA system descriptions, consultation responses, strategies, and reports. Governing bodies were also important for the study, and I included agendas and minutes for council, panel,

and board meetings from the relevant study programmes, departments, faculties, and the institutional level. Most of these documents were also available online, through HEIs' webpages. These documents were relevant to study processes and understandings of instruments at different levels of HEIs, and they are particularly useful to cover routines, strategies, current issues, and reports. However, although several groups of actors are represented in governing bodies at Nordic HEIs, these types of documents often center on university leadership's work and understandings. Minutes and webpages are also less useful as sources on the 'everyday lives' in study programmes, which made it imperative to include interviews in Articles 1-3, in order to cover different groups of actors and activities such as teaching.

The material also includes documents from the international level. Relevant organizations here were the European Association for Quality Assurance in Higher Education, the European Centre for the Development of Vocational Training, the European Higher Education Area, and the European Commission. The document material from these organizations includes presentations, reports, and guidelines. These documents provided a contextual understanding of changes in governance in Denmark and Norway, for instance in the background of policy instruments and the countries' follow-up of policies.

Finally, the study also draws on secondary sources including previous research, as well as research reports, evaluations, and documents from other organizations than HEIs, e.g. labour market organizations, cooperative bodies for HEIs, and think tanks. When using these documents, it was important to consider that they were written for different purposes, for instance to inform or influence policies.

Coding strategies

Collection and analysis of qualitative data often involves several readings and coding strategies (Creswell, 2013). These processes should be understood in light of process tracing as the overall analytical strategy, which I elaborate on later in this chapter. Here, I will briefly present the specific strategies concerning coding the documents. During data collection I began with consecutive reading, emphasizing the documents'

relevance to the research questions. The most relevant documents, which are the ones quoted or cited in the findings in the four articles, were then coded based on a priori code sets for the articles' theoretical framework. Other documents were used as background material, for instance in Chapter 2.3 in this thesis and in the introductory and background sections of the four articles. These documents were handled through 'lean coding' (Creswell, 2013, p. 184), mainly emphasizing timing, key events, and related topics. Additionally, I conducted a mapping of employer panels at one Danish HEI based on information from their webpages. This mapping can also be understood as an example of lean coding, where I covered panels' composition and activities as part of the contexualization and case selection for Article 3.

5.2.2 Interviews

In addition to the document material, I also conducted interviews. Interviews are frequently used in case studies, as they allow us to ask questions about events and actors' understanding (Yin, 2018, p. 118). Interviews also provide opportunities to validate and supplement information from other data sources (ibid., p. 119), such as documents. I distinguish between two types of semistructured interviews in this study, namely background interviews and interviews with informants. My aim for the first category was to inform and contextualize the thesis, while the latter were coded, analysed, and quoted in the individual articles.

Background interviews with experts

The two background interviews were carried out in connection with my work on Article 4, with one Norwegian and one Danish expert. Brinkmann and Kvale characterize this as a form of interviews with elites, where informants are 'persons who are leaders or experts in a community' (Brinkmann & Kvale, 2015, p. 171). Such informants have a comprehensive understanding and overview, but they require that the interviewer also is well versed in the context of the study (ibid.). The interviews were therefore scheduled after I had written a first draft and made myself familiar with both countries' QA systems.

These interviews focused on national QA systems and changes in higher education governance and were conducted in summer 2018 and spring 2019, respectively. The interviews followed a prepared interview guide. Background interviews were important for validity purposes for this article since it primarily builds on document material from QA agencies and ministries. The two informants were recruited as they are experts on these issues, and because they were independent and not affiliated with the national QA agencies or ministries. The background interview with the Danish expert was particularly important to ensure a full understanding of the Danish QA system and higher education governance since I was more familiar with the Norwegian context. The two background interviews are not cited in the thesis or articles but were important for the study's internal validity.

Semistructured interviews with informants

Articles 1-3 build on semistructured interviews with informants. Interviews were important for the case study strategy of using multiple sources of evidence (Yin, 2018), and they were purposeful for validating and supplementing information from documents. The semistructured interviews also allowed for open-ended questions, and adjustment of interview guides in the course of the case studies. Qualitative interviews were crucial to cover actors' understandings and interpretations since the three articles focus on processes at HEIs and study programmes.

The informants were recruited strategically based on the research questions for the individual articles. Informants include students, academics, administrative employees, study programme leaders, leaders from department and faculty level, as well as leaders from the institutional level of HEIs. The individual articles present further details on the recruitment and distribution of informants. In general, the selection was based on an aim for 'information power' rather than saturation (Malterud, Siersma, & Guassora, 2016), which entails strategic selection of informants, use of theoretical propositions, and in-depth interviews.

All interviews followed interview guides which were developed in line with hypotheses from the theoretical frameworks for the articles. In this work I

emphasized the difference between research questions and interview questions, where the first follow the study's theoretical framework as tools for analysis, while the latter serves as an adaptation of these to the conversational form of interviews (Brinkmann & Kvale, 2015, p. 158). Yin conceptualizes this as questions pertaining to different levels, with questions to informants as 'Level 1' and questions the researcher utilizes throughout the case study as Levels 2-4 (Yin, 2018, p. 100 ff.).

Articles 1 and 2 build on interviews carried out by me and other project members as part of HELO, a research project I was associated with[9]. The project built on an extensive interview material (38 interviews in total). Most of the interviews were conducted in spring 2013, and I conducted seven interviews by myself in spring 2015 because the first round of interviews had not included leaders at the institutional level or academic staff from engineering and technology. For Article 3 I conducted nine semistructured interviews in spring 2019, and two background interviews for Article 4 by myself, as discussed above. The interview guides for all articles are included in the appendix.

Some of these interviews also have features of interviews with elites since many of the informants are researchers and/or leaders. The informants were interested in the study and research design, and in the data collection I was aware that they could attempt to steer my analysis. Informants might also want to give a favorable presentation of their organizfation's work. In my presentation of the case studies in invitation letters and interviews I therefore emphasized the dimensions and aspects I was interested in rather than the hypotheses or theoretical frameworks. I also stressed that my aim for the case studies was not to assess their organizations' success or results, but rather to understand processes and understandings. The informants and cases were also partially anonymized.

All interviews were conducted in Norwegian/Danish and recorded. Most of the informants were interviewed individually, except a few interviews for Article 1 where

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[9] The research project 'Higher Education Learning Outcomes: Transforming Higher Education?' was funded by the Norwegian Research Council and mainly studied the introduction and use of learning outcomes in Norwegian higher education (cf. Caspersen & Frølich, 2017 for more details on the project and its research design).

small groups of 2-4 informants were interviewed together. The interviews lasted around an hour each and were conducted on site at HEIs or informants' offices, except two interviews for Article 3 that were conducted by phone. The interviews on learning outcomes for Articles 1 and 2 were transcribed either by the research team for the HELO project (spring 2013) or me (spring 2015). These transcriptions were all read by several members of the research project. I transcribed the interviews for Article 3 by myself (spring 2019), using the Danish Dictionary for the interviews with Danish informants. The articles use quotations translated to English. During transcribation and analysis, I also considered common challenges pertaining to interviews, such as possible misunderstandings and 'incorrect' memories (Yin, 2018).

The interview material was analysed separately for the three policy instruments. The transcriptions for Articles 1 and 2 were managed in NVivo and coded in two steps. First, all interviews collected as part of the HELO project in spring 2013 were coded in NVivo by team members, following an overall code set developed a priori. This code set was quite broad, as the project was multi-disciplinary and included several strands and research questions. The interviews used in Article 1 were then coded by the co-authors based on the more specialized theoretical framework employed in the article. For Article 2 I used open coding in a preliminary round and then a specialized code set based on the theoretical framework and analytical strategies for my case study. In both steps transcriptions were read by several team members, and analyses were discussed in project meetings to ensure intersubjective understanding. Article 3 was not part of this research project, but I followed the same procedure in the transcription, coding, and analysis of these, with discussions with my supervisors.

For the interview part of the data collection, I notified the Norwegian Centre for Research Data on the data management plan, which is attached in the appendix. This included partial anonymization of the informants, as well as validation of direct quotations and background information used in the articles. These principles were also part of the HELO research project's data management plan.

Additionally, the thesis is informed by field work in Denmark and Norway, which contributed to my understanding of the policy contexts. I visited the campuses of two Norwegian and one Danish HEI in connection with interviews. During the field work I made field notes on observations on current happenings and debates at the HEIs, as well as information visible on campus concerning learning outcomes, quality assurance, and cooperation with the world of work. Some of the informants also gave me a tour of the site, for instance at the Danish HEI I visited. This part of the field work contributed to my understanding of the profile and work of the HEIs and study programmes. I visited Denmark several times during my work on the thesis and participated in a seminar on QA organized by a Danish network for university employees. This seminar included talks by representatives from the ministry and QA agencies, which was beneficial for my work on Article 4. At the seminar I also conducted several informal conversation interviews with university employees about QA and higher education governance. I also participated in a seminar on QA organized by the Norwegian QA agency earlier during my work on the thesis, where I also conducted informal interviews with employees from the agencies and universities that had applied for university status. The field work was helpful for validity purposes and to ensure I had a comprehensive understanding of the context, particularly for the comparisons between Denmark and Norway.

5.2.3 Quantitative material

Article 4 also includes a quantitative material, which was procuded through coding QA decisions from the Danish and Norwegian QA agencies' webpages. Inclusion of quantitative data can be helpful to examine and present patterns, and can contextualize a qualitative material (Maxwell, 2010, p. 479). This material also allowed for more precise comparison and discussion of implications in this study, as I could examine the actual use of instruments rather than merely discuss the composition of the QA systems.

The quantitative material from Denmark consists of the Accreditation Council's decisions on programme accreditation (2007-2019), institutional accreditation (2014-2019), as well as the ministry's pre-approvals (2013-2019). Evaluations by the

Danish agency EVA were not included in the material as these are advisory reports without decisions. The Norwegian material includes decisions on programme accreditations (2011-2019), periodic supervision of HEIs' QA system (2009-2016) and QA work (2017-2019), and evaluations of education (2012-2019). Decisions were coded in Excel on year, result (approval, subject to second evaluation, refusal), and level of study and new/existing study programme (if applicable).

5.2.4 Case study database

Developing a case study database is essential to organize the data material and ensure reliability (Yin, 2018, p. 130 ff.). I established a database in an EndNote library, where I systematically kept track of the titles and content of document material, and by downloading copies of the documents. The case study database was particularly important for this study since much of my data material consists of documents published on webpages. This form of data collection can bring challenges concerning access and preservation (Moss, 2009), as I was reminded of when one of the QA agencies launched new webpages during my work on the thesis.

5.2.5 Validity considerations

I took several steps to ensure validity in the research design. In addition to the background interviews and informal interviews I participated in project meetings and seminars in connection with the HELO research project, which brought opportunities to discuss findings and explanations with experts on higher education governance. Parts of the HELO project also included a comparison with England, which provided contextualization for the Norwegian findings. During my work on the thesis I have also participated in a research group at my department and in international conferences and seminars on higher education, where I have presented drafts for the research design and articles.

The thesis' comparison between Denmark and Norway meant that I also had to consider language aspects as part of construct validity. Research on higher education governance often relies mainly on secondary literature, which could be explained by complications and time restraints in international comparative studies (Kosmützky &

Nokkala, 2014), as well as language barriers (Teichler, 1996, p. 453). As the sections on data have shown, I have prioritized primary literature related to formal institutions, in line with my theoretical ramework, as well as interviews. Both these data sources required familiarity with contextual features as well as language. Norwegian is my mother tongue, and Danish is a closely related but distinct language. To ensure validity in my analysis I used the The Danish Dictionary (Den Danske Ordbog, 2020a), which is an online dictionary that aims to cover modern Danish vocabulary based on a corpus including texts from newspapers, books, debates in Parliament, radio, and TV (Den Danske Ordbog, 2020b). This meant that I could search for words and concepts, as well as check examples of usage, both when I read documents and transcribed interviews. Inspired by the concept 'language immersion' I have also read Danish newspapers during my work on the thesis. Interviews and field work provided further opportunities to validate my analysis of the Danish material.

5.3 Analytical strategies

5.3.1 Process tracing

The thesis applies both within-case analysis and cross-case comparisons, with process tracing as a prominent strategy. Process tracing can be defined as 'the systematic examination of diagnostic evidence selected and analysfed in light of research questions and hypotheses posed by the investigator.' (D. Collier, 2011, p. 823). Process tracing must therefore be informed by prior, in-depth knowledge about the context and phenomenon. The strategy focuses on mechanisms, and is used both for theory testing and development (Trampusch & Palier, 2016). George and Bennett argue that the strategy can be purposeful as part of comparative studies (George & Bennett, 2005, p. 179), by conducting within-case analyses and then juxtaposing and comparing these, as I have done in the articles.

In this thesis I have applied process tracing by developing theoretically informed hypotheses prior to the data collection, including alternative hypotheses (Bennett & Checkel, 2015; D. Collier, 2011). Bennett and Checkel argue that researchers should 'Be equally tough on the alternative explanations.' (2015, p. 21) to avoid

confirmation bias and improve the internal validity of the analysis. As an example, I developed three main hypotheses for Article 3 in this thesis, as I discussed in Chapter 4.2, with expectations of employer panels as 1) symbolic units decoupled from core activities at HEIs, 2) strategic units managed by the university leadership, or 3) an intrusion on HEIs' management of study programmes. Investigation of all hypotheses was therefore necessary, for instance through developing an interview guide and indicators for the analysis that could distinguish between them.

Process tracing often involves adjustments underway. The strategy is characterized by its focus on 'processes, sequences, and conjunctures of events' (Bennett & Checkel, 2015, p. 7), and Bennett and Checkel argue that this allows us to discover intervening mechanisms in the course of the study (ibid., p. 29 ff.). This entails that we can find new or alternative explanations to our research questions, which also must be examined. In my work on Article 3 the decoupling hypothesis was in the lead before I started the data collection at the two universities. This material suggested that although few specific changes had been made in study programmes, the panels were connected to core activities. Furthermore, both internal and external members emphasized the importance of the panels' work, and the material suggested that the university leadership managed and organized the panels strategically. My initial operationalizations had been based on an expectation that if panels were in fact connected to core activities, then their suggestions should have led to notable changes in the study programmes. Conversely, I expected the panels to be decoupled if such changes were not evident. During the data collection I came to understand that these indicators implied a mismatch between academic content and employer's needs, which my material did not provide support for. This led me to revise the strategic unit hypothesis and develop indicators for university leadership's management of the panels' organization and work. The development in my work on this article illustrates the inductive aspects of process tracing, which suggests that this can be a purposeful strategy for adaptive case studies.

5.3.2 Generalization

A common criticism of case studies concerns generalization. This builds on an understanding of statistical representativity and random sampling, which are pertinent to survey and experiment studies. However, case studies aimi for analytical generalization (Yin, 2018), which entails that they are 'generalizable to theoretical propositions and not to populations or universes.' (Yin, 2018, p. 20). George and Bennett also argue that case studies can contribute to theory development through 'contingent generalizations' (George & Bennett, 2005, p. 112), which include specification of mechanisms and conditions. We can also make inferences based on findings (Yin, 2018, pp. 38-39). These arguments suggest that the definition and delimitation of cases is important for generalizations.

In this thesis I have an overall definition of the countries I study as massified higher education systems. The policy instruments I study have become ubiquitous in higher education governance, so their use and introduction in the Nordic context can inform further studies of other countries. Furthermore, the use of political economy and welfare state literature in the thesis suggests that such features have implications for higher education governance. However, using this literature will require further operationalizations to attend to the contextual features and temporal aspects in the particular context(s) of the study. For instance, we would expect different relations between HEIs and the word of work in liberal and coordinated market economies.

The thesis' focus on the introduction and management of policy instruments at HEIs can also provide opportunities for generalization to other instruments. In particular, the focus on how different groups of actors can shape instruments can be beneficial for further studies. As discussed earlier, my selection of disciplinary contexts, study programmes, and countries set some limits for generalization, for instance since I have not included cross-national comparisons of different study programmes. Overall, my research design of studying three related policy instruments through comparisons of disciplines, levels, and countries should still provide insights into changes in higher education governance.

Table 3. Summary of the data collection and material

	Data sources	Period covered
Article 1. HELO	Main documents: - From HEIs: agendas and minutes, QA system descriptions, reports, strategies, hearing responses, webpages - National level: Regulations Interviews with informants	2007-2015 2014 and spring 2015
Article 2. Engineering Learning Outcomes	Main documents: - From HEIs: agendas and minutes, QA system descriptions, reports, strategies, hearing responses, webpages - National level: Regulations, including those pertaining to the discipline Interviews with informants	2007-2015 2014 and spring 2015
Article 3. Employer panels	Main types of documents: - From HEIs: agendas and minutes, webpages, reports. - National level: acts and guidelines, white papers, consultation responses. - Documents from organizations represented in panels - Secondary sources: Reports and evaluations Interviews with informants	2007-2019 2007-2019 2019
Article 4. QA	Main types of documents: - Guidelines - Acts and regulations - Decisions on QA instruments Background interviews with experts	2010-2019 2018, 2019

6. Findings and discussion

This section will present the main findings from the four articles, which I will then compare and discuss. The articles address different aspects of policy instruments, within the overall research question for the thesis, which is: How are policy instruments shaped in massified higher education systems? The articles examine introduction, use, and development of three instruments at different levels, disciplinary contexts, and countries.

6.1 Higher Education Learning Outcomes and their Ambiguous Relationship to Disciplines and Professions

Article 1 studies learning outcomes, focusing on the introduction of the instrument in disciplinary contexts at Norwegian HEIs. The article highlights introduction through different levels of HEIs, as well as activation of several groups of actors. The research question for the article is: How are learning outcomes shaped in professional and disciplinary study programmes? To study this the article builds on case studies of one study programme from each of these disciplines: the humanities, engineering, and medicine. The article is based on document material and interviews.

A main finding in the article is that learning outcomes were shaped through path-dependent processes, leading to distinct versions in the three study programmes. In the humanities and engineering the instrument was added as a layer to internal development projects emphasizing rationalization and portfolio coherence. These processes can be understood as path-dependent developments, based on a need to consolidate expanded course portfolios after the Quality Reform. The connection between learning outcomes and these processes also indicate that temporal sequences influenced the introduction. Furthermore, the findings suggest that the university leadership at different levels were active in shaping the instrument, which supports arguments for stronger hierarchy and leadership at HEIs (Bleiklie et al., 2015).

The findings from the medical study programme differs on some aspects. The introduction of learning outcomes was here shaped by traditions for problem-based

learning practices, which have several similarities with learning outcomes. The case also shows reflection on teaching practices and professional identity and standards. The case does not show involvement of the university leadership, which could reflect the traditions for academic autonomy in this context (Freidson, 2001). For similar reasons, this programme had not experienced an expansion of courses, as the two other programmes.

Based on these findings, the article highlights learning outcomes as an ambiguous policy instrument. A first aspect concerns how learning outcomes are shaped in disciplinary contexts. The cases suggest that interaction between the organizational, disciplinary, and professional dimensions was central, and the findings highlight temporal sequences. As the humanities and engineering programmes illustrate, disciplines are embedded in organizational contexts at HEIs, which has implications for the room to shape instruments. The layering of learning outcomes onto rationalization projects could also illustrate disciplines as contexts marked by internal tensions, where academic leadership and teachers can have different understandings of a process. As a second aspect the article highlights ambiguity in the uses of learning outcomes, since the cases show connections to different agendas and problems. This can be interpreted as an instrument searching for problems to solve (Cohen et al., 1972), or in terms of actors shaping the instrument according to their understandings. Overall, the article finds little support for learning outcomes leading to a shift 'from input to output' or to noticeable changes in teaching or assessment practices in the disciplinary contexts. Instead, the findings indicate that the instrument was understood as interchangeable with 'learning objectives'.

6.2 Engineering Learning Outcomes

Article 2 proceeds to compare the introduction of learning outcomes *within* a disciplinary context, through a comparative case study of different traditions. The article thereby builds upon the understanding of disciplines as characterized by diversity and internal tensions. The article studies two research questions: 1) Why were learning outcomes introduced in a disciplinary context, and 2) how were

learning outcomes translated in relation to disciplinary traditions and contextual characteristics? The article compares the introduction of learning outcomes in two study programmes representing two main traditions in Norwegian engineering, namely the engineering and technician tradition and the Master of Science in Engineering (MSce) tradition. Engineering was selected as a 'most likely' case for the introduction of learning outcomes as it is an example of in-demand programmes that are understood as relevant and have connections to the labour market. The article utilizes documents and interviews.

The article uses translation as theoretical perspective, based on a historical-institutionalist understanding of embedded agency, path dependency, and gradual change, particularly layering and drift. The article finds that the introduction of learning outcomes in the two engineering programmes was distinctly shaped by both the disciplinary traditions and the institutional context. The findings show learning outcomes as a circulating 'master idea', which was introduced before it became a formal requirement in Norway. The introduction was mediated through a national curriuculum in the programme associated with the engineering and technician tradition, while the MScE programme introduced learning outcomes through an evaluation project with international influences. In this way learning outcomes were layered onto concurrent projects in the contexts, leading to changes in the instrument. I argue that this can illustrate path dependency and translations to disciplinary traditions. The findings also show several different uses for learning outcomes in the two programmes, which I analyse as translations from a novel instrument aiming for output-orientation to a layer to existing, input-based and disciplinary practices. The cases also illustrate challenges for the use of learning outcomes for teaching and information purposes in study programmes, and there were few examples of changes in such practices. This leads me to argue that the introduction could end with learning outcomes drifting apart from teaching practices.

6.3 Bridging higher education and the world of work?

The third article is based on a comparative case study of four employer panels from one Danish and one Norwegian university. The panels mainly cover professionally oriented study programmes. The article asks: 1) How do universities organize cooperation with the world of work on study programmes, and 2) how do university leadership seek to manage and align different interests in the organization of cooperation with the world of work? The article uses a historical-institutionalist approach emphasising path dependency and embedded agency.

The article finds similarities in the background of employer panels in the two countries, with a new emphasis on relevance and cooperation with employers. However, the regulatory background shows more detailed national regulations in Denmark, and the Danish cases also suggest a stronger emphasis on relevance in study programmes. The Norwegian regulations are less detailed and can provide more room for university leadership to shape the use of the panels. The article points to different patterns of expansion in higher education and features of the political economy as possible explanations for the contrasts.

The findings from the four cases show quite specialized Danish panels with direct connections to study programmes, while the Norwegian panels are broader and connected to the institutional level. The article analyses how university leadership can shape cooperation with the world of work by managing panels' representation, agendas, and reporting. University leadership at the Norwegian university have high influence on these aspects, while panel leaders at the Danish university manage panels within the frames of more detailed national and local regulations. The cases also illustrate opportunities to shape the panels at HEIs, as the findings show that the panels can be utilized in work on, for instance, recruitment of students, development of study programmes' and HEIs' profile, and strategies. This suggests that employer

panels can serve multiple purposes, including regulation, information, learning, and a symbol of external engagement, both at the national level and at HEIs.

The four employer panels show path dependency in cooperation between HEIs and the world of work. This was in line with my expectations, as the article studies 'most likely' panels that mainly cover professionally oriented study programmes. These programmes already have traditions for connections to corporations and the local world of work, and the findings suggest that the panels build on this foundation. The article also analyses the findings in light of welfare state ideals of universalism and full employment and social democratic traditions for coordination and collective action. I argue that the panels allow the universities and study programmes to cooperate with employers on issues of shared interest, as a bridging strategy building on traditions for cooperation. The findings thereby contribute with new perspectives to studies on universities' externally oriented engagement, which have been marked by contributions highlighting corporatization and the world of work's invasion of higher education on the one hand, and more instrumentally oriented research on university-industry collaboration on the other hand.

The findings also illustrate tensions and possible challenges in universities' cooperation with the world of work. A key aspect concerns the panels' advisory role, particularly in Denmark. The panels are not intended to make decisions on academic content, but universities are required to document employer involvement and advice. Findings from the Norwegian panels also indicate possible tensions in the panels' role and external members' influence. Furthermore, the cases show examples of different interests between universities and employers, as well as among employers.

6.4 Quality assurance in Nordic higher education: Relevance and status

National QA systems have been established with many of the same features across countries, largely due to European cooperation on higher education and

harmonization policies through the Bologna process and the European Association for Quality Assurance in Higher Education. Since 2005, QA systems have been regulated through the European Standards and Guidelines (ESGs), which can be understood as instruments for convergence. However, distinct differences remain, even between the Nordic countries, which are generally characterised by their strong similarities. The article therefore compares the development in national QA systems in Denmark and Norway, emphasising the composition of the systems and the use of instruments.

Based on document material and data on decisions associated with the national QA systems' instruments from 2010-2019, the article finds notable differences between the two countries. The Danish QA system shows stronger specialization compared to the Norwegian, with several ministries, agencies, and instruments involved. The countries also differ in the mix of QA instruments and decisions associated with them. Denmark has emphasised the study programme level through meticulous periodic accreditations, with relevance as a key criterion, while Norway has featured one-off institutional accreditations and supervisions. I analyse these differences as path dependent developments, among other things due to differences in the expansion of the higher education systems. Waves of rampant growth in general study programmes at universities in Denmark may have led to a stronger need to steer the dimensioning and provision of higher education compared to Norway, where professional study programmes and university colleges were prioritized. The findings can also highlight ambiguity in QA systems and instruments' purposes. Accreditations can be considered as promoting standardization and, in the Norwegian case, even as drivers for a more unitary higher education landscape. However, QA instruments can also offer opportunities to develop a distinct profile, for instance concerning the emphasis on relevance in Denmark.

The article considers the countries' QA systems in light of features of the politico-administrative regimes and welfare state traditions. Both cases show gradual changes in the mix and use of policy instruments, which are in line with my expectations to the countries as 'modernizers'. The findings also indicate an emphasis on

transparency, since all decisions are publicly accessible online, which suggests that the instruments are intended to inform students, HEIs, and society about the state of higher education. The cases also have aspects of performance management. QA has often been studied as part of NPM reforms, but I argue that the development in Denmark and Norway also could be understood in light of the Neo-Weberian state (NWS), due to the strong role of the state in QA and the emphasis on central coordination of HEIs and study programmes. I also discuss the focus on relevance and coordination in the two QA systems based on welfare state ideals of universal access, public funding, and ensuring that education leads to full employment.

6.5 Discussion

This thesis has studied changes in higher education governance. In this final section I will discuss central findings from the articles in light of the main research question. Through studies of learning outcomes, employer panels, and QA systems I have aimed to contribute to higher education research based on a historical-institutionalist understanding of multiple waves of reform, complex policy instruments, and distinct national trajectories.

This section is structured in four main parts. First, I discuss findings concerning complexity and ambiguity of policy instruments. Next, I highlight how instruments are shaped through several levels and by different groups of actors. The findings in the study should be understood in light of distinct features of the Nordic context, which I discuss in the third part. In the final part I consider implications and opportunities for analytical generalization.

6.5.1 Ambiguous policy instruments

The thesis has studied three policy instruments that are connected to broad, international reform agendas and the findings show that they can be shaped to serve multiple purposes. Learning outcomes, employer panels, and QA systems all have features of regulation and authority, as HEIs and study programmes are mandated to use them. However, the instruments are also intended for information purposes, or

what Schneider and Ingram call capacity tools (Schneider & Ingram, 1990), as they are intended to improve HEIs' and study programmes' ability to further develop quality and relevance in higher education. For instance, learning outcomes are intended to 'help' academic staff plan and structure course units and study programmes and to improve their teaching and assessment practices. Employer panels also resemble learning tools (Schneider & Ingram, 1990), as they seem to build on an assumption that HEIs and study programmes have not been sufficiently informed about the labour market situation and employers' needs. However, as Article 3 discusses and Articles 1-2 also touch on, many HEIs and study programmes have long traditions for cooperation with the world of work, with a shared understanding of the study programmes.

The three instruments also entail relatively extensive documentation requirements (cf. also Lyby, Huisman, Blaker, Danielsen, & Waaler, 2020), which can highlight their use as information tools. These requirements reiterate an emphasis on transparency in the Nordic context, but they can also illustrate that the instruments 'address' several groups of actors, ranging from university leadership and academic staff to students and employers. For instance, publicly available QA decisions and learning outcome descriptors are intended to provide better information to students, employers, and society on the profile and quality of study programmes or HEIs.

Arguably, the three instruments also have important symbolic aspects. For instance, although the introduction did not include extra resources, learning outcomes were meant to highlight the importance of adapted teaching and assessment practices in mass higher education, and employer panels can be a symbol of a new emphasis on relevance. The multiple purposes associated with the instruments at the national level highlight complexity and could reflect the wider range of considerations in higher education policy after decades of expansion and a gradual transformation from elite institutions to mass higher education.

The findings show ambiguities and different interpretations of the instruments across countries, HEIs, and disciplinary contexts. At the national level, the findings show

differences in the use of employer panels and quality assurance in the two countries, with a stronger emphasis on relevance in Denmark. This suggests continued national variation despite the introduction of similar policy instruments. The articles also show that learning outcomes and employer panels are associated with a range of purposes and agendas across the study programmes and HEIs. This suggest that instruments can be shaped – or re-shaped – as they are moved between levels and organizations. I have interpreted this in light of path dependent developments, as the instruments are adapted to contextual features and introduced through layering processes. In this way instruments can be given different functions than intended, which could complement or contrast policies they are associated with. For instance, the Norwegian QA system could be considered a driver for a more unitary higher education landscape, but also part of long-standing policies for division of labour and developing HEIs' profiles. This highlights complexity in higher education governance and the wide range of instruments that can be layered over time (Lyby et al., 2020).

6.5.2 Shaping of instruments at HEIs

A key finding in the thesis is that instruments can be shaped by different groups of actors at HEIs. The articles on learning outcomes and employer panels highlight university leadership's opportunities to shape instruments, in line with studies on stronger hierarchy and more professionalized university leadership at HEIs (Bleiklie et al., 2015; Seeber et al., 2015). The findings illustrate how leadership – at the institutional, faculty, department, and study programme levels – can contribute to shaping of policy instruments through interpretations, layering onto other projects and instruments, and managing agendas and participation. The articles on learning outcomes also study academic staff as professionals who actively can shape an instrument rather than resisting it (Noordegraaf, 2011), for instance by interpreting the instruments as compatible with existing practices. These findings also suggest a pragmatic approach to instruments at HEIs, as there are few examples of resistance or opposition in the material. The findings from these levels can reflect the relatively high levels of discretion at Nordic HEIs, as well as continued features of HEIs as 'specific organizations', such as unclear technologies and decentralized decisions.

The findings also suggest that instruments are shaped in relation to concurrent events, for instance as learning outcomes were connected to other agendas and priorities in study programmes. This is in line with Capano and Pritoni's argument that policy instruments can offer new opportunities for HEIs (Capano & Pritoni, 2020). These findings are also in contrast to traditional or instrumental understandings of policy instruments, which highlight effective policy design and well-defined instruments with set purposes. Studies on policy instruments can therefore benefit from more in-depth studies following an institutional understanding, in addition to contributions mapping and comparing categories or studying broad packages of instruments.

Aspects of the policy instruments I have studied can support research that find stronger state control over higher education, for instance in Norway (Maassen, Moen, & Stensaker, 2011), with more control measures and reporting. However, my findings also suggest that the instruments' potential for control and radical changes can be limited drastically when they are shaped within HEIs and study programmes. These processes can be interpreted in light of gradual changes, particularly through layering. The findings show several examples of this, where new instruments are combined with existing practices. This suggests an understanding of continuity instead of drastic changes. To link back to the literature review, this is a strong contrast to the proliferate normative contributions on higher education governance lamenting the transformation of universities through neoliberalism and corporatization. For instance, in Norway learning outcomes seem to have lost the connections to the output reform agenda, and the findings show pragmatic uses and layering onto the old 'input based' practices. In contrast, Allais (2014) has portrayed learning outcomes as part of 'selling out education'. This suggests that instruments are not always inseparable from reform waves, but instead open to different interpretations and purposes in the context.

6.5.3 Nordic higher education governance

The thesis also contributes to an understanding of the Nordic context and Nordic higher education governance in particular. As discussed earlier, the perception of the Nordic countries depends on which reforms or models are used as a point of

departure. In terms of public management reform, the Nordic countries have often been discussed with NPM as the basis of comparison. Here, the Nordic countries differ distinctly from the Anglo-Saxon *marketizers*, who have held a prominent position in this literature, as well as in studies on higher education. NPM-inspired reforms and instruments have been influential in Denmark and Norway as well (Hansen, 2011), but not to the same extent as in NPM 'frontrunner' countries (Pollitt & Bouckaert, 2011), leading to portrayals as rather reluctant reformers. However, Pollitt and Bouckaert have suggested an alternative characterization of the Nordic countries as *modernizers* associated with the NWS model (Pollitt & Bouckaert, 2011), which entails that they pursue a strong and distinct role of the state in combination with reforms and measures for quality and transparency.

With the NWS model as a starting point the Anglo-Saxon countries appear as more of an expection, as they pursue radical reforms emphasizing the market and comptetition while the Nordic countries carry out incremental changes that combine renewal with 'old' Weberian features (Pollitt & Bouckaert, 2011). This thesis contributes to this understanding, as the findings show gradual developments in instruments and higher education governance, with consultation processes and an emphasis on administrative law combined with a new focus on quality and results. The thesis also reiterates an understanding of several waves of reforms in the public sector and higher education (Paradeise, Reale, Bleiklie, et al., 2009). Thus, national higher education governance can consist of mixes of instrument (Capano & Howlett, 2020) that are connected both to NPM and NWS. These findings can nuance common presentations of instruments for quality and relevance as mainly NPM-inspired.

This thesis has also aimed to contribute to an understanding of distinct features of Nordic higher education governance. In addition to the aspects discussed above, I have built on literature on the social democratic welfare regime and features of the political economy for these purposes. Findings from the articles can confirm arguments of instrumentality (T. Christensen & Gornitzka, 2017) or a systemic goal orientation (Capano & Pritoni, 2019) in the Nordic context, as the instruments are intended to contribute to national policy goals of the quality of a mass higher

education system with high public funding, as well as competitiveness and innovation. The three policy instruments can also be understood in light of welfare state ideals of universal access to (higher) education and full employment. Universal access has been a driver for the expansion of higher education and the new instruments for quality and relevance could be considered as layers to systems with high enrolment, high public funding, and mostly publicly-owned HEIs (Ansell, 2010). In Norway, the instruments could even reinforce unitary features of the higher education system, rather than introducing stronger competition or market-based principles. Furthermore, findings from Article 3 suggest that employer panels can be understood in light of policies for full employment and traditions for corporatism and coordination with the world of work. Relevance and employability have often been considered as part of neo-liberalism (Boden & Nedeva, 2010) and NPM-inspired market-based policies (Schulze-Cleven & Olson, 2017), and the thesis can here contribute with a more nuanced understanding of such relations. Here, the findings also illustrate how the Nordic countries can differ from *marketizers*, as well as from other European countries.

Finally, while the thesis highlights common features of the Nordic – and particularly the *Western* Nordic – context, the findings from Article 3 and 4 also present differences between Denmark and Norway. The findings show a specialized Danish higher education governance system with detailed regulations, high levels of activity in QA, instruments to steer the provision of study programmes, and a stronger emphasis on relevance. In Norway, the findings show a more unitary higher education system where issues of university status and regional access to higher education have been prominent. To explain the variation, I have pointed to distinct patterns of expansion in higher education, differences between the national trajectories and higher education systems, and Article 3 also illustrates distinctio in the traditions for coordination. Here, the thesis suggests strong similarities yet continued national trajectories, in line with expectations from the theoretical framework. Still, the many similarities indicate that the 'Nordic model' continues to

highlight these countries' distinctiveness (Knutsen, 2017), both compared to *marketizers* and other welfare state regimes.

6.5.4 Conclusions and implications

In this final section I will widen the perspective and discuss opportunities for analytical generalization, beyond technical disciplines and the Nordic context. I also consider some implications of my findings.

First, the thesis has highlighted ambiguous and multifaceted policy instruments with varied backgrounds and several audiences. This can illustrate how higher education gradually has expanded from elite institutions into nearly universal systems, consisting of manifold disciplines and HEIs and enrolling students with varied backgrounds. Policies for expansion are no longer the main consideration in such systems, and instead concerns have risen about the purpose, provision, and relevance of higher education. The three policy instruments suggest wider considerations and stronger steering of study programmes. In this way the thesis reiterates the tendency of higher education as becoming more politically salient (Paradeise, Reale, Bleiklie, et al., 2009). In this thesis I have mainly focused on 'most likely' cases within technology, but the findings on opportunities to shape instruments can allow for analytical generalization to other disciplines as well. Further research could address instruments' implications for a broader range of disciplinary contexts, including the humanities, which have often been criticized for lacking in relevance.

Second, the thesis illustrates layering of reforms and instruments, both at the national and at HEIs. The findings exemplify incremental introduction and development processes, resulting in mixes – or perhaps patchworks – of instruments with complementing and contradictory purposes. This suggests that it can be beneficial to utilize a wide understanding of processes of shaping policy instruments through different levels instead of top-down introduction processes. The thesis has also highlighted opportunities for actors at HEIs and study programmes to shape instruments to the context. These findings may be particularly relevant to studies in contexts with 'veto-opportunities', but they could be further examined in more

extensive cross-national and cross-disciplinary comparisons of different instruments. In such comparisons it could be beneficial to select cases from different politico-administrative regimes to address different opportunities for consultation and discretion.

Finally, the thesis indicates that it can be purposeful to include welfare state regimes and features of the political economy in studies on higher education governance, particularly concerning relevance. As I have mentioned, welfare state regimes have been included in a few cross-national comparisons of higher education across regimes (e.g. Pechar & Andres, 2011; Willemse & de Beer, 2012), where they have been used to highlight patterns in funding and access. The welfare state regimes have distinct implications for public services, employment, and labour market regulations, which are highly relevant for studies on the steering of provision of mass higher education and the relationship between higher education and the world of work. Research on higher education governance could benefit from incorporating such perspectives, also in studies outside of the Nordic context.

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ORIGINAL ARTICLE

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Higher Education Learning Outcomes and their Ambiguous Relationship to Disciplines and Professions

Svein Michelsen[1] | **Agnete Vabø**[2] | **Hanne Kvilhaugsvik**[1] | **Endre Kvam**[1]

[1] Department of administration and Organization Theory, University of Bergen

[2] Nordic Institute for studies in innovation, research and education, Norway

Correspondence
Svein Michelsen, Department of administration and Organization Theory, University of Bergen, 5007 Bergen, Norway
Email: Svein.Michelsen@uib.no

Abstract

This article highlights the significance of professional and disciplinary spaces in the shaping of Learning Outcomes (Los) in higher education. It is based on empirical studies of three programmes (engineering, the humanities and medicine) at two Norwegian universities. The results demonstrate both similarities and differences in the dynamics of learning outcomes formation. In the humanities and engineering they were translated into learning objectives, closing in on course rationalisation and portfolio coherence. Whilst the focus in the humanities remained internal in orientation, in engineering, internal processes of implementation merged with quality assurance and external development processes mediated by the engineering profession. In medicine, the introduction and implementation of learning outcomes were mediated by prior experiences with problem-based learning practices. During that process, learning outcomes became oriented towards professional identity and conformity to international quality standards. In that sense, learning outcomes could function as regulatory mechanisms sheltering medical education from outside interference rather than as a tool for structuring learning. Within the framework of learning outcomes, professional compliance with external scrutiny through the display of standards has become more important, but also more linked to the university as an organisational actor.

KEYWORDS
disciplines ambiguity, higher education, learning outcomes, norway, professions

1 | INTRODUCTION

In this article, we highlight the significance of professional and disciplinary spaces and the interaction of institutional and professional/disciplinary logics in the interpretation and shaping of learning outcomes (LOs). We ask: How are learning outcomes shaped in professional and disciplinary study programmes? As the Norwegian higher education

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qualification framework has evolved into a loosely-defined frame providing very general guidelines (Prøitz, 2010), this trajectory provides considerable space for local variation within a consolidated national regulatory space. Disciplinary and professional programmes are also permeated by the universities, which have evolved into penetrated hierarchies (Bleiklie, Enders, & Leporil, 2015) or complete organisations (Brunsson & Sahlin-Andersson, 2000) with a capacity to plan and implement strategies and new governance tools. On this basis, we argue that Norwegian universities provide an interesting context for the study of the shaping of learning outcomes.

Empirically, the article is based on the study of higher education learning outcomes in three programmes: medicine, the humanities and engineering. The results confirm the significance of path-dependent trajectories and timing, where LOs were fashioned according to local conditions and requirements in the respective professional and disciplinary groups and habitats. Once adopted, they also seemed to have a potential for reshaping intra-professional and disciplinary dynamics, but in different directions. We suggest that learning outcomes are ambiguous tools, representing solutions and problem agendas, where local conditions, timing and trajectories are important (Cohen, March & Olsen, 1972).

2 | THEORETICAL PERSPECTIVES

The most relevant streams of research on the topic could be identified in theories of the professions (Abbot, 1988), as well as perspectives on programmes which depart from the study of disciplines, academic tribes, or epistemic groups or communities (Becher, 1989, 1994; Clark, 1982; Freidson, 1994; Henkel, 2000). Educational institutions and programmes have no clear position in classical theories of the professions (Burrage & Torstendahl, 1990). The professions are normally considered as homogenous entities, where professional identities are inscribed and stabilised over time (Hughes, 1994; Waller, 1932). Professional identity is primarily regarded as a product of professional socialisation and training. This type of socialisation produces a strong resistance to 'external' intervention in the fabric of the education (Halvorsen, 1993; Zeuthen Bentsen, Borum, Erlingsdottir, & Sahkin-Andersson, 1999). Similar dynamics also apply to disciplines. But disciplinary and professional educational programmes could also be analysed as arenas of conflict and tension (Bucher & Strauss, 1961; Freidson, 1994). Rather than homogeneous and monolithic, they often resemble pluralistic structures or segments with a considerable potential for internal tensions (Ibid.). The power and significance of the various interest groups and stakeholders in the shaping of educational programmes and practices could vary over time (Freidson, 2001). Thus, reactions to the introduction of HELOS could vary across professions and disciplines, as well as within these communities.

Also, in classical approaches to the study of disciplines, issues of educational organisation have not been addressed (Evans, 1990). The focus has mostly been on research (Becher & Trowler, 2001; Trowler, 1999). This should be amended. Higher education institutions can fruitfully be seen as penetrated hierarchies (Bleiklie et al., 2015). They are penetrated by specific political and administrative systems and traditions, structuring perceptions policies, problems, and solutions (Pollitt & Bouckaert, 2004). They should also be analysed as hierarchies. A decade of New Public Management (NPM) reforms has contributed significantly to the formation of higher education institutions as organisations with stronger and professionalised management structures, as well as strategic, planning and implementation capacities (Bleiklie et al., 2015; Brunsson & Sahlin-Andersson, 2000). In such processes, the formal autonomy provided by NPM regulatory techniques has been explored and exploited by the university leadership. This makes the specifics of organisational contexts and agendas important drivers for the shaping of learning outcomes.

The university organisation has evolved towards tighter couplings and greater hierarchisation (Bleiklie, et al. 2015). We argue, however, that the architecture of the national qualification framework and the implementation of LOs could also be analysed as a loosely-coupled system, combining very different elements which are activated when the institutions and the different realms of knowledge start working on learning outcomes. Professional and disciplinary programmes could have become more exposed to organisational dynamics because of new political and administrative circumstances that call for well-organised programmes, output monitoring and transparency. But these dynamics could also be incorporated and used by stakeholders in the various professional and disciplinary communities and arenas (Noordegraaf, 2015), opening up a potential redistribution of power. The use of LOs as versatile tools for governance, quality assurance (QA), programme management, and pedagogical purposes has a potential for intervention in this

regard. The shaping of LOs can therefore be analysed as a highly complex and diverse process which could lead to a diversity of outcomes, depending on the confluence of local institutional, professional or disciplinary contexts. As such, learning outcomes can be seen as ambiguous tools (Cohen, March & Olsen, 1972; March & Olsen, 1979), and we expect them to be infused with various meanings and interpretations.

3 | DATA AND RESEARCH DESIGN

We applied comparative case studies of disciplinary and professional programmes in two HE institutions (See Caspersen, Frølich and Müller in this issue pp. for a more detailed description of methods and data of the HELO project). The degree programmes that were analysed are in two professional areas (medicine and engineering), and one programme is Nordic studies. The professional programmes which represent typical examples of self-regulated and established professional fields, which are standardised and supported by the State through highly institutionalised regulatory mechanisms. Medicine represents the most classical example of a university-based profession with the power to control its knowledge base and educational standards (Freidson, 1994), whilst engineering is regarded as firmly embedded in the dynamics of the enterprise (Halvorsen, 1993). But these cases are also different in the sense that they are positioned differently in the new higher education landscape (Brint, 2000).

The study combines data from available documents on programme development and implementation of learning outcomes and interviews with key actors in two Norwegian universities. We conducted interviews with deans/vice deans (faculty level), leaders of departments and degree programmes, as well as with lecturers/academics with roles in teaching committees, and teachers, students and student representatives (programme level). Interviews covered respondents' impressions and use of learning outcomes in management as well as planning, conducting, and reviewing teaching and learning processes in specific degree programmes. We were able to build on the extensive interview data base collected by the HELO team in 2014 and supplementary studies and interviews carried out in spring 2015.

4 | LEARNING OUTCOMES AND THE HUMANITIES

The first case study presented here concerns an established university and Nordic studies. Norway has retained a university system which conservative historiography recognizes as German-oriented, rather than Napoleonic or British (Rüegg, 2004). Belonging to the 'Bildung' tradition still represents an important aspect of the identity of humanistic studies (Mangset, 2009). But the peculiar Norwegian version of 'Bildung' departed somewhat from its German predecessors, as Latin and Greek were replaced by modern languages and old Norse. The ascent of the Social Democratic régime and processes of massification marked a decisive break, as well as continuities, closing in on the ideas and practices of the American university model. Although degree and programme structures were somewhat modified during the educational expansion period and divided into a small number of relatively large modules, the different academic tribes were able to continue to develop different structures and strategies (Høstaker, 1997). In the humanities, more extensive forms of modularisation were fought by a coalition of students and the professoriate as an 'anti-Humboldtian' all-out attack on the values of *Lehr- and Lernfreiheit* (Kehm, Michelsen & Vabø, 2010). For a long time, these disciplines managed to keep older modes of teaching and learning, where their distinct theories and knowledge traditions remained the point of departure (Vabø, 1996). Finally, in 2003, the old order was dismantled and a new one formed, based on the shorter 3 + 2 bachelor-master structure through the Quality Reform, the Norwegian contribution to the Bologna Process (Gornitzka, 2006). It also signalled a change from teaching to learning (see Sweetman in this issue, pp.), as new and more appropriate learning environments had to be created. The length of the undergraduate studies was shortened and the large knowledge blocks in which undergraduate studies had been embedded were replaced by a more flexible modular system consisting of smaller relatively independent courses.

The reception of the reform was not particularly friendly in the humanities. The new structure was interpreted as quality reduction and less (disciplinary) control; modularisation and more frequent evaluations of students were seen as schoolification, conflicting with the need for a deeper and more general understanding of humanistic disciplines, the

fostering of independent intellects and critical thinking, qualities considered relevant for many fields of knowledge that were typically associated with the ideas of *Bildung* (Kehm et al., 2010). Furthermore, the concept of knowledge applied by the central authorities was related to NPM ideas of management by results, efficiency and throughput. This development was also related to consumerism, competition, and the social skill investment idea. The role of the humanities was reduced in this type of environment, and mostly perceived as a counterbalance to the new trend.

Despite general scepticism, the faculty of the humanities and the respective academic communities used the new space to devise comprehensive structural reforms in study programmes. The number of courses had increased, as course suggestions were allowed to bloom. This reflected the ongoing diversification of the knowledge community. The various specialisms, such as literature and Nordic philology/linguistics, all developed into a host of new special fields. Other new elements were added, all competing for space and resources. In the process, department boundaries were also changed through mergers. The reception of the qualification framework and the shaping of LOs should (amongst other) be understood against this backdrop.

The faculty of humanities was required to develop and use learning outcomes in all courses and programmes by 2012. The learning outcome agenda was mainly driven by the central study administration at university level. The process gained momentum in 2007. Initial progress was based on contributions from the University pedagogy department. The study administration also provided an extensive list of verbs which were deemed appropriate. The programme and descriptions which had now been developed had to be revised and fitted to a new modified frame. LOs were mainly grafted onto programme and course descriptions that were developed by input logics, and the revisions were mainly interpreted as minor additions.

But the introduction of the qualification framework and LOs was also perceived by various actors as an opportunity to be explored and exploited. The institution leadership had a clear interest in improving programme design and monitoring the quality of teaching in its various study programmes and courses. The leadership at the faculty level also wanted to take advantage of the situation. The faculty was suffering from the consequences of the hubris unleashed by the Quality Reform. Even though many staff members had reacted negatively to the modularisation process and the emerging fragmentation, many also recognised the potential for the development of new research-based courses based on personal interest and dedication. With this expansion, older ideas of programme coherence and collective responsibility tended to disappear, as department members and colleges in the various knowledge communities found it increasingly difficult to articulate opinions about courses which were not 'theirs'. The new régime opened up to the unity of teacher, student interest and credit production in autonomous courses, which was very much in line with Anglo-American modular systems (Rothblatt, 1993). The development of these courses were also interpreted by proponents as a return to older 'Humboldtian' ideas, rather than as a sharp break with this tradition. However, prospects were clouded by economic trouble and overexpansion. There was a need for structural rationalisation and legitimacy in the inevitable oncoming downscaling operation.

The contours of a solution to these problems were identified in learning outcomes, couched in the language of the old traditions of learning and the coherence of the field. The work with LOs was described as a return to old values or forms of organisation of programmes which were associated with older, more encompassing, teaching units. There was a need for a more integrated and holistic view of programme design. The introduction of LOs and the implementation of the qualification framework coincided with economic problems and rationalisation requirements and became infused with these problems. The cries for unity and coherence worked. In one year, the number of courses in the department was reduced by approximately on- third.

5 | FROM PRIVATE TO PUBLIC MANAGEMENT OF PROGRAMMES AND COURSES

The rationalisation of the course structure was framed as a distinction between 'public' and 'private'. The growth of courses was related to excessive individualisation and staff members' private needs. The need for rationalisation and coherence was therefore interpreted as two sides of the same coin. Furthermore, the extensive course portfolio

threatened time for research. There was a need for a new and more 'public' management of programmes and courses. The cohesion of the programmes had to be revived, and the coherence between the courses which constituted the programme had to be made explicit to the students. The rationalisation process also made programme-level descriptions an important issue for the various knowledge groups and communities. The defence of courses and territories had to be couched in relation to programme coherence and learning outcomes. In this process, specialised and 'marginal' courses with low credit production became particularly vulnerable. Smaller knowledge communities had to find new co-habitats within more broadly-defined courses rather than 'own' their course. New coalitions around sustainable courses were built and couched in the language of learning outcomes and objectives.

6 | THE EQUIVALENCE OF OBJECTIVES AND OUTCOMES

The LOs represented a potential to work on and possibly change the established distribution of power. A new, more transparent programme had to be organised, and legitimacy secured. Learning outcomes were perceived by the faculty and department leadership as an important instrument in this respect. Still, the focus on the coherence of the study programmes led to greater emphasis on the internal logic of the programme and the individual course, rather than on outcomes *per se*. As reorganisation and rationalisation processes commenced, the focus on internal coherence blurred the distinction between objectives and outcomes, as well as issues of 'constructive alignment' (Biggs & Tang, 2011) between the two. The knowledge communities did not perceive any significant distinction between objectives and outcomes. Focus was on the continuities rather than the break with older traditions. More adequate learning trajectories had to be secured, and the specifications of goals and outcomes contributed to that. Still, the knowledge communities could negotiate processes of rationalisation and contraction on the basis of the logic in the discipline.

7 | LEARNING OUTCOMES AND ENGINEERING

Engineering is often conceptualised as 'applied science' in the Anglo-Saxon tradition (Snow, 1962). This makes engineering into a subordinate area of the application of natural sciences. The continental 'Techne' tradition provides a different epistemology, emphasising productive skills (Halvorsen, 1993). The Norwegian master-level engineering programmes originated from the German engineering tradition (Halvorsen, 1993). Modified since the post-war years it took on a more analytic approach, emphasising science and theory. A contrast can be made with the lower level technical colleges or engineering schools, which have evolved in accordance with the British engineering tradition (Nygaard, 2014), and which stress practice and training 'out in the field'. Still, it is reasonable to say that the engineering field in Norway has evolved in a constant tension between these two traditions (Halvorsen, 1993). It has been greatly influenced by the logic of the engineering profession, where engineering epistemology in both its analytic and practical 'homo faber' meaning is underscored as a separate knowledge field in its own right (Ibid.). But a confluence of forces has changed engineering considerably. There are also indications which suggest that the old distinction between engineering studies and mathematical/natural science studies (MN) has been bridged somewhat, as natural science has become more 'applied', and engineering more 'science'. Still, the practical dimension and the interests of the profession and the industry remain significant elements in the structuring of the engineering knowledge field, and is a baseline for the formation of Los.

8 | THE INTRODUCTION OF LEARNING OUTCOMES IN ENGINEERING

When the proposal for a national qualifications framework for higher education was distributed for comments in 2007, the response of the university leadership was that it would be a useful instrument. It was also emphasised that the framework could provide better opportunities for quality assurance (QA). In its internal communications, the rectorate underscored that the introduction of LOs was *not* supposed to be a light 'bureaucratic exercise'. Instead, LOs were perceived as a development project for the organisation at large, and for the disciplines, study programmes, and teachers

in particular. Learning outcomes were connected to goals and NPM ideas such as stronger leadership, stronger steering, transparency and more adequate QA systems, coherence in the study programmes, and the provision of better information to students.

In order to ensure a proper focus, LOs were first implemented in a selection of pilot projects which were coordinated and followed up by a central advisory committee to the rector. These projects allowed for the shaping of LOs to discipline specific conditions, but the follow-up work from the central level also sought to standardise that work. The central administration encouraged the various knowledge communities to use LOs in order to develop their study programmes and new teaching and examination methods. The unit providing in-service educational training for university staff also hosted workshops on the use of learning outcomes for teachers, and an extensive list of verbs facilitating the translation of older study plans was also provided. But this university terminology and definitions caused some confusion. What was the difference between 'learning outcomes' and 'learning objectives' it was asked, both by ordinary staff members and institutional leadership. At the institutional level, it was decided to use the concept of 'learning objectives', as this was already established in the organisation. Still, it was emphasised that learning outcomes were *new* tools that required more of the disciplines and teachers, beyond simply translating old descriptions and goals into the new 'language' and new verbs.

9 | INSTITUTIONAL CONTEXT AND TIMING

In this case, timing and trajectory were important. The introduction of LOs coincided with a crisis, where the quality of the institution's QA system was questioned. An expert committee explicitly criticised the system for its lack of clear, written routines and student evaluations. The qualification framework and LOs agenda had previously been linked to the QA system, but the evaluation meant that this relation became paramount. In the aftermath, several members of staff voiced the opinion that transparency was lacking and that the department level was a 'black box'. The coupling with LOs seems to have added a new layer to the QA system at the institution, as goals for the QA system changed from ensuring 'quality of education' to ensuring 'the students' learning outcomes'. At the faculty level, the introduction of the qualification framework and LOs coincided with a project on relevance and coherence in the study programmes. The background for the project was the flourishing course catalogue in the aftermath of the Quality Reform. The old integrated units had been split into new bachelor and master programmes consisting of separate sets of courses. In many disciplines, this gave ample opportunity for the teachers to design their own course according to their research interests. In line with the conclusions from the project on relevance and coherence, the faculty leadership wanted to keep only the most important courses. The goal was to prevent 'privatization' and focus on the coherence of the programmes. Furthermore, they wanted the courses to be a shared responsibility between the teachers. This course of action also held beneficial prospects for the teachers as a collegium. The 'tidying up' and reduction of courses would not only ensure effectiveness and less spending for the faculty, but also more free time for research. The leaders at the faculty described the project as a success, as the teachers subsequently spent 30% less time on teaching. The introduction of LOs provided the faculty leadership with a useful instrument. Rather than introducing LOs in addition to the ongoing project, they were combined and integrated. Much of the work in the project was 'translated' in order to meet the new LOs requirements. The incorporation of LOs into the QA systems provided programme leaders with better opportunities to hold the teachers accountable and to legitimise changes. Not everyone was pleased with the 'tidying up' agenda. Some had their pet courses terminated in the process. But on the whole the project was described as a success by both leaders and teachers, as it provided more space for research.

10 | THE STUDY PROGRAMMES

The project on relevance led to several changes in the structure of the study programme: the number of courses offered was reduced, the profile was strengthened, there was a stronger emphasis on the interdisciplinary profile, and the programmes became more decoupled from the department structure. LOs required everyone to reflect on what

the students should learn in the study programme as a whole. The coupling between the project and the introduction of LOs could also have a significant impact on the future development of the study programmes, as all new strategic efforts had to be based on the 'learning objectives'. Thus, control over learning objectives at the programme level emerged as an important strategic element in the faculty.

In general, the teachers claimed that the introduction of LOs had made them more aware of what they were teaching and why. They described the development of LOs for their courses and study programmes as 'meaningful work' and a 'useful exercise'. They claimed that it initially seemed like a bureaucratic and unnecessary process. As they became familiar with the tool, however, their view became more positive. They interpreted LOs as incremental change that would not 'interfere' in their work. The teachers claimed that they did not receive clear instructions on how to introduce or use LOs. This was up to the teachers in each course to decide. To a considerable extent, old course descriptions were simply translated, slightly modified and adapted to meet the new requirements.

Even though LOs were interpreted as a management tool to combat 'privatization', the teachers also described them as tools that *they* could use to manage courses (see Bleiklie, Frølich, Sweetman and Henkel in this issue, pp.). By small changes in 'learning objectives' at course level, the teachers could change the contents and the syllabus of each course in the desired direction. They were therefore sceptical of 'over-specified' LOs, as this implied less flexibility. The introduction of LOs in the master-level engineering programme has not led to a revolution in teaching and assessment. The teachers describe learning outcomes as a useful exercise, but the teaching and assessment could go on as usual.

11 | THE SHAPING OF LEARNING OUTCOMES IN MEDICAL EDUCATION

The medical profession, unlike most other educational segments, has historically been granted considerable academic and organisational autonomy to control its knowledge base and status through closure mechanisms (Freidson, 1994; Starr, 1984). As with theology, psychology, and veterinary studies, medicine was exempted from the Quality Reform. But medical education has also been through a number of study reforms and experiments with new modes of study organisation, teaching, and evaluation since 1990. Significant changes have been made with regard to content, syllabus, evaluation methods and the organisation of the relations between theory and practice. Most remarkable was the movement towards problem-based learning (PBL) which emphasised a closer integration of basic sciences and clinical work and a more seamless integration of public health and general medical subjects in the study programme. The programme should be more 'student active', involving 'independent knowledge acquisition' and early patient contact. In medical schools, teaching has traditionally consisted of a combination of lectures, clinic-based teaching and small groups and courses/seminars. However, in this case, the focus was on fewer lectures, more group work and PBL.

For some time, the pedagogical approaches differed significantly between the various medical schools, but then the different local study models converged, mostly because of national collaboration and the formation of common standards. The PBL models applied seemed to be close to the pedagogical concept of constructive alignment in that they aimed at tightening the coupling of learning objectives and pedagogical approaches (Biggs, 1996; Biggs & Tang, 2011). A common framework was developed for the integration of clinical and preclinical subjects: medical problems should be the point of departure for teaching, discussion and problem solving in small groups. The exam system was changed and grades were replaced by a pass/fail template. However, due to international convergence, grades were re-introduced in 2014.

12 | LEARNING OUTCOMES AS LEARNING OBJECTIVES

In medicine, the focus was first and foremost on learning objectives, not learning outcomes and constructive realignment. Since many teachers combine teaching and practice (typically a 20% teaching position combined with 80% practice), many were involved in student work. This compounded the need for coordination and mutual adaptation. Whether or not learning outcomes actually served such purposes is unclear. Interviews with professors and head of programmes seem to indicate the existence of gaps between the internal and external meaning of LO. Some professors

claimed that they had become more conscious about the purpose of their teaching due to LOs; others considered the LO concept, as used by central authorities, to be 'slippery' and unclear.

In general, learning objectives can be considered as part of an emerging new pedagogical régime which contained fewer lectures and a more transparent and extensive use of PBL. Teachers expected students to work relatively independently, and learning objectives were considered as a guide for students, as well as a framework for systematic and focused exam work. The specification of learning objectives ranged from basic medical/clinical issues, such as the ability to explain the main features of human body structures and functions, the workings and performance of organ systems, to explaining the fabric of organs and their functions. Others stressed knowledge and skills with regard to the social and psychological conditions for medical health, such as explaining the relationship between family relations and health/disease, identifying key aspects of living with long-term illness or disability, understanding the reactions and coping strategies, or explaining key features of human interaction and relationship to patients. Attainment of these learning objectives was based on standards that were necessary to achieve readiness for professional practice and evaluated in terms of knowledge, practical skills, and attitudes. The big question was how a medical training programme should be organised as far as contents, track organisation, evaluation methods, and administration were concerned. Health care, and hospitals in particular, are, to an increasing extent, understood as knowledge-based/research-oriented institutions with a need for closer collaboration between different medical specialties, different health professions and new patients' rights to information and co-determination in treatment. These broader social processes of change represent an important backdrop for the challenges in the proper construction of curricula and student socialisation in order to fit the expectations and needs of a modern health care system. Second, the sequencing and linking of the various parts comprising the programme within a six-year medical study track has presented increasing problems for programme design and learning objectives. A central challenge is to achieve coherence and alignment as regards the overall objectives of the study programme in relation to an ever increasing number of special topics and appropriate methods of evaluation. One important innovation is the application of the 'Spiral Principle'. In this case, 'spiralling' means that students are introduced to certain subjects to which they later returnl, as opposed to more linear forms of structuring. How or to what extent the specification of learning objectives has contributed to the making of a more integrated spiral structure is unclear. The fluidity and interconnectedness of the various parts clearly represent challenges. PBL and the development of learning objectives have provided some direction, but learning outcomes are considered as more slippery. Furthermore, their precarious nature in a rapidly changing environment has been pointed out as a dilemma, as the learning outcome idea is based on predictability.

13 | THE COHERENCE OF PROFESSIONAL ETHOS AND STANDARDS?

Evaluations of spiralling differ. Professors generally characterised students as individualist and competitive, and as affected by 'schoolification', paying too much attention to strategic preparation for exams, which, in turn, seems to have produced student demand for a very detailed specification of learning objectives and outcomes. Insofar as this demand is not met, learning objectives remain far from student attention. For most professors, this tendency towards strategic preparation had to be counteracted through a more holistic approach to the design of the study programme. Accordingly, a syllabus was not fixed, but based on independent reading of a larger list of recommended texts. The gist of the study reforms was also seen as important for the development of collaborative skills among students. Nevertheless, the evaluation methods under development reflect a desire to move towards a greater coherence between the required set of features in order to comply with international standards in medical education. Knowledge, skills and attitudes are being tested through a combination of oral, written and practical examinations (stationary exam) in relation to various cases. The previous style of evaluation did not sufficiently reflect the study mode which was aimed at, where students could potentially be exposed to extremely detailed questions.

Despite the increasing fragmentation, an integrating factor that structures the perceptions of the study programme seems to be at work. The medical profession is said to be characterised by a common identity and a common ethos where tight group-based collaboration seems to be one of the core foundations with the combination of clinical

practice and teaching duties, spanning both institutional and disciplinary/knowledge community boundaries. Informants also acknowledge that learning objectives and outcomes represent a contribution towards communicating educational standards in order to legitimise practice. Who they are (identity) and how they work (international standards) seem to be just as important as displaying what they know or should know.

14 | CONCLUDING REMARKS

In this article, we focused on how learning outcomes have been shaped and implemented in two higher education institutions and three knowledge communities. We found that medicine, the humanities and engineering provided interesting contexts for the study of the interaction between the organisational, disciplinary and professional dimensions in the shaping of learning outcomes. Through the formation of stronger hierarchies these professional and disciplinary educational spaces have become more closely linked to the university as an organisational actor, and educational programmes have become an object for both 'internal' management and external scrutiny. But through these implementation processes, learning outcomes have also been shaped by and have shaped disciplinary and professional habitats. We suggest that learning outcomes can be viewed as ambiguous tools, as they are shaped by the interaction of organisational/institutional logics on the one hand and disciplinary/professional habitats on the other (see Bleiklie, Frølich, Sweetman & Henkel in this issue, pp.).

The significance of path dependencies is evident for the interpretation of learning outcomes. The Quality Reform implied a critical juncture, as it signified a conversion towards a more fine-grained modularised system. In both areas, this meant the opening of a window of opportunity for new courses for academic entrepreneurs. The new more extensive course portfolio was not sustainable and there was a need for rationalisation. LOs served such processes well. Also, the teachers seemed to be able to use LOs for several purposes, mostly as flexible learning objectives for the development of courses in the preferred direction. There was not much to be seen of constructive alignment based on the interest and inputs of working life and the enterprise. In engineering, the internal processes of quality assurance merged with external development processes mediated by the profession, closing in on course rationalisation and portfolio coherence. The medicine path departed somewhat from this with the introduction and implementation of learning outcomes being mediated by prior experiences with problem-based learning practices. During that process, LOs became oriented towards identity and conformity to international quality standards, i.e. regulatory mechanisms sheltering medical education from outside interference rather than describing knowledge. This supports the conclusion that professional compliance with external scrutiny through the display of standards has become more important (Noordegraaf, 2011).

As far as issues of compliance with external state requirements and demands for increased transparency were concerned, the institutional leadership in at least two of the cases tried to control the dissemination and implementation of learning outcomes as well as contents. This gave strength to the image of the university as a hierarchy with the ability to devise plans and control implementation. But further activation patterns point towards the significance of the university administration and notions of pragmatism and technical adjustment rather than paradigm change. For the most part, learning outcomes were grafted on to existing programme and course descriptions.

Universities and professional education such as engineering and medicine differed in their interpretation and perception of such instruments, depending on local circumstances and traditions. Through such processes, the instruments were most likely to lose some ingredients or acquire new ones. Neither the university leadership at the two universities nor the knowledge communities regard the learning outcomes as a paradigm shift in the direction of output-based forms of governance. Learning outcomes did not directly challenge established realms of knowledge. In fact, learning objectives was regarded as the more appropriate term. Here we observe a confluence of organisational and the professional/disciplinary dimensions, not an adversarial logic. This similarity could be explained if we considered that the translation to new LO-based forms of programme and course design took place in a societal and regulatory context that was not very acclimatised to such instruments, as the regulation of Norwegian qualifications have traditionally been heavily input-oriented and based on the time or duration allocated to programmes and curricula. Yet, a significant

difference between the professional and the disciplinary programme could be noted. While external relations with employers were mediated through the professions in engineering and medicine, in the humanities, the dynamics were more internal and were characterised by the interaction of the institutional hierarchy and the discipline. In the case of medicine, the university hierarchy was not visible.

15 | POLICY IMPLICATIONS

The case studies illustrate the complexities that policy makers and university leaders face when trying to implement such instruments as learning outcomes. They are affected by national translations and governance traditions. Furthermore, tools such as learning outcomes need to be adapted to institutional specificities and learning communities, to the logics of professional and disciplinary educational programmes in order to function. It could therefore also be useful to question whether the taxonomies on which learning outcomes are based (Keevy & Chakroun, 2015) are suitable for all disciplines and different types of knowledge. Internal and external boundaries of disciplines and professions, in terms of knowledge development and demands from students and other stakeholders, also contribute to a complex framework for designing and implementing learning outcomes as meaningful instruments. Through such processes, learning outcomes could even be transformed into learning objectives, decoupling the goal-outcomes distinction as well as the potential for output steering since this implementation has been pragmatic and flexible. Couplings to qualification frameworks and new governance arrangements seem rather loose. In the Norwegian context, LOs seem to have shredded the potential for output steering.

On the basis of the acquired material, it can be maintained that LOs are versatile but ambiguous policy tools. Their shaping is a highly complex process which has led to a diversity of outcomes, as they have been coupled to a variety of policy agendas and problems. As such, they assume the shape of tools seeking problems and decision-making opportunities. This is amply demonstrated by the case studies presented here. Some of these problems emanated from the Bologna degree reform and the reshaping of study structures which it produced. Some were more institution-specific and related to institutional legacies or issues of crisis management. Through these processes, learning outcomes were grafted onto or aligned to a variety of cognitive and normative platforms or strategies, ranging from quality assurance and problem-based learning to the renewal of Humboldtian values and traditions. But they also seem to provide a basis for the potential reshaping of policy dynamics, as illustrated in the humanities case, where there was an increasing emphasis on the internal logic of the programme and the individual course rather than outcomes *per se*. Thus, the implementation of learning outcome should not be understood as a 'stand-alone' reform process that can be separated from institutional change processes and agendas.

Last but not least, the nature of the interaction between the institutional hierarchy and the disciplines/professions seems to vary. In the humanities, the dynamics were internal, whilst professional education also displayed external features. This may suggest that combining professional and organisational perspectives has much to offer for the study of LO implementation. It also testifies to the significance of the disciplines and the professions as an important mediating mechanism between the university and its environment. It also provides a basis for asking more questions about the significance of the professions in the formation of learning outcomes.

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Engineering learning outcomes: Translations of a policy instrument in a disciplinary context in Nordic higher education

Hanne Kvilhaugsvik

Department of Administration and Organization Theory, University of Bergen, Bergen, Norway

ABSTRACT

Learning outcomes have become a central feature in European higher education and are intended to create a plethora of change concerning teaching, relevance, quality and transparency. However, there have been few studies on how learning outcomes have been introduced within disciplines. This article therefore studies the introduction of learning outcomes in Norwegian higher education, in a comparative case study of two engineering programmes. Engineering is often showcased as an example of highly relevant education and has traditions for co-operation with local businesses. Standards are also a common feature in the education and professional work, which suggests that learning outcomes might work well in this context. The article uses translation as theoretical perspective, emphasizing path-dependent change, and draws on the concepts of layering and drift. Empirically, the article is based on qualitative interviews and document material. The findings show learning outcomes as a circulating master idea which was introduced before it became a formal requirement. Learning outcomes were layered onto revisions of the education and adapted to the disciplinary traditions. While the introduction led to structural changes, the cases also show several challenges for the use of learning outcomes for teaching and information purposes.

Introduction

Learning outcomes have gained a prominent role in European higher education over the past decade, both through the Bologna process and qualification frameworks. In form, they are written descriptions of what a student is expected to know, understand, and be able to do after completing a course or degree (Cedefop, 2018, p. 10). The descriptions are often separated into three categories: *knowledge, skills,* and *competences or attitudes.* Learning outcomes can be seen as a policy instrument (Hood, 1983), as they are intended to achieve goals such as more student-centred learning, improved relevance, better connections to employers and the labour market, as well as improved quality and quality assurance (Cedefop, 2016). Learning outcomes have a relatively short history in the European context, but they have been described as '[…] a fundamental building block of the Bologna educational reforms' (Adam, 2006, p. 3). Furthermore, learning outcomes are a central component in the so-called shift from teaching to learning (Biggs & Tang, 2011) and the broader reform agenda 'from input to output', as they emphasize the results and 'products' of an education. Because of the multitude of goals associated with them, learning

outcomes have been described as ambiguous (Caspersen & Frølich, 2017; Michelsen et al., 2016), which could be a challenge for the introduction into both national higher education policy and practical use in disciplinary contexts. However, the ambiguity could also be an advantage, as it allows for different interpretations and uses for several actor groups (Caspersen & Frølich, 2017)

Studies of learning outcomes have often focused on pedagogical and conceptual aspects[1] and less on the policy aspects (Lassnigg, 2012, p. 303). Moreover, most studies have focused on the national level, rather than the disciplinary context where students are taught. This article therefore aims to explore how learning outcomes have been introduced within a disciplinary frame. More specifically, it asks the following research questions:

- Why were learning outcomes introduced in the disciplinary context?
- How were learning outcomes translated in relation to disciplinary traditions and contextual characteristics?

The article will focus on Norwegian higher education, where learning outcomes were formally introduced in connection with a national qualification framework.

CONTACT Hanne Kvilhaugsvik ✉ hanne.kvilhaugsvik@uib.no 🖂 Department of Administration and Organization Theory, University of Bergen, Bergen N-5020, Norway

Like other European countries, Norway developed this framework in response and relation to the European frameworks. The European frameworks are based on learning outcomes, which have therefore also become the fundament for national frameworks (Lassnigg, 2012). The introduction of a national framework in Norway meant that learning outcomes had to be developed for all courses and study programmes. Describing qualifications through output rather than input is a contrast to the traditional regulation in Norwegian higher education, which has focused on input-factors such as content lists, curriculum and numbers of students. Prøitz (2015) argues that Norwegian policymakers have embraced the concept of learning outcomes and that it is widely used and understood in terms of output and result-orientation of education. Furthermore, the introduction of the national qualification framework has been described as a process which reflects strong support from the sector, and whose principles are widely recognized (Helgøy & Homme, 2015, p. 129). The national qualification framework has even been characterized as a 'technical exercise' which was carried out without much debate (Bergseng, 2011; Helgøy & Homme, 2015). These descriptions suggest a smooth introduction of learning outcomes in Norway, which leads to the question of how the introduction has been in disciplinary contexts.

This article studies engineering as a disciplinary context.[2] Engineering consists of several traditions and specializations, which will be discussed further on. Overall, engineering can be characterized by its basis in technology and an emphasis on developing solutions to practical problems (Meijers, 2009b). For the aim of this article, engineering is a fruitful case for three main reasons: First, engineering is often showcased as an example of highly relevant and in-demand education (e.g. Rørstad et al., 2018), with connections to local businesses and industry. This indicates an established understanding of the qualification, in contrast to many other disciplines. Second, engineering can be understood as a broad disciplinary context with different traditions, which allows us to compare within a discipline. Third, engineering is a context where standards, codes and regulations are prevalent (Pritchard, 2009), both concerning the education and in professional work. In Norway, for instance, parts of engineering education are covered by national regulations. This could be a good basis for introducing learning outcomes, as the education could be expected to be familiar with standards such as learning outcomes.

The article is organized in the following way: In the first section, a literature review of learning outcomes is discussed. The next section presents the theoretical perspective, after which the engineering discipline and Norwegian engineering education are presented. This is followed by the research design. The article then explores the introduction of learning outcomes, first within a bachelor programme in engineering at a university college, and then a Master of Science in Engineering programme at a university. Finally, the findings are discussed and compared.

Learning outcomes: a tool for teachers and a policy instrument

Learning outcomes can be seen as ambiguous, as they attempt to encompass the competing purposes of being both a pedagogical tool for teachers and a policy instrument. The first approach sees learning outcomes as a tool to structure teaching and assessment through planning by output rather than input. One example is the influential model of *constructive alignment*, which advocates using learning outcomes – rather than reading lists and other input factors – to design courses in higher education (Biggs, 2012; Biggs & Tang, 2011). However, this approach has also been criticized for being of little practical use to teaching (Hussey & Smith, 2002). In a review of the research literature, Lassnigg (2015) argues that while many scholars view competence-based education positively, there is little evidence that this approach is effective. This criticism has not curbed the enthusiasm for learning outcomes, however.

Conversely, the second approach sees learning outcomes as a policy instrument. It is this understanding that can be found in the Bologna process and the qualification frameworks. As part of these frameworks, learning outcomes have been characterized as an instrument for regulation, reform and change in education (Bjørnåvold & Coles, 2007; Young, 2003). A related approach sees learning outcomes as a management tool for leaders in higher education institutions (Bleiklie et al., 2017). In this way, learning outcomes are associated with several complementary and intertwined policies aiming for quality, employability and competitiveness (Ure, 2015). The understanding of learning outcomes as a policy instrument has been criticized for using the instrument as part of New Public Management policies of governance, market-based steering and results-orientation. This approach has even been characterized as misguided and harmful for education (Allais, 2014). On the other hand, the introduction of learning outcomes in Europe was through the open method of coordination and soft governance practices (Elken, 2016). The introduction has therefore largely consisted of voluntary adoption and instruments such as guidelines and comparisons. Combined with the ambiguity of the instrument, this suggests that learning outcomes can be introduced in diverse ways in different contexts (Ure, 2015).

Recently, a new strand of research on learning outcomes has emerged, where learning outcomes are studied as part of higher education institutions and disciplines. One study that compared the introduction of learning outcomes between disciplines argued that learning outcomes are distinctly shaped by the disciplinary context, as well as by organizational and institutional logics (Michelsen et al., 2017). So far, most studies on disciplines have focused on the learning outcome descriptors, for instance, as part of the introduction in national curricula (Afdal, 2017; Olson et al., 2018). Others have explored how actors in disciplines formulated and defined learning outcomes for study programmes (Friedrich et al., 2016). Caspersen et al. argue that learning outcomes reflect the knowledge structures within professions and disciplines, which makes it difficult to compare between disciplines (Caspersen et al., 2014). Along the same lines, Allais argues that learning outcomes are open to different interpretations between contexts (2012), which can be seen as contradicting the purposes of promoting relevance and transparency.

The ambiguity of learning outcomes and the mechanisms for introduction suggests that the disciplinary context is significant to how learning outcomes are used in higher education. However, disciplines are not unitary, and the influence of traditions and characteristics of disciplines have not been explored sufficiently. This article will therefore study the introduction of learning outcomes *within* a disciplinary context, namely engineering, to explore how disciplinary traditions and characteristics influenced the process.

Theoretical perspective

The article studies the introduction of learning outcomes as a process of *translation*. There are different understandings of change and agency in translation processes, and in this article, we understand the perspective as building on path-dependency and embedded agency (Wedlin & Sahlin, 2017). Learning outcomes are here understood as a circulating *master idea* related to broader themes such as quality and accountability in education and the public sector in general (Czarniawska & Sevón, 2013a; Røvik et al., 2014). Master ideas are often ambiguous and simplified versions of practices from a context (Czarniawska & Sevón, 2013b, p. 9). The ideas can have unclear backgrounds and often provoke local reforms through translation (Wedlin & Sahlin, 2017). In such a process, an idea travels to – or is moved to – a new context where it is edited, reinterpreted, or even constructed anew (Czarniawska & Sevón, 2013a; Wedlin & Sahlin, 2017). We therefore expect an idea to be changed as it moves between levels, that is, from

the national level to a higher education institution and further within a disciplinary context. Translation's emphasis on change and complexity can thereby be seen as a contrast to perspectives highlighting hierarchical introduction processes (Stensaker, 2007).

The course of a translation process, including the space for agency, will depend on the forms of governance and the organizational context. In this case, learning outcomes are mandatory but introduced through soft governance practices in higher education institutions where discretion and academic freedom are characteristic features, particularly concerning teaching. We could expect this to leave room for translation by several actors, including leaders and academic staff. We can understand these actors as *professionals* who translate ideas and instruments within their disciplinary context, in contrast to the common portrayal highlighting resistance against reforms (Noordegraaf, 2011). This can be seen in connection with studies portraying higher education institutions as active interpreters of management trends (Stensaker, 2007). Consequently, we expect ideas to be translated in light of the organizational and disciplinary context, leading to gradual change rather than radical innovation championed by strategic individuals.

For further operationalization of translation, the article draws on the concepts of *layering* and *drift* from gradual institutional change (Mahoney & Thelen, 2010; Streeck & Thelen, 2005). Translation and gradual change both build on the notions of path-dependent change and embedded agency. Moreover, the governance forms and organizational context discussed above means that we expect actors to translate learning outcomes by editing them to fit the disciplinary context rather than converting them. This can, for instance, be done by layering the idea onto other practices in the context. Layering is thereby understood as an act of translation where an idea is understood as compatible with existing practices. We will use layering to study how the content and meaning of an idea are edited when it is attached to other practices in a context (Mahoney & Thelen, 2010). Finally, drift can be a purposeful concept to study the result of a translation process. Drift occurs when: '[…] institutions or policies are deliberately held in place while their context shifts in ways that alter their effects' (Hacker et al., 2015, p. 180). Drift can be conceptualized as intentional or unintentional due to lack of time, attention, or opportunity. In this case, if learning outcome descriptors are not maintained while teaching and assessment changes, the meaning and impact of the idea have changed.

Overall, we expect actors to translate learning outcomes in light of contextual characteristics. The next

section will therefore discuss the disciplinary context of engineering in Norwegian higher education and our expectations to the introduction of learning outcomes here.

Engineering in Norway

Higher education institutions are organized around knowledge and divided into disciplines on this basis (Clark, 1983). A discipline can be defined as a field of knowledge which shapes practices and ways of thinking, and structure dispositions and organizational forms (Trowler et al., 2012). Disciplines have even been characterized as 'academic tribes' with distinct knowledge structures (Becher & Trowler, 2001), which has implications for how research and education are organized, and thereby for how ideas such as learning outcomes are translated. Engineering can be understood as a field consisting of several specializations or branches. The following analysis will not pay heed to these subdivisions, but rather study engineering as an example of a broad disciplinary context. This section will therefore give a brief presentation of two overarching engineering traditions in Norwegian higher education.

In higher education, engineering has often been presented as an applied science (Becher & Trowler, 2001; Biglan, 1973), while others have argued that it is better understood in terms of technology and *Technik* (Fores, 1979; Hörner, 1985). Technology and engineering aim at the development and use of knowledge for practical purposes (Meijers, 2009a, p. 3). Engineering has been described as a spectrum – from technologist and technician to craftsperson and artisan (Mitcham & Schatzberg, 2009, p. 43). This variation can also be found in Norway, where we can distinguish between two main traditions. *The engineering/technician tradition* has emphasized the professional and practical orientation: training and experience are seen as crucial elements (Halvorsen, 1994; Nygaard, 2014). Formal education alone does not make an engineer; practical experience and training are vital for becoming part of the profession, and is therefore necessary both before, during, and after completing the studies. The education associated with this tradition has roots in technical schools, which were established in connection with local business communities and industry (Halvorsen, 1994, p. 502). The education was therefore defined by local needs, which ensured variation in the education, as well as couplings to the labour market. The education is organized as 3-year bachelor programmes and has historically been associated with colleges of engineering.

The other tradition is the *Master of Science in Engineering programmes* (*sivilingeniør*[3]). This tradition was strongly associated with the Norwegian Institute of Technology (NTH) and the education was intended to be scientific and

based on common science subjects (Hanisch & Lange, 1985, p. 55). However, tension between the general profile and specialization has been a recurring theme (Brandt & Nordal, 2010; Hanisch & Lange, 1985), as has the balance between theory and practical orientation (Brandt & Nordal, 2010). The institution was criticized by industry for being too theoretical and not relevant (Hanisch & Lange, 1985), but the strong theoretical emphasis in the education was understood as a prerequisite for work as a *sivilingeniør* (Halvorsen, 1994, p. 529). The tradition has been regarded as the steward of research within Norwegian engineering and has had more ambiguous connections to training, employers and industry. The education associated with this tradition was primarily offered by NTH and is today usually organized as 5-year integrated master programmes.

It can be argued that the division between the two traditions has become less distinct as the Norwegian higher education system has become more unitary. The colleges of engineering were included in higher education and are today part of university colleges and universities. Master of Science in Engineering (MScE) programmes are now offered by several institutions, and the educations associated with the two traditions can be combined. Engineer is not a protected title in Norway,[4] and there has been much variation concerning work titles and tasks. However, central differences remain: The 3-year bachelor programmes have a more practical orientation and an identity as professional education, while the 5-year master programmes have a stronger emphasis on theory and include an independent work in the form of a master thesis. The bachelor programmes are also regulated by a national council and curriculum, while the MScE programmes are not. We can expect these aspects to lead to different translations of learning outcomes: The engineering/technician tradition's practical emphasis suggests that issues concerning training and experience may be prominent. Furthermore, we can expect learning outcomes to be mediated both by the national regulations and connections to local industry. In this case, we might expect learning outcomes to be layered onto national regulations and practical elements in the education. The MScE tradition has been more oriented towards technology as science, which suggests that issues concerning theory, specialization and interdisciplinary elements in the education will be more prominent here. Moreover, the academic profile of the education could suggest that research and academic freedom concerning teaching will be more pronounced here. As there are no national regulations, we expect the introduction of learning outcomes to be influenced by internal dynamics of the tradition.

Research design

The article is based on a comparative case study (George & Bennett, 2005; Yin, 2018) of two study programmes in engineering.[5] Engineering was selected based on the strategy of most-likely cases in terms of policy expectations (George & Bennett, 2005), as the educations' relevance, connections to business and industry, and experience with standards suggest that learning outcomes could work well in this context. One typical case was chosen from each of the two traditions: A 3-year bachelor programme at a university college, and a 5-year integrated master programme at a university. The institutions and study programmes have been anonymized for the study. The differences in levels of education and type of higher education institutions reflect the two engineering traditions and were therefore expedient to include in the case selection. However, there are also similarities that warrant a comparison: The programmes are both organized with a general theoretical part and engineering specialization, and they educate candidates for similar types of work and tasks. Both study programmes also belong to higher education institutions with long traditions for engineering education. The cases should therefore be similar enough to allow for comparison, while the differences should ensure variation.

The study covers the introduction of learning outcomes through several levels: the higher education institutions, the faculty/department level, as well as the study programmes. The national level was also included to contextualize the bachelor programme. This design was selected in order to study how learning outcomes were translated as they moved between levels and into the disciplinary context. While the two cases should not be seen as statistically representative, this research design should allow for some analytical generalization beyond the specific study programmes. As the deadline for introducing learning outcomes in Norway was by the end of 2012, the study covers the period from 2007 to 2015 in order to include preliminary work, the introduction, as well as some developments afterwards.

The data is a combination of documents and qualitative semi-structured interviews with key actors. The documents are from the period 2007 to 2015 and were mostly publicly available.[6] The documents include national regulations, strategy documents, board and council meeting reports, quality assurance system descriptions, and articles from the institutions' webpages. This material was used to study policy aspects, goals and uses for learning outcomes, and how learning outcomes were formally managed at the institutions. The differences in the use of documents in the article should therefore be seen as reflecting the characteristics of the two cases. As the aim of the study was to compare the process and uses, we did not include the learning outcome descriptors in the material.

Furthermore, 10 semi-structured interviews were conducted, with 13 informants from both study programmes and institutions, as Table 1 shows. The informants include leaders from different levels, teachers from the permanent academic staff, as well as students. The academic leaders and programme leader are also part of the academic staff and have teaching experience or active teaching duties. Interviews were individual, except the students, who were interviewed in groups, and the teachers from the master programme, who were interviewed together. Six interviews were carried out in 2013, and four supplementary interviews were carried out in the spring of 2015. Invitations to leaders from faculty/department levels were distributed with help from the institutions and the variation here could therefore show who the institutions considered to have experience with learning outcomes.

The interviews covered definitions of learning outcomes, how actors perceived and participated in the process, and opinions on the uses of learning outcomes. The interviews were first transcribed verbatim and then read by several project group members. Both the documents and interviews were then analysed through process-tracing (Bennett & Checkel, 2015), focusing on intermediate steps in the introduction of learning outcomes. This was carried out through coding the material in NVivo based on an a priori code set. Following translation and master ideas, we began by studying how learning outcomes first arrived at the institutions. We then analysed how the process and uses of learning outcomes were described (i.e. compared to process and uses defined in policies and other levels of the organization), with particular attention to aspects of the disciplinary traditions. We did not distinguish strictly between learning outcomes for courses and programmes in the analysis.

Table 1. Overview of informants for interviews.

	3-year Bachelor programme in engineering, University College	5-year Master of Science in Engineering programme, University
Institutional level	Leader, institutional level	Leader, institutional level
Faculty/	department level	Academic leader, department level
	Academic leader, faculty level	
	Administrative coordinator, department level	Programme leader, department level
Study programme	Two teachers	Teacher
	Two students	Two students

In the next section, the case studies are presented. The bachelor programme is presented first, followed by the MScE programme.

Learning outcomes and the bachelor programme in engineering

The bachelor programme was part of a university college with origins in a technical school and has long traditions for co-operation with local businesses. The national regulations, as well as a regional co-operation project, were central themes for the introduction of learning outcomes in this case. The national curriculum, which states general principles and requirements for bachelor programmes in engineering, had been revised in 2011 after an evaluation of the engineering education (NOKUT, 2008). As the qualification framework for higher education had been introduced in 2009, the revised curriculum now included learning outcomes (Regulation 3 March 2011 no. 107 on national curriculum for engineering education, 2011). This was a significant change from the previous curriculum, which had a more overall character and thereby left room for local traditions and diversity, which have been important elements in this tradition due to the emphasis on practical experience and connections to local industry. With the revised curriculum, engineering became one of the first educations to provide national learning outcomes. Supplementary guidelines and learning outcomes for different specializations were also issued.

The national curriculum and guidelines became a substantial part of the work of a new 'strategic alliance' between the university college and other higher education institutions in the region. A central project for the alliance was to strengthen the co-operation on engineering education (Strategic alliance, 2011). These programmes already had much in common, in part due to the national regulations, but there were also strong local traditions. The department leadership saw learning outcomes as an idea that was compatible with the project's emphasis on stronger coordination: Learning outcomes could be used as a shared standard to describe the current content and thereby create a level playing field for the study programmes. An informant from the department leadership described their goals for the process:

> We tried to follow a strict line where everything was supposed to become identical at all the institutions. It worked out, we managed to achieve that, but it resulted in a lot of static noise. (Academic leader, department level)

To avoid more problems, the strategic alliance decided to use a set of general learning outcomes for all courses and programmes. Each institution could then decide on assessment and details for their courses. This can be understood as translation of learning outcomes as a layer to the project, which allowed for both coordination and variation.

The national curriculum and the strategic alliance meant that there was both a national and local set of overarching learning outcomes. The leadership of the university college recognized that other professional study programmes faced similar challenges:

> For those of our study programmes that have national curriculum regulations, it is very easy to copy those […] instead of formulating something here based on a good discussion about the discipline. (Leader, institutional level)

National learning outcomes could lead to a smooth introduction, but the leader's statement suggests that the result could be lacking crucial connections to the local disciplinary context.

How to build an engineer?

At the study programme, the reactions to learning outcomes were mixed. The department leadership was pleased with the introduction, and an informant stated that it had led to good discussions on the profile of their education:

> Is it supposed to be a theoretical education or a professional education? Here, [the focus is on educating] an engineer who is going to work professionally in the business community, and we have had a fruitful discussion. (Academic leader, department level)

This suggests that learning outcomes were translated based on an understanding of the disciplinary tradition. The emphasis on educating engineers for professional work can be seen in connection with the tradition's priority of practical aspects and experience.

The teacher who was interviewed argued that the academic staff were sceptical at first: 'We saw that this was adapted for the teacher education' (Teacher 1). They also found it difficult to grasp the genre requirements of learning outcomes. The teacher explained the challenge of describing what candidates must learn: '[…] well, it is quite difficult to be a good engineer. It depends on what you are going to work with after your studies' (Teacher 1). There is much variation within the tradition and an engineer's work varies between industries as well as companies. It can therefore be challenging to describe what all engineers must know and be able to do. Furthermore, the engineers' work is carried out as part of practice communities, meaning that engineering is a form of collective knowledge (Halvorsen, 1994) which can be difficult to break down into general descriptions of learning outcomes. Moreover, there was tension

between the requirement of general learning outcomes for the strategic alliance and the desire to specify input-factors. The teacher explained:

> We want to be rather rigid, [and state that] you must learn *this* microcontroller, you must learn *these* instructions, you must read *these* and *these* pages in the book … But here you have to be a bit more general, and that is not so easy for us engineers. (Teacher 1)

As it was seen as easier to specify topics and books, the teachers continued to do so with detailed course content lists. This could be seen as an expression of the teachers' agency, which ensured autonomy concerning teaching. Furthermore, this suggests that the academic staff translated learning outcomes as a layer to an existing input-based practice, which is a contrast to the reform agenda learning outcomes are associated with. Finally, course content lists could be updated frequently, in contrast to learning outcomes, which were introduced through course and programme descriptions, meaning that changes have to be formally processed by councils on different levels (University college, 2012).

In some courses, learning outcomes were connected to compulsory laboratory-based assignments. The teacher who was interviewed explained:

> When you have been to the laboratory and had the assignment approved, then you have fulfilled the learning outcomes. […] So, it is this way of formalizing the required laboratory knowledge. (Teacher 1)

The laboratory assignments are crucial elements of the study programme and offer students practical training and learning. In this way, learning outcomes were translated as a layer to a key element of the programme. Apart from this, the informants did not mention changes in teaching and assessment in connection with learning outcomes. The teacher stated that: '[Learning outcomes] is not something new and revolutionary, neither for the students nor for others. It was not like anyone had been waiting for this[.]' (Teacher 1)

The engineering programme has strong connections to the industry and local employers, for instance, through guest lectures, company visits and collaborative student projects. The teacher who was interviewed claimed that employers were generally not interested in learning outcomes:

> [Employers] want to know a little about the book [we use] and the content of the course, but at the same time, what they work with in many organizations is so specialized. The students must learn something new when they start working as well. (Teacher 1)

This statement reflects the programme's connections to employers, as it indicates contact and discussions about candidates and the courses. Discussions about specific books and content also suggest that employers are familiar with the programme. Therefore, as employers had very specific ideas about the curriculum and were in contact with teachers and students, learning outcomes might not appear to be relevant. The students did not see much need for learning outcomes in their communication with employers either. One student explained that the key issue for them was training and experience: 'Your education counts less and less the farther you come from school … it is your experience that counts' (Student 1). Student 1 here highlights the engineering/technician tradition's emphasis on practical experience and becoming an engineer both through work and education. The students will gradually become part of the profession through training and experience both before, during, and after their education. This could make it hard to specify learning outcomes for study programmes, as there is not necessarily a clear distinction between education and practical experience.

Overall, the national regulations and the strategic alliance were the main drivers in this case. The case also shows disciplinary challenges in the introduction of learning outcomes, particularly in describing the qualification.

Learning outcomes and the Master of Science in engineering programme

The MScE programme is part of a university with a long history of offering this education. The backdrop for introducing learning outcomes was a project which concerned the structure and content of the programme, although in a quite different way from the previous case. The project had been launched a few years before learning outcomes and a key aspect concerned the balance between specialization, a common foundation in mathematics and science, and an interdisciplinary profile, which has been a recurring theme in this tradition (Brandt & Nordal, 2010; Hanisch & Lange, 1985).

Revision with learning outcomes

The project had begun when the university launched an in-depth evaluation of all MScE programmes. This included internal evaluations, an international expert committee, industry experts and international comparisons with similar programmes (Internal strategy paper, 2011). All MScE programmes were then instructed to develop 'learning objectives', with reference to quality assurance systems in other European countries (ibid.). The main criticism in the evaluations concerned the structure, specifically the number of study programmes, specializations and courses (External evaluation, 2008). This was described as

overlapping and resource-draining. The expert committee recommended to revise the structure, to develop and follow up 'learning outcomes' and to change the teaching methods. In this process learning outcomes can be seen as an example of circulating master ideas, as this had not yet become a formal requirement in Norway.

Following the evaluation, all MScE programmes were reorganized and several courses were terminated. The findings suggest that learning outcomes were seen as compatible with the aim of revising the structure of the programmes. The programme leader stated that learning outcomes had been crucial for the project: 'We would not have achieved the same result if we had not taken to heart the [principle of] formulating clear learning outcomes for the study programs' (Programme leader, department level). Learning outcomes could identify overlap and were understood as a fair instrument to decide whether to keep or discard courses. In this way, learning outcomes could even be used to select priority areas: 'Further development of new, strategic initiatives were going to use the [initiatives] expressed in the learning objectives as the starting point' (Programme leader, department level).

Time allocated for research was a further element in the revision of the education and introduction of learning outcomes. This can be understood in light of the tradition's stewardship of technology research, as well as its insistence on research-based education. A leader at the faculty level described their ambition: 'Moreover, there was a wish for the education to be research-based, and that presupposed that there was time for research in the programs' (Academic leader, faculty level). The division of time between teaching and research has a long history in this tradition (Hanisch & Lange, 1985), and the layering of learning outcomes onto the revision project could help ensure more time for research for the academic staff.

During the course of the revision, the university as a whole began to work on learning outcomes as part of the qualification framework. The new learning outcomes for MScE programmes therefore had to be adjusted to the new criteria and terminology. The informant at the faculty level described their experience:

> When [the qualifications framework] came, we had to adapt to the Norwegian way of doing it. I think we managed to do that without much trouble – we had looked at examples abroad. (Academic leader, faculty level)

This statement shows that the actors were already familiar with these ideas and indicates that the actors understood the qualification framework as a Norwegian translation with specific criteria and requirements. An internal document also stated that some MScE programmes had worked 'relatively thoroughly' on learning outcomes and that this experience was valuable for the subsequent work as part of the qualification framework (Internal strategy paper, 2011, p. 6).

'Room for interpretation'

The revision project had been time-consuming, and the teachers who were interviewed discussed challenges concerning the introduction of learning outcomes. However, they claimed that the academic staff overall were somewhat positive and emphasized that learning outcomes was not a new idea. One teacher described their understanding:

> So, to begin with, we might have perceived it as a bureaucratic process; that this was something we had to do. But, after a while, I actually thought it was quite useful to have thought about the purpose of the course – what is the main focus[.] It was a valuable exercise. (Teacher 2)

This statement suggests an incremental change process where the teachers became familiar with the idea in the course of the revision. The teachers were also involved in developing 'learning objectives' for study programmes and courses in the revision. One of the teachers explained that there were not clear guidelines for this work:

> It was not quite clearly explained how it was to be done. In a way, it was up to each individual teacher how to develop this. (Teacher 3)

This suggests that teachers were able to exercise agency in this work and avoid detailed learning outcomes. One teacher explained it in this way: 'There has to be a certain room for interpretation. That each teacher can have a certain influence on the content of the course' (Teacher 2). This can be seen as a contrast to the translation of learning outcomes as a layer to the revision project and could even be seen as allowing further translations by teachers. Furthermore, the teachers who were interviewed characterized the introduction as a single event, which suggests that learning outcomes might not be updated frequently.

Learning outcomes are intended to change teaching and assessment, and such measures were also recommended by the expert committee. However, both the interviews and documents show that the study programme had not made substantial changes. The faculty leadership justified this by explaining that learning outcomes had not come with any extra means: 'The ministry does not give us more money for this – how, then, are we to do this?' (Academic leader, faculty level). This suggests that such changes would require more resources rather than learning outcomes. Still, one teacher had designed a course somewhat based on the principles of constructive

alignment. This was described as a private initiative, but it supports the understanding of learning outcomes as a master idea that can be introduced and used by different actors, including teachers.

A key goal for introducing learning outcomes is to increase transparency and better inform students and employers about education. However, the students in the MScE programme preferred traditional input-based information sources such as lecture plans, old exam questions and course descriptions. Moreover, the students were often in contact with potential employers, for instance, through regular meeting points organized by student groups. One of the students described their prospects on the job market in this way: 'Well, we are rather lucky, because [we] are very much in demand[.]' (Student 2). The students' experience was that employers were interested in whether candidates were suitable for a position, as well as the topic of the master thesis. This suggests that employers were familiar with the programme and that learning outcomes might not contribute with the information they were interested in.

Overall, the evaluation and revision of the MScE programmes were the crucial elements in this case, and the case also shows several challenges for the introduction of learning outcomes for teaching and information purposes.

Concluding discussion

By studying two cases from the disciplinary context of engineering, the article has found similarities as well as significant differences in the introduction of learning outcomes. The cases illustrate the complexity of introduction processes in higher education, where ideas circulate and are edited and layered onto other practices. Moreover, the findings indicate that the introduction might end in drift between learning outcomes and teaching. This section will compare three main themes in light of the two disciplinary traditions: The layering of learning outcomes onto revision projects, different translations of the idea, as well as challenges in the introduction.

A striking similarity is that learning outcomes were introduced as a layer to revision projects in both cases, rather than as part of qualification frameworks. Although the projects had different backgrounds, they took place at around the same time and led to the introduction of learning outcomes before this became a formal requirement in Norway. This is noteworthy both in terms of circulating master ideas as well as agency in translation processes, as the findings show that the actors already were familiar with learning outcomes and initiated the introduction. The cases also show that learning outcomes had an unclear background and were part of processes on the local and national level, which is also

illustrative of circulating master ideas. The layering of learning outcomes with the revision projects can therefore be seen as an example of how ideas are moved into and translated in light of disciplinary practices. Through this process, learning outcomes were translated to an instrument to help make structural changes in the study programmes.

The background for the revision projects was quite different in the two cases, which can be explained by differences in the engineering traditions. The bachelor programme is, as expected, characterized by national regulations and connections to local industry. The national curriculum featured prominently, which shows that learning outcomes were layered onto an existing, significant governance feature of this tradition. Furthermore, both the national regulations and the strategic alliance entailed interdependent aims of coordinating through standards and attending to local traditions. Both these processes led to a need to translate overarching learning outcomes to the bachelor programme's tradition. In contrast, the national level was not particularly present in the MScE programme, which confirms our expectations of differences in regulation between the two traditions. Instead, locally initiated processes and an international orientation were significant, which again shows how learning outcomes circulate on multiple levels and arenas. Finally, the international orientation can be seen as reflecting the MScE tradition's academic profile and emphasis on research.

A main version of learning outcomes in both cases was as an instrument to help change the structure and content of the programmes through the revision projects. This is in line with models such as constructive alignment, but it differs from the instructions in the Norwegian qualification frameworks, which specified that higher education institutions were to develop learning outcome descriptors. This indicates a translation of learning outcomes from mere descriptors to instrument for change in courses and study programmes. This can be seen in connection with a Cedefop report (2016), which argued that learning outcomes are increasingly influencing higher education by supporting curriculum reforms. The cases studied here suggest that, rather than starting such processes, learning outcomes can reinforce and shape structural changes that are already initiated. Moreover, the emphasis in the projects shows noteworthy differences: In the bachelor programme, learning outcomes were used to coordinate with other programmes in the region while still allowing for local variation. In the master programme, they were used to adjust the balance between elements in the education as well as to ensure time for research. This can be seen as translations reflecting differences between the two engineering traditions.

The two cases also show several other uses for learning outcomes, which indicate further translations of the idea. In the bachelor programme, learning outcomes were used for discussion of the profile of the education, as well as a layer to content lists and laboratory assignments, which are important elements in the study programme. In the MScE programme, learning outcomes were translated into an instrument to ensure time for research, as discussed above, and the findings also suggest that they were used as a layer to input-based instruments for teaching and assessment. The findings thereby show translations of learning outcomes from a novel instrument for output-based education to a layer to existing disciplinary practices.

Several challenges can also be seen in the two cases, which illustrate the intricacies of translating a general idea into concrete practice. First, while learning outcomes are presented as part of a shift 'from input to output', the findings show few signs of changes in teaching and assessment. This might be explained by the practical emphasis in the bachelor programme, where several forms of teaching and assessment already were in use. In the master programme, there were examples of individual initiatives, but resources and academic freedom were also thematized as explanations for few changes, which could be seen as reflecting the academic identity of this tradition. Moreover, the introduction is consistently described in the past tense, as a one-off event, and there are no mentions of updating learning outcomes in connection with teaching and assessment. The findings therefore indicate that the introduction might end with drift if learning outcomes are not maintained while teaching and assessment are continually developed.

The second main challenge was the use of learning outcomes for information purposes. Several studies have found that learning outcomes allow for different interpretations across and within disciplines and contexts (Allais, 2012; Prøitz et al., 2017), and it has been argued that qualification frameworks and learning outcomes therefore cannot serve the purposes of promoting transparency and information (Blackmur, 2004). For the bachelor programme, the findings indicate that the engineering/technician tradition's emphasis on training and experience made it challenging to describe the qualification. General learning outcomes as a layer to existing practices therefore became a solution. This supports findings in a study of learning outcomes in national curriculum, where Olson et al. (2018) argue that learning outcomes for engineering were formulated in more general terms than for teacher education. In this tradition, it is unclear at what point students actually become engineers, as

both education and training are necessary components. Moreover, the bachelor programme has an established cooperation with local business, meaning that employers already are familiar with the education. While the MScE programme does not have the same practical emphasis in the education, the findings indicate that the education is established and in demand, suggesting that learning outcomes were not imperative for information purposes here either.

Overall, the findings show that the introduction of learning outcomes in the engineering programmes was strongly influenced by disciplinary traditions. While learning outcomes might be expected to work well in the context of engineering, these cases indicate that standards, practical emphasis, and connections to local business, in fact, can entail challenges for using learning outcomes. Learning outcomes were layered onto existing projects and practices, but the findings also show other translations, which indicate that the idea was engineered to fit the context-specific needs. The cases also show challenges concerning teaching and information purposes, which suggests that the introduction might end with learning outcomes drifting apart from teaching and assessment. For further studies, a purposeful topic could therefore be how learning outcomes are maintained, and how employers and organizations of the profession are involved in such processes.

Funding

Notes

1. For an overview and discussion of definitions and conceptual aspects, see Prøitz (2010).
2. Engineering is, of course, also a profession, but this article will mainly focus on disciplinary aspects and the higher education context.
3. Master of Science in Engineering is the formal name of the education, and s*ivilingeniør* is not to be confused with 'civil engineering', which is often used as a title for engineering concerned with the construction and maintenance of infrastructure and buildings. The Norwegian *sivilingeniør* covers several engineering specializations and is similar to the Danish *civilingeniør* and Swedish *civilingenjör*.
4. *Sivilingeniør,* on the other hand, is a protected education title.
5. The study was carried out in connection with the research project *Higher Education Learning Outcomes: Transforming Higher Education?* (cf. Caspersen & Frølich, 2017).

6. Board and council meeting documents from the university college were not available online but were sent upon request.

ORCID

Hanne Kvilhaugsvik http://orcid.org/0000-0001-8854-7681

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Bridging higher education and the world of work? Employer panels in Nordic university governance

Universities are increasingly expected to cooperate with society and the world of work to ensure relevant higher education. One example is the introduction of mandated employer panels, where external members are brought in to advise universities on their study programmes. Building on research on third mission activities, this article examines employer panels' role in university governance through a comparative case study of two Danish and two Norwegian employer panels. The article employs a historical-institutionalist approach emphasising path dependency and embedded agency and integrates contributions from the welfare state and political economy literature. The empirical material consists of interviews with nine panel members, as well as documents from panel meetings. The article finds similarities in background but differences in the organisation of panels, with more specialisation and stronger regulation in Denmark. The cases also show path-dependencies in cooperation between professionally oriented study programmes and employers, and an emphasis on shared interests, which the article analyses as extensions of traditions for coordination and collective action. The article argues that university leadership can shape cooperation with the world of work by managing representation, agendas, and reporting, but the cases also illustrate tensions and possible challenges.

Keywords: university governance; third mission; world of work;

Introduction

Connections between universities, society, and the world of work have become important issues in university governance. Such external relations have been conceptualised in terms of the 'third mission' (Laredo 2007; Pinheiro, Langa, and Pausits 2015a), which highlights universities' external engagement and contribution. Much of the literature on third mission activities has focused on aspects of innovation and commercialisation of research (Laredo 2007; Schnurbus and Edvardsson 2020), often connected to models such as the 'Triple Helix' of academia, industry, and government (Etzkowitz and Zhou 2017) and the 'entrepreneurial university' (Clark

1998, 2004). Furthermore, studies have often focused on connections to organisations and businesses in the regional economy (Benneworth, de Boer, and Jongbloed 2015; Lebeau and Cochrane 2015; Lehmann et al. 2020). These developments can be understood in light of the knowledge economy agenda, where higher education and research are portrayed as prerequisites for economic growth (Grubb and Lazerson 2004). Still, teaching and education have not received as much attention in research on third mission activities, even though mass higher education can be understood as one of universities' main contributions to society and the world of work (Laredo 2007, 441). Recently, it has been argued that the 'third mission' has been re-conceptualised to refer more specifically to 'relevance' and 'social impact' (Pinheiro, Langa, and Pausits 2015a, 227-8), which suggests that education could become a key issue for universities' external engagement. This article therefore studies universities' cooperation with external actors on relevance in higher education, through a comparative case study of mandated employer panels for universities in Denmark and Norway.

Some key aspects in research on third mission activities are how such cooperation is organised, what kind of units are constructed, and how these are connected to universities' core activities of teaching and research. Pinheiro et al. argue that universities traditionally have decoupled their third mission activities (Pinheiro, Langa, and Pausits 2015a, 228), which entails that arrangements like employer panels could have mostly symbolic aspects (Meyer and Rowan 1977), loosely connected to teaching and research. However, Pinheiro et al. find that there has been a recent move towards infusing third mission units into the core activities (Pinheiro, Langa, and Pausits 2015b). This suggests that universities may utilise other strategies to manage connections, for instance bridging, which entails controlling or coordinating with

external actors (Scott and Davis 2017, 235). This article therefore asks how universities organise cooperation with the world of work on study programmes.

While connections between higher education and employers are not new, the relations can be complicated and characterised by tensions and different interests. The inclusion of external actors may also have implications for universities' autonomy (de Boer and Enders 2017), creating conditions for significant tensions in the relationship between higher education and the world of work (Teichler 2015). Several studies have also contrasted the logics of higher education to those of enterprises and the market (e.g. Canhilal, Lepori, and Seeber 2016; Scott and Kirst 2017), for instance concerning time horizons and competences (Scott et al. 2017, 87). The emphasis on employers' needs has also been criticised as part of New Public Management-inspired market-based reforms (Schulze-Cleven and Olson 2017), an instrumental approach to education (Clarke 2018), and neoliberalisation entailing a shift in power balance 'in favour of employers' (Boden and Nedeva 2010). We therefore ask how university leadership seek to manage and align different interests in cooperation with the world of work.

The article is organised in the following way: The first section presents the theoretical perspective, which is based on historical institutionalism. We here emphasise path-dependent patterns of cooperation and embedded agency and draw on features of the welfare state and traditions for coordination. The research design and methods for the study is presented in the next section. The article is based on a comparative case study of four employer panels at one Danish and one Norwegian university, which mostly cover professionally oriented study programmes and were selected as 'most likely' cases for the purpose of the study. The next sections present and discuss the empirical findings, beginning with the regulatory background of the panels. The last section then compares the main findings and discusses implications. The findings

suggest path-dependent developments, as the organisation of panels in the two countries differ on several aspects. The panels are connected to matters on teaching and education, which suggests that cooperation with the world of work can be used as a bridging strategy to coordinate on issues of shared interest. The article finds that university leadership can shape the panels' work, but the cases also illustrate tensions and challenges in cooperation.

Theoretical approach

The theoretical approach is based on historical institutionalism (Mahoney and Thelen 2015). Institutions are here defined as the formal and informal rules and practices that guide actors' behaviour (Steinmo, Thelen, and Longstreth 1992a; Hall and Taylor 1996; Mahoney and Thelen 2010). In this tradition path dependency has been an important concept (Hall and Taylor 1996; Steinmo, Thelen, and Longstreth 1992b), which highlights that choices made at the formation of an institution influence further developments and opportunities for change (Fioretos, Falleti, and Sheingate 2016). It is therefore crucial to study the 'legacy of the past' (Peters 2019, 80) and contextual features in order to understand arrangements such as employer panels. The perspective also builds on an understanding of embedded agency, which implies that actors are shaped by institutions and the political context, but also that they can act strategically to pursue interests and initiate changes (Mahoney and Thelen 2010; Hall and Taylor 1996).

At the national level, we highlight two main aspects that we expect to affect cooperation between universities and the world of work, the first of which concerns funding. The Nordic countries are examples of the Mass Public model (Ansell 2010), with high levels of public funding, generous benefits for students, and no tuition fees. The state has a relatively strong role in Nordic university governance (Gornitzka,

Maassen, and de Boer 2017), and can regulate study programmes through funding and other forms of regulation. In this context higher education could be understood in light of the social democratic welfare state (Esping-Andersen 1990), as expansion and funding has been priorities based on ideals of universal access to education and ensuring full employment (Ahola et al. 2014). However, countries have followed different trajectories for expansion, leading to different perceptions higher education's current relevance and 'match' to the labour market situation. Denmark has experienced soaring expansions in general studies and at universities (Thomsen 2014), leading to an understanding of 'mismatch' to the world of work (Kvalitetsudvalget 2015; Danmarks akkrediteringsinstitution 2015). In contrast, much of the expansion in higher education in Norway took place in university colleges and professional study programmes (Vabø and Hovdhaugen 2014), and official reports have found a balance between higher education and the labour market situation (Finansdepartementet 2015). This leads us to expect more detailed regulations of cooperation with the world of work in Denmark compared to Norway.

The second aspect pertains to coordination in the political economy. The Nordic countries are coordinated market economies (Hall and Soskice 2001), with traditions for collective action and a corporatist model of association (Martin and Swank 2012). This entails traditions for coordination and collective preference formation, for instance on education and training systems and labour market policies (Thelen 2014). Accordingly, employers in the Nordic context are accustomed to cooperate with the state and emphasise shared interests through peak associations and sector groups, in contrast to liberal market economies where such cooperation is weak, and enterprises might promote distinct interests. We expect universities' cooperation with the world of work to be influenced by these features, in contrast to portrayals of neoliberalisation and

market steering in liberal market economies. Denmark has experienced stronger liberalisation and decentralisation in the past decades (Thelen 2014), which suggests an emphasis on enterprises and segments. In contrast, we expect more involvement of peak and labour market organisations in Norway.

At the organisational level of universities, we highlight university leadership's scope of action concerning organisation and management of employer panels. Universities have gradually been reformed into organisations with stronger hierarchies (Bleiklie, Enders, and Lepori 2015), which leads us to expect academic leadership to have an influence on employer panels. Furthermore, universities may be conceptualised as institutions with a high level of discretion, which could provide ample opportunities for university leadership to shape employer panels' structure and function, within the national regulations. Universities are also organised around disciplines with distinct traditions for teaching and research (Becher and Trowler 2001; Clark 1983), which imply different traditions for connections to employers. The four panels we study in this article mostly cover professional study programmes, which leads us to expect that employer panels can build on established cooperation.

In light of recent studies on third mission activities we also use the concept of bridging. Scott and Davis define bridging as a tactic organisations use to 'control or in some manner coordinate one's actions with those of formally independent entities' (Scott and Davis 2017, 235). Bridging can include cooperation on common goals and the inclusion of external members *into* an organisation and may be connected to executive leaders or units (ibid., 235-6), in contrast to strategies where organisations attempt to protect the core from external influence (Scott and Davis 2017, 128). Bridging can have different implications, depending on how cooperation is organised and connected to university leadership. We expect panels organised at universities'

institutional level to emphasise strategic, overall issues, while decentralised or specialised panels could be more involved in academic content.

Cooperation can also entail challenges for universities, as discussed in the introduction. First, the inclusion of external actors in core activities could imply changes in autonomy, particularly if universities are *required* to cooperate. Second, universities and employers could promote different interests, for instance concerning time horizon and competences (Scott et al. 2017). Third, universities offer a multitude of study programmes which could connect to a wide range of employers. We expect panel leaders to emphasise management of such challenges, for instance through strategic recruitment of members and interpretation of suggestions.

The next section proceeds to present the research design and methods used in the study.

Research design and methods

The article is based on a comparative case study (George and Bennett 2005; Yin 2018) of employer panels at one Danish and one Norwegian university, which have been anonymised for the study. The universities were selected as most similar cases: they are comparable in size (more than 10,000 students each), both are located near large cities, and their profiles include professional programmes. The two universities were selected as 'most likely' cases for this study due to their profile and established connections to the world of work. Furthermore, we operationalised universities' organisation and management of employer panels as three dimensions for the case study analysis: Composition of panels, agenda-setting, and reports from meetings. Universities' influence was understood as high if they could control all three dimensions, and low if they could not.

Four employer panels were selected within the two universities. The Norwegian university has two large, general panels, and both were therefore included. One panel covers technology and business, while the other comprises education, health, and social science. The Danish university, however, has more than 50 specialised panels. A preliminary mapping of all panels was therefore carried out, based on information on the university's webpages. The strategy for case selection was to choose two typical panels from a disciplinary context with established linkages to the world of work. Panels for technology fulfilled these criteria and two such panels were therefore selected: One panel for a recently established engineering programme, and one for a traditional engineering programme. This selection also allowed for comparison between new and established study programmes. Both panels cover a bachelor and master programme. The selection of these two panels also ensured comparability with the Norwegian university, where one panel covers technology. The panel on education, health, and social science from the Norwegian university was kept to ensure maximum variation.

The study covers the period from 2015 to 2019, as the two Danish panels were first established in 2015 and the Norwegian panels in 2017. The empirical material consists of documents from the national level and the two universities, and nine semi-structured interviews. Data triangulation was essential to study possible tensions and different interests. The documents from the national level include white papers, acts, and guidelines, while documents from universities include institutions' webpages, documents from panel meetings, and consultation responses. A Norwegian evaluation report (Tellmann et al. 2017) and two Danish booklets on employer panels (Danske Universiteter 2011; DEA 2014) were also included as secondary sources.

Furthermore, nine members of the four employer panels were interviewed during spring 2019. Overviews of panel members were openly accessible online, and informants were contacted individually by e-mail. The informants included six internal and three external members (see Table 1). The interviews were individual, except the leader and secretary of Panel 3 who were interviewed together. All interviews were conducted face-to-face, except two informants (S2, Panel 4; E1, Panel 3) who were interviewed by phone. The interviews covered organisation and management of panels, recruitment of members, panel meetings and discussions, the purpose of panels, follow-up of suggestions, as well as other connections between universities and the world of work. The interviews lasted approximately 40-60 minutes and were recorded and transcribed, and quotations were checked by informants. Some informants also provided the author with documents on their organisations' work on employer panels. The interviewees have been anonymised, and external members' job titles have therefore been omitted.

The strategy for analysis of the material was based on process-tracing (Bennett and Checkel 2015), focusing on similarities and differences in regulatory background, panel structures, recruitment of members, agendas, as well as reporting and follow-up after meetings. The next sections present the employer panels and findings from the case studies, beginning with the background of the arrangements and regulations at the national level.

Regulatory background of employer panels
'Employer panels' (*aftagerpanel*) were made mandatory for Danish universities in 2007 as part of a wave of reforms (Ministeriet for Videnskab 2010, 26). The arrangement was included in a revision of the act on universities and applied to all universities. In the proposal the arrangement was presented in terms of the need to ensure quality and

relevance, as well as increased cooperation with employers (Folketingstidende 2006-07). This could be understood in light of the experience with tremendous increases in enrolment at universities and in general study programmes over the years (Thomsen 2014). The universities were consulted on the revision of the act, and their responses emphasised the need to manage the organisation and work of the panels locally (Folketingstidende 2006-07). The responses also argued that panels should be advisory, and not connected to examiners, as the ministry had suggested (Folketingstidende 2006-07). Some universities also mentioned that they already had panels in place, which might explain the lack of protest in the responses.

The new and revised act on universities stated that panels must consist of external representatives who are familiar with the area of study and the labour market situation for candidates (Universitetsloven 2007, 2019). The mandate further stated: 'The university shall ensure dialogue between the employer panel and the university on the quality of the study programmes and their relevance to society […]' (Universitetsloven 2007). The act specified that panels can make suggestions on 'all questions related to the study programmes', and universities must consult panels on revisions and new study programmes (Universitetsloven 2007). The organisation of the panels was up to the universities, as they had petitioned for in the consultation. Many universities opted for specialised panels connected to study programmes (Danske Universiteter 2011; DEA 2014). Cooperation with the world of work was also included in the national quality assurance (QA) system, and universities must be able to document employer involvement in study programmes.

In Norway, 'Councils for cooperation with the world of work' (*Råd for samarbeid med arbeidslivet*) were introduced in a 2009 white paper (St.meld. nr. 44 (2008-2009)), following reports that emphasised the need for more binding cooperation

between higher education institutions (HEIs) and the world of work (e.g. St.meld. nr. 7 (2007-2008)). The white paper reiterated this, and argued that stronger connections could improve the quality and relevance of higher education (St.meld. nr. 44 (2008-2009), 76). The white paper also maintained that 'Publicly funded higher education must be relevant for future work.' (St.meld. nr. 44 (2008-2009), 76). This development can be explained by high public funding and policies for expansion based on welfare state ideals of ensuring access for all qualified applicants (Vabø and Hovdhaugen 2014), leading to high participation and expansion of study programmes based on applicants' demands. The new panels were intended to promote more structured dialogue on further development of study programmes and continuing education (St.meld. nr. 44 (2008-2009)). The white paper also mentioned the Danish employer panels, which was referred to as a 'good model' (St.meld. nr. 44 (2008-2009), 77).

The Norwegian panels have not been incorporated into the act relating to universities, which only states that HEIs shall cooperate with 'local and regional society and the world of work' (Universitets- og høgskulelova 2005). Instead, the panels were introduced through Letters of Allocation[1] from the ministry to HEIs. It was specified that HEIs must develop strategies for cooperation and that labour market organisations should be included in the panels, but the structure and management were otherwise up to HEIs. The introduction was sluggish: A 2013 audit by the Office of the Auditor General found that about 20 % of the HEIs had not established councils, and about 50 % had not developed a strategy as instructed (Riksrevisjonen 2013, 83). A 2017 evaluation report found that all HEIs had established councils, often in the form of one common

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[1] A Letter of Allocation is a steering document from a ministry to an agency, including HEIs, and includes information about funding, priorities, and performance targets.

panel at the central level (Tellmann et al. 2017). Most panels therefore cover disciplines or the education portfolio as a whole. The report argued that the slow introduction could be explained by HEIs considering alternatives for organisation of the new panels (Tellmann et al. 2017), but it could also suggest that the panels were not a priority. In contrast to the Danish panels there are few requirements for documentation.

The regulatory context shows a similar emphasis on cooperation, but also indicates differences in mandate and requirements. The next sections proceed to present and discuss the findings from the four cases.

Employer panels at a Danish university

The Danish university has more than 50 specialised panels. The mapping showed that they usually consist of 10 external members, a study programme leader who acts as chair, and an internal administrative secretary. The external members are normally recruited from local and regional enterprises, and some panels, mainly within humanities and social sciences, also have members representing public employers. The two employer panels for engineering that we study are part of the Faculty for Technology and Engineering, where specialised panels were introduced in 2015, initially to supplement a common panel and to bring employers closer to the study programmes (A1, DK). Both panels are chaired by study programme leaders, but an informant explained that the panels have been supervised by the faculty level in order to fulfil the documentation requirements in the national QA system (A1, DK). This indicates decentralised management of panels, but also aspects of hierarchical steering.

Composition of panels

The two panels have 7 and 10 external members respectively and hold annual meetings. Panel 1 covers a professional bachelor and master programme in a traditional

engineering discipline with a practical emphasis. The programmes used to be part of an engineering college and several academic staff members have a background from local industry (L1, Panel 1). In contrast, Panel 2 covers an academic bachelor and master programme in a recently established engineering specialisation. There is more variation in enterprises represented in Panel 2, which could reflect the rapid technological advances this younger segment is undergoing.

The external members were invited based on suggestions from the academic staff (L1, Panel 1), and several members represent enterprises with long-standing relations to the university. This could illustrate path-dependencies in cooperation with the world of work and suggests decentralised recruitment managed by study programme leaders and academic staff. An administrative employee at the faculty level argued that enterprises were interested in cooperation, as engineering graduates are in high demand: 'That is why we frequently, or regularly, experience that companies contact us, and are eager to join an employer panel and cooperate.' (A1, DK). The eagerness to participate could reflect traditions for cooperation, and the statement also introduces shared interests, which we will address in more detail later in the text.

The external panel members are consistently presented as representatives of enterprises and segments in material from the university. An external member of Panel 1 explained their understanding of their role in the panel: 'I would say that I represent 80 % my organisation, and then it is not to be avoided that the last 20 %, perhaps, is myself.' (E1, DK), and added that their organisation also represents a segment of the regional economy (E1, DK). This understanding of representation can be analysed in terms of coordination and traditions for collective action, as the external members represent more than themselves. The external member of Panel 1 even expressed a sense of obligation to participate:

And if we as a company do not want to tell the university what we think a candidate should graduate with, well, then who should? So, I thought that it must simply be our duty to let our opinion be known. (E1, Panel 1)

This quotation can be interpreted in light of traditions for coordination, as it emphasises enterprise's 'duty' to participate, rather than interests.

Agendas

The panels' meetings mostly concern academic content, such as updates on admission and drop-out numbers, course content, and further development of the profile. Minutes from meetings also show that academic staff members and students participate and present projects, which indicates that panels are connected to core activities of teaching and research. The informants explained that study programme leaders set the agenda, but there are some restrictions: The minutes show common topics addressed by all panels at the faculty, particularly in the first meetings, and some issues are referred to as priorities set by the faculty or university leadership, for instance internationalisation.

The two panels are connected to study programmes with different profiles, which has implications for their agendas. The programmes associated with Panel 1 include projects and training placements, which the study programme leader emphasised as important connections to the world of work: 'The [student] projects are carried out with enterprises, and that is also a way for us to ensure that the students we educate match what there is need for in the enterprises[.]' (L1, Panel 1). This statement reiterates the established connections and suggests that enterprises already are familiar with content and course units. The description of 'match' also indicates an aim to coordinate on issues of academic content. A pronounced theme for the panel is recruitment of students. Candidates are in high demand, so the study programme and enterprises have a shared interest in increased admission. However, candidates with a

bachelor's degree are sought-after by enterprises, while the university wants to recruit these candidates to master programmes. Minutes from a panel meeting state that the drop-out rate is quite high as students 'find employment' after applying to the programmes (Minutes, 2016 meeting). This issue exemplifies possible tensions in cooperation between universities and the world of work, as the organisations may promote different interests. As the national regulation requires universities to document employer involvement, panels could favour enterprises' interests rather than universities.

The agendas for Panel 2 reflect that the study programmes were established more recently, and a key issue is further development of the profile. The study programme leader argued that the employer panel has been important their work on this aspect (L2, Panel 2), both to satisfy formal requirements for establishing the programme and for further work. The informant explained:

> By including [a segment] in the employer panel, you can focus a bit on the fact that [this] is also an element in our education. So, in that way I use the employer panel a bit like a lever to shift the focus in the education. (L2, Panel 2)

This statement highlights the study programme leaders' opportunities to shape recruitment and agendas for the panel, particularly through the informant's choice of pronouns. The informant's analogy of a 'lever' even indicates that panels could be a resource for university leadership rather than a liability, in contrast to portrayals of arrangements that are inflicted upon universities.

Reporting

Panel meetings are summarised in detailed minutes taken by the administrative secretary. These documents are central to understand management of the panels as they summarise discussions and indicate follow-up of suggestions. An informant explained

that all documents associated with panel meetings are published on the university's webpage in order to fulfil the requirement of documentation on employer involvement (A1, DK). The informants also described routines for approval of minutes by the external members, which entails some restrictions for study programme leaders' management of panels.

The minutes shows a wide range in suggestions from external members – from access to specific software to composition of courses in the study programmes. One example can be found in a statement by the external member of Panel 1:

> And I thought one had begun to remove too much theory from the education, because there were so many other possible courses one wanted to include [instead]. (E1, Panel 1)

This statement illustrates that universities and employers can prioritise different aspects. The minutes from this panel's meetings also quote external members as highlighting the need for more of specific courses, as well as 'a little of everything' (Minutes, 2017 meeting).

The manifold suggestions highlight issues of influence and autonomy. In the interviews the study programme leaders highlighted the need to interpret suggestions, as recommendations could be contradictory. The internal members also emphasised possible tensions between presenting suggestions to fulfil formal requirements and maintaining the *advisory* role of the panels. This can for instance be seen in a statement by the study programme leader of Panel 2 on influence:

> And [it is also about] ensuring two-way communication, so that [panel members] sense that they can have an influence, and at the same time that we get an impression of how we should, maybe, adjust our content to make it better fit the companies. (L2, Panel 2)

This quotation illustrates shared interest in coordination, but also ambiguities in the panels' advisory role. Changes in academic content are still mainly up to the study boards, although employer involvement must be documented. There are few signs of specific changes made after panels' recommendations so far, which could reflect that decisions are made by other units or by the fact that the specialised panels still are relatively new.

Employer panels at a Norwegian university

The Norwegian university has two panels that were established in 2018. Cooperation with the world of work is emphasised in the university's strategy, and the informants from the university described the employer panels as a priority. The panels are organised at the institutional level as advisory units to the rector, who chairs the meetings and acts as link to the university board.

Composition of panels

The university leadership decided to establish two specialised panels rather than one common, as most Norwegian HEIs have settled on. An informant explained that this was based on their understanding of the private sector as 'more driven by economic growth', while the public sector emphasised 'the society' (S1, Panel 3). This suggests an understanding of different interests in these two sectors, which could better be accommodated by two panels. Two panels could also allow for more targeted discussions on study programmes and academic content. This structure illustrates university leadership's room to shape employer panels, as their solution goes beyond the minimum requirement.

The two employer panels have 15 external and 5 internal members each. In the interviews the informants from the university emphasised strategic recruitment of

external members. Panel 3 covers the private sector, and the members mostly represent local and regional enterprises. The university leadership aimed to find external members who could 'reflect the private sector' associated with the university's study programmes (L, Panel 3&4) and represent more than an individual enterprise and their specific needs (S1, Panel 3). This indicates an aim for broad representation, which could be interpreted in light of Nordic traditions for coordination and collective preference formation among employers.

Panel 4 covers study programmes within education, health, and society, and most external members represent municipalities, counties, health services, and agencies. The secretary for the panel stated that they recruited members with relevant practical experience (S2, Panel 4), which reflects that this panel covers professionally oriented study programmes. Additionally, both panels show features of corporatism, as they include external members representing labour market organisations. An external member (E2, Panel 3) also stated that the labour market organisations had participated actively in work on employer panels at the national level, based on traditions for collective action and cooperation on vocational education and training.

The panels build on long-standing relations to the world of work, particularly to local and regional employers. One external member (E1, Panel 3) described an established cooperation between the government, industry, and academia. This informant further added: 'This is a new group, but [such cooperation] is not completely new.' (E1, Panel 3). The university has long traditions for professionally oriented study programmes, which include training placements and student projects in cooperation with employers, and both informants from the university and external members described a sense of trust and a mutual need to keep informed. These aspects suggest

path-dependent developments, with employer panels building on, and perhaps reinforcing, established connections between the university and employers.

Agendas

The agendas for panel meetings include issues such as continuing education, further development of the university's profile, as well as initiatives on innovation and cooperation with companies. These issues are connected to the university's strategic initiatives, which suggests that the leadership have aimed to shape the panels to the university's priorities. Informants explained that university leadership set the agenda and that they intend to include issues suggested by external members. The university leadership were familiar with criticism of employer panels being decoupled from education, and the leader emphasised that they wanted to avoid 'nebulous' discussions (L, Panel3&4).

The university and organisations involved have shared interests on several of the key issues. An external member even exemplified the shared interest in continuing education as an important reason for participating in the panel (E1, Panel 3). The university leadership also described the university as an actor with a key role in regional development (L, Panel3&4), which the material suggests is favourable to the involved organisations as well. The secretary of Panel 3 explained it this way:

> Most of [the external members] have a regional foundation. Even though they are big companies, they have a regional foundation – they do want to promote the university. (S1, Panel 3)

This can be interpreted in terms of bridging, as the university leadership manage the agenda, and the involved parties can use the panels to coordinate on common issues.

The emphasis on regional development and continuing education could also be explained by aspects of the university's history. The university has its roots in

university colleges, including 'district colleges', which were established as alternatives to the universities (Jerdal 2002). These HEIs emphasised connections to the regional society and world of work from the beginning, and the district colleges even had connections to the county level, with regional actors participating in the college boards (ibid.). This background illustrates that several Norwegian HEIs have long traditions for involvement with the world of work and society, both in professional education and at the institutional level. The emphasis on regional development suggests that employer panels can build on these traditions.

Reporting

While the informants mostly emphasised coordination and shared interests, there are also examples in the follow-up of panel meetings that suggest tensions. This was most prominent in interviews with internal members, who discussed possible challenges. An example can be seen in this statement from the secretary for Panel 4:

> We wanted to have external members who were not just absorbed in their own details but were able to take a broader perspective, someone who also represented a field that was interesting to us, and who were able to and interested in helping us become better. (S2, Panel 4)

This quotation suggests that the university leadership wanted to avoid calls for tailoring and instead focus on broader issues. This could be interpreted in light of features of the political economy, as 'broader perspectives' are more in line with traditions for coordination and collective action (Martin and Swank 2012).

The informants also mentioned tensions concerning the panels' role in university governance. When asked about the panels' influence, the secretary for Panel 4 answered:

We have stressed that the two councils are *advisory* units to the rector. So, the idea is not that the panel members are going to have direct influence, as panel members, on deans or study programmes or individuals. (S2, Panel 4)

The emphasis on 'advisory' units highlights the university leadership's role in managing advice. There are currently no direct requirements to report or document suggestions, so the university leadership's scope of action is relatively wide. The leader of the panels also argued that the university must maintain its identity in cooperation with employers: [We] always have to be like a critical friend.' (L, Panel 3&4). Still, the employer panels were intended to lead to changes in study programmes, and external members might expect a more prominent role than the informants from the university described. For instance, one external member argued that: '[The industry in our area] has no interest in participating in a council where nothing happens.' (E1, Panel 3). The informant here emphasises that external members represent more than individual enterprises, and the quotation suggests that they expect to have an influence, particularly when they are invited to represent broad interests.

Concluding discussion

Employer panels are examples of a renewed emphasis on universities' external relations and the relevance of higher education. This article has studied how universities organise cooperation on study programmes with the world of work, through case studies of two Danish and two Norwegian employer panels. In this section we will compare and discuss the main findings, which are summarised in Table 2, and address the implications of the study.

Employer panels were introduced around the same time in Denmark and Norway, with the need for improved relevance and cooperation with the world of work

as important arguments in both countries. This might be explained by the massive expansion of higher education the past decades, which has been resource-demanding for countries with high public funding. In the Nordic context expansion has also mostly been driven by applicants' demands, based on welfare state ideals of universal access. Improved relevance and connections to employers could be understood as a strategy to ensure that society still benefits from the high public spending and that the expanded higher education systems contribute to full employment. The welfare state literature has not been utilised often in studies on higher education, but the background of employer panels suggests that it could be purposeful to include such perspectives in studies of expanded higher education systems.

Despite these similarities, the regulatory background also shows differences in university leadership's opportunities to manage panels. In Denmark, the panels are regulated through the act on universities and QA regulations demand that universities document employer involvement in study programmes. The Norwegian panels are regulated in less detail, with an emphasis on dialogue and strategy documents. We have argued that the differences in regulations could be understood in light of expansion trajectories, as soaring enrolment in general studies and at universities in Denmark led to an understanding of 'mismatch' and lack of relevance. This can also be seen in contributions on reforms in higher education governance, where Denmark often is characterized as a radical reformer (Wright and Ørberg 2011, 2008), also compared to Norway and Sweden (e.g. Pinheiro et al. 2019). Relevance and mismatch issues have, until quite recently, been less prominent in Norway, which might explain why the panels here do not target study programmes to the same extent. This suggests that arrangements to improve relevance and cooperation with the world of work could be understood in light of national expansion trajectories.

At the organisational level, the employer panels are chaired and managed by university leadership. The findings show that the leadership handled recruitment of external members, building on existing connections to the world of work. This illustrates panel leaders' scope to shape panels by appointing representatives who are already familiar with the study programmes. These aspects also suggest path dependencies in relations to the world of work, in line with our expectations to the four panels as 'most likely' cases. We also found that the external members were understood as representatives of segments and broader interests, which is a contrast to some of the portrayals of tensions and challenges for cooperation. Drawing on political economy literature could thus improve our understanding of higher education's relations to the world of work, for instance through comparing liberal and coordinated market economies.

A main difference between the Danish and Norwegian universities can be found in the structure, with many specialised, decentralised panels in the first case, and large general panels at the institutional level in the latter. This could be explained by the differences in regulations, but the findings also suggest that the structure was shaped by university leadership, with different implications for the panels' work. Stronger connections to study programmes in the Danish cases indicate more opportunities for enterprises to have an influence on academic content. However, the multitude of decentralised panels here could also challenge the institutional leadership's capacity to manage the university's cooperation with the world of work as a whole. In contrast, the Norwegian panels are close to the rector and leadership at the institutional level, including the university board. External members of such panels could impact on more overall, strategic initiatives at the university, beyond minor adjustments in course content. In this way the cases can illustrate how third mission units could be connected

to core activities at universities (Pinheiro, Langa, and Pausits 2015b), both in study programmes and at the institutional level.

When it comes to the panels work the findings suggest that the agendas and reporting are managed by university leadership. The cases do show some differences here, with more restrictions for panel leaders of the specialised Danish panels, for instance in the involvement of the faculty level's and the national documentation requirements. Overall, university leadership at both universities were mostly positive and the material shows few signs of resistance. This could be explained by the university leadership's opportunities to manage the panels and by our case selection strategy. Another explanation could be that the Nordic traditions for coordination and collective action shape an understanding of the panels as extensions of traditions for cooperation rather than foreboding impositions.

The cases also suggest that the employer panels address issues concerning academic content, including continuing education and student recruitment. We have analysed this in terms of shared interests between universities and the world of work, based on distinct features of the Nordic context and the professional profile of study programmes. Consequently, we argue that the panels may be understood as a bridging strategy where external members are invited into the universities to coordinate on issues that concern both parties. However, we have also discussed tensions and challenges concerning the role of arrangements such as employer panels in university governance. We have highlighted ambiguity in the panels' advisory role, which could have implications for universities' autonomy over study programmes. However, from a historical-institutionalist perspective it could be argued that ambiguous regulations provide more opportunities for university leadership to manage the bridges to the world of work.

Table 1. Overview of interviews

Danish University	Norwegian University
Internal members	
Leader of panel 1, academic staff member (L1, Panel 1)	Leader of panel 3 and 4, institutional leadership (L, Panel 3&4)
Leader of panel 2, academic staff member (L2, Panel 2)	Secretary for panel 3, institutional leadership (S1, Panel 3)
Administrative staff member, faculty level (A1, DK)	Secretary for panel 4, institutional leadership (S2, Panel 4)
External members	
External member of panel 1, local enterprise (E1, Panel 1)	External member of panel 3, local enterprise (E1, Panel 3)
	External member of panel 3, labour market organisation (E2, Panel 3)

Table 2. Organisation and management of employer panels at the Danish and

Norwegian university

	Danish university	Norwegian university
Regulation	In act on universities	Originally through allocation letters
Formal role	Advisory to study programme	Advisory to rector
Level	Study programme	Central level
Number of panels	50+	2
Size	Around 10 external and 2 internal members	15 external and 5 internal members
External members	Mostly enterprises	Enterprises Public organisations Labour market organisations

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Interview guide for Article 1 and 2

This is the overall interview guide for semi-structured interviews with university leadership, academic staff, administrators, students as part of the HELO research project. The project had several strands with different research questions.

Introduction

- Short presentation of the research project Higher Education Learning Outcomes
- Short presentation of my project
- Information about anonymization and data management plan for the projects
    - Informants are partially anonymized
    - All direct quotations are to be approved by informants

Planar/strategiar

Planverk, dokumentasjon, læringsutbytteskildringar.

Endringar i leiaransvaret/-funksjonane?

- Kva slags forventingar har du hatt eller utvikla med tanke på læringsutbytte? (Påverkar læringsutbytte faget? Kva for andre viktige påverknadar er det på innhaldet i faget?)

- Korleis har prosessen blitt organisert? Bakgrunn for prosessen.

- Kvar er ansvaret for arbeidet lagt til? Kven har deltatt? (Ulike nivå i organisasjonen.)

- Har du vore involvert i formuleringa av emneskildringane? Korleis? (Aktiv/leiande rolle?) Viss ikkje: ville læringsutbytteskildringane vore annleis viss du var med? Korleis?

- Kva bruker de læringsutbytte til?
    - Blir det brukt i undervisinga? Bruker studentane tidlegare eksamenar?

- Kva for føresetnadar må vera på plass for at lubbar skal kunna verka?

- I kva grad er føresetnadane for at lubbar skal kunna verka til stades?

- Kva for fordelar og ulemper er det med LU?

- Tyder innføringa av lubbar at leiarrollene endrar seg? Korleis?

Tettare kopling mellom leiing og undervising?

Viss du skulle gi en karakteristikk av læringsutbytte som instrument, kva for ei skildring synst du passar best:
- Fagleg styringsinstrument (for betre kvalitet og gjennomstrøyming)
- Administrativ styringsinformasjon (til bruk for studieadministrasjon)
- Fagleg-administrativt symbol (utan klar kopling til fagleg innhald)
- Trygging av rettar (for studentar/tilsette/institusjon)

Korleis vil du karakterisera samanhenga mellom program- og emneplanar og overordna strategiar?

Vurdering

Tettare kopling mellom leiing og vurdering?

Blir lubbar brukt i leiinga sitt arbeid? I så fall: korleis? Er det døme på dette? (Utfordringar)

Kva for erfaringar har du med styring og leiing av studieprogram etter innføring av nye studieplanar/lubbar? (Utfordringar)

Korleis er koplinga mellom undervising, vurderingsformer og læringsutbytte?

Resultat (resultatinformasjon, kopling mellom styring/leiing og undervising/læring/vurdering)

Bruk av resultatinformasjonen som pedagogisk verktøy?

Korleis gir de tilbakemelding til studentane om korleis dei ligg an i studiet?

Bruker de vurderingsresultat i andre samanhengar enn som tilbakemelding til studentane? I så fall: korleis og kvifor?

Til slutt:

Er det noko anna som eg ikkje har spurt om som du vil nemna?

Takk for at du har høve!

Førespurnad om deltaking i forskingsprosjektet:

Føremål

Prosjektet tar utgangspunkt i utviklinga mot masseutdanning og universell høgare utdanning. Etter fleire tiår med vekst og utbygging, er det no teikn til stabilisering og endra forståing av kva rolle høgare utdanning skal spela. Dette ph.d.-prosjektet utforskar derfor korleis massifisering av høgare utdanning endrar styringa av høgare utdanning, med vekt på relevans og koplingar til arbeidslivet. Prosjektet fokuserer på tre utvalde tiltak knytt til massifisering: 1) Innføring av læringsutbytteskildringar for emne og studieprogram, 2) «Arbeidslivspanel» - råd og utval for samarbeid mellom høgare utdanningsinstitusjonar og arbeidsliv, 3) Kriterium i kvalitetssikring av høgare utdanning. Prosjektet er eit komparativt casestudium av Noreg og Danmark, med vekt på teknologiutdanning. Eg er interessert i korleis desse tiltaka blir nytta i styringa av høgare utdanning i dei to landa og kva som kan forklara skilnadar mellom ordningane.

Delstudie 2 i prosjektet undersøker *arbeidslivspanel* i høgare utdanning. Både Danmark og Noreg har innført slike råd for samarbeid mellom høgare utdanning og arbeidsliv. I denne studien undersøker eg korleis arbeidslivspanel inngår i styringa av høgare utdanning i dei to landa. Eg er derfor interessert i korleis panela er organisert, kva oppgåver dei har og korleis dei påverkar høgare utdanning. Vidare er eg interessert i korleis ulike partar i styringssystemet og arbeidslivet forstår panela.

Kven er ansvarlege for forskingsprosjektet?

Ansvarleg for forskingsprosjektet er ph.d.-stipendiat Hanne Kvilhaugsvik, ved Institutt for administrasjon og organisasjonvitskap, Universitetet i Bergen. Ph.d.-prosjektet er eit universitetsstipend og er ikkje tilknytt eksterne oppdragsgivarar.

Kvifor får du spørsmål om å delta?

I samband med delstudie 2 om arbeidslivspanel tar eg kontakt med deg som er tilknytt [panel] ved [universitet] fordi eg ønsker di deltaking i studien.

Kva vil det seia for deg å delta i studien?

Viss du takkar ja til å delta i studien vil dette innebera eitt individuelt, halvstrukturert intervju med varigheit på omtrent éin time. Spørsmåla vil handle om arbeidet ditt knytt til [panelet]. Eg vil spør deg om arbeidslivspanel og samarbeid mellom høgare utdanning og arbeidsliv.

Intervjuet vil bli registrert med lydopptak. I tillegg vil eg notera stikkord under intervjuet. I delstudien kan det også vera aktuelt å intervjua andre medlemmer i [panelet], men det vil ikkje bli henta inn opplysningar om deg som prosjektdeltakar gjennom andre intervju eller frå andre kjelder.

1

Det er frivillig å delta

Det er frivillig å delta i studien. Viss du vel å delta, kan du når som helst trekka samtykket ditt utan å oppgi nokon grunn for det. Dersom du trekker deg, vil alle opplysningar om deg, opptak og ev. transkripsjon bli sletta.

Ditt personvern – korleis opplysningar om deg vil bli oppbevart og nytta i studien

I studien vil eg berre bruka opplysningar om deg til det føremålet som eg har skildra i dette skrivet. Opplysningane blir behandla konfidensielt og i samsvar med personvernregelverket.

Det er berre eg som vil ha tilgang til personopplysningane i løpet av prosjektperioden. Eg vil sjølv gjennomføra transkribering av intervjua. Rettleiarane mine vil få tilgang til anonymiserte og transkriberte versjonar av intervjua. Namnet ditt og kontaktopplysningar til deg vil bli erstatta med ein kode som eg lagrar på ei eiga namneliste separat frå resten av datamaterialet. Namnelista vil bli lagra i ei låst skuffe ved arbeidsplassen min som berre eg har nøklar til. Lydopptaka vil bli sletta etter at eg har transkribert intervjua. Transkripsjonane blir berre lagra og nytta på datamaskinar som er drifta av Universitetet i Bergen. Det er mogleg å be om innsyn i transkripsjonen.

I etterkant av transkriberinga vil eg senda deg sitata som eg ønsker å nytta i studien til gjennomsyn og for samtykke til bruk.

Denne delstudien vil bli publisert i form av ein artikkel og som del av den artikkelbaserte ph.d.-avhandlinga mi. Ettersom mykje av datamaterialet vil vere i form av intervju, vil sitat og opplysingar frå intervju bli nytta i publikasjon(ar). I materialet vil eg anonymisera deg til ein omtale som [leiar/sekretær/medlem] for/i [panel] ved [universitet]. Den nøyaktige omtalen av deg utformar eg i samråd med deg. Du vil dermed ikkje vera direkte identifiserbar i publikasjonen, men sitat frå intervjuet vil bli knytte til den anonymiserte omtalen av deg.

Kva skjer med opplysningane om deg etter at forskingsprosjektet er avslutta?

Doktorgradsprosjektet mitt skal etter planen vera avslutta i juli 2020. Ved prosjektslutt vil dei anonymiserte transkripsjonane bli oppbevart på datamaskin drifta av Universitetet i Bergen ettersom dette kan vera naudsynt for å etterprøva studien i samband med publisering av artiklar og innlevering av avhandlinga. Materialet vil ikkje nyttast til fleire studiar og publikasjonar enn dei som er skildra i dette informasjonsskrivet. Namnelista vil bli sletta etter at ph.d.-avhandlinga mi er forsvart.

Dine rettar

Så lenge du kan identifiserast i datamaterialet, har du rett til:

- innsyn i kva for personopplysningar som er registrert om deg,
- å få retta personopplysningar om deg,
- få sletta personopplysningar om deg,
- få utlevert ein kopi av dine personopplysningar (dataportabilitet), og
- å senda klage til personvernombodet eller Datatilsynet om handsaminga av dine personopplysningar.

Grunnlag for å handsama personopplysningar om deg

Personopplysningar om deg blir handsama basert på ditt samtykke til å delta i studien.

På oppdrag frå Universitetet i Bergen har NSD – Norsk senter for forskningsdata AS vurdert at handsaminga av personopplysningar i dette prosjektet er i samsvar med personvernregelverket.

Korleis kan eg finna ut meir?

Viss du har spørsmål om studien og deltaking, eller dersom du på eit tidspunkt ønsker å nytta deg av dine rettigheiter, ta kontakt med:

- Universitetet i Bergen ved Hanne Kvilhaugsvik, prosjektansvarleg. Du kan ta kontakt med meg på epost (hanne.kvilhaugsvik@uib.no) eller telefon: +47 55 58 28 82 / +47 99 48 72 31.
- Universitetet i Bergens personvernombud: Janecke Helene Veim, på epost (personvernombud@uib.no) eller telefon: 55 58 20 29.

Med vennleg helsing
Hanne Kvilhaugsvik
prosjektansvarleg

Samtykkeerklæring

Eg har mottatt informasjon om studien, og er villig til å delta i eit individuelt intervju som blir brukt i forskningsprosjektet «Kvalitet og relevans i høgare utdanning – nye styringsformer og koplingar til arbeidslivet?».

Eg har mottatt og forstått informasjon om prosjektet «Re-connecting to the Labor Market?» og har fått høve til å stilla spørsmål. Eg samtykkar til:

- ☐ å delta i intervju
- ☐ at opplysningar om meg kan publiserast i tråd med skildringa under «Ditt personvern» i dette informasjonsskrivet
- ☐ at opplysningar om meg kan lagrast etter prosjektslutt med tanke på å kunna etterprøva studien i samband med publisering av artiklar og ph.d.-avhandling

Eg samtykkar til at mine opplysningar blir handsama fram til prosjektet er avslutta, kring juli 2020.

(Signert av prosjektdeltaker, dato)

Intervjuguide for delstudie 2 om arbeidslivspanel

- Eksterne medlemmer av arbeidslivspanela

Aktuelle informantar:

- 1-2 eksterne medlemmer av arbeidslivspanela ved to utdanningsinstitusjonar i Danmark og Noreg. Dei eksterne medlemmene kjem frå bedrifter eller organisasjonar i regionen.

Intervjuguide

Bakgrunn

- Kan du fortelja litt om din eigen utdanningsbakgrunn?
- Kor lenge har du arbeidd i [organisasjon]?
- Kva arbeider du med i stillinga di?

Spesifikt om arbeidslivspanela

- Korleis blei du rekruttert som medlem av panelet? Kor lenge har du vore med?
- Kor mange møte har du deltatt på?
- Som eksternt medlem av panelet – vil du seia at du først og fremst representerer [organisasjon] eller først og fremst deg sjølv?
    - o Eller begge delar?
- Kan du fortella litt om korleis du synest det har vore å delta på møta?
- Kva tema har vore oppe til diskusjon i panel(a)?
- Danmark: Arbeidslivspanelet er knytt til ei bestemt utdanning. Kva synest du om innhaldet i denne utdanninga slik ho er no? Er det ting du og/eller [organisasjon] synest burde gjerast annleis i utdanninga? Har de diskutert dette i panelet?
- Noreg: Diskuterer panel(a) spørsmål som gjeld for spesifikke studieprogram eller er fokuset meir overordna?
- Kva oppfattar du som føremålet med arbeidslivspanel?
    - o Oppfattar du at det er semje om dette i panelet?
- På kva måte synest du og [organisasjon] at arbeidslivet og lokale bedrifter skal påverka utdanningstilbod?

Om organisasjonen si rolle

- Korleis arbeider [organisasjon] med arbeidslivspanel? Diskuterer du panelet sitt arbeid med andre i [organisasjon]?
- Har [organisasjon] noko anna samarbeid med denne utdanningsinstitusjonen?
- [Organisasjon] som arbeidsgivar: Har de tilsette som har utdanninga si frå utdanningsinstitusjonen der du no er medlem av arbeidslivspanel?
    - Danmark: Har de hatt studentar i praktik eller med studentjob?
- Blir panelet/panela nemnt i andre forum du deltar i, enten internt eller eksternt?

Utvikling av ordninga

- Korleis synest du ordninga med arbeidslivspanel fungerer i dag?
- Kjenner du til liknande ordningar, enten innanlands eller i andre land?
    - Kjenner du til ordninga i Danmark/Noreg? Er dette noko som har blitt diskutert hjå dykk?
- Har de diskusjonar i [organisasjon] om vidare utvikling av arbeidslivspanela?

Utvikling av ordninga

- Kjenner du til ordningar med arbeidslivspanel i andre land?
    - Kjenner du til ordninga i Danmark/Noreg? Er dette noko som har blitt diskutert hjå dykk?
- Har de diskusjonar om framtidig utvikling av ordninga?

Intervjuguide for delstudie 2 om arbeidslivspanel

- ## Universitet/høgskule

Aktuelle informantar:

- 1-2 tilsette frå to utvalde universitet/høgskular i eitt fylke/éin region i høvesvis Danmark og Noreg. Aktuelle informantar er tilsette som leier eller er kontaktperson for eit arbeidslivspanel ved sin utdanningsinstitusjon.

Intervjuguide

Bakgrunn

- Kor lenge har du arbeidd i [organisasjon]?
- Kva arbeider du med i stillinga di?
- Kan du fortelja litt om din eigen utdanningsbakgrunn?

Om organisasjonen si rolle

- Korleis forstår du [organisasjon] si rolle innanfor høgare utdanning?
- Korleis forstår du [organisasjon] si rolle med tanke på arbeidsliv og arbeidsmarknad?

Spesifikt om arbeidslivspanela

- Korleis arbeider [organisasjon] med arbeidslivspanel?
- Korleis er arbeidslivspanel organisert hjå dykk?
    - o Kvifor er denne organiseringa vald?
    - o Har det vore diskusjon om å oppretta liknande panel eller utval for spesifikke studieprogram?
- Kva oppfattar du som føremålet med arbeidslivspanel?
- Kva tema er oppe til diskusjon i panel(a)?
- Korleis rekrutterer de medlemmer til panel(a)?
- Har de interne medlemmer i panel(a)?
- Diskuterer panel(a) spørsmål som gjeld for spesifikke studieprogram eller er fokuset meir overordna?
- Blir panelet/panela nemnt i andre forum du deltar i, enten internt eller eksternt?
- Korleis synest du ordninga med arbeidslivspanel fungerer i dag?
    - o Korleis passar panela inn med andre råd og utval de har?
- Er organiseringa av panela eit tema de har diskutert?

- Noreg: Rapporten frå NIFU om Råd for samarbeid med arbeidslivet. Kjenner de til rapporten? Korleis blei han i så fall mottatt hos dykk?
- Har de kontakt med andre organisasjonar (for eksempel arbeidsgivarforeiningar, medlemsorganisasjonar, departement, universitet, høgskular) om panela?

Utvikling av ordninga

- Kjenner du til ordningar med arbeidslivspanel i andre land?
  - o Kjenner du til ordninga i Danmark/Noreg? Er dette noko som har blitt diskutert hjå dykk?
- Har de diskusjonar om framtidig utvikling av ordninga?

Intervjuguide for delstudie 2 og 3: Ekspertar på høgare utdanning

Aktuelle informantar: 1-2 ekspertar som har arbeidd med høgare utdanning i Noreg/Danmark. Informantane blir ikkje intervjua på vegne av ein organisasjon, men som ekspertar.

Ettersom ekspertane har ulik kompetanse og bakgrunn vil intervjua vera noko ulike. Intervjuguiden er derfor sett opp meir som ei temaliste for ei samtale enn som ei strukturert utspørjing.

Intervjuguide

- Kan du fortelja litt om din eigen bakgrunn innanfor høgare utdanning?
- Læringsutbytte i høgare utdanning
    o Omgrepet og når dette kom inn i høgare utdanning?
    o Korleis ser du på bruken av læringsutbytte i styring av høgare utdanning?

- Relevans i høgare utdanning
    o Endringar i forståinga av relevans i høgare utdanning?
    o Kva tenker du om forhaldet mellom relevans og masseutdanning?

- Arbeidslivspanel
    o Kva syn har du på denne ordninga?
- Samarbeid mellom høgare utdanning og arbeidsliv
    o Historisk utvikling av dette samarbeidet
    o Kva former for samarbeid ser du på som dei mest sentrale?

- Kvalitetssikring
    o 'Kvalitet' er eit omdiskutert omgrep, også innanfor høgare utdanning. Noko av kritikken er at ulike aktørar fyller omgrepet med ulik forståing. Kva tenker du om omgrepet og rolla det har fått i styring av høgare utdanning?
    o Generell tendens om overgang frå kvalitetssikring av studieprogram til institusjonar:
        ▪ Noreg: I Noreg er det gjerne tilsynet med kvalitetssikringssystem som er særleg sentralt. Kva trur du om dette?
            • Mange andre europeiske land har fokusert meir på kvalitetssikring av det einskilde studieprogram, men ikkje Noreg. Kva tenker du om dette?

- - - Danmark: Ein har vore gjennom ei stor overgang frå akkreditering av program og over til institusjonsakkreditering. Korleis forstår du denne overgangen?
    - Læringsutbytte og relevans som kriterium i kvalitetssikring
        - Når kom læringsutbytte og relevans inn som kriterium?
        - Korleis har ein forstått desse omgrepa?

- Utvikling i universitets- og høgskulesektoren:
    - Tilsyn og forvaltingsorgan: Kva tenker du om den framtidige utviklinga her? Ser du teikn til at me vil få fleire tilsyn eller at tilsyna vil få fleire oppgåver?
    - Noreg: Fleire skildrar ein overgang til eit einskapleg høgare utdanningssystem. Kva tenker du om dette?
    - Danmark: Dansk høgare utdanning blir gjerne skildra som binært og til og med tredelt. Kva tenker du om den vidare utviklinga av systemet?

Feedback on data management plan

Følgende vurdering er gitt:

Det er vår vurdering at behandlingen av personopplysninger i prosjektet vil være i samsvar med personvernlovgivningen så fremt den gjennomføres i tråd med det som er dokumentert i meldeskjemaet med vedlegg den 24.01.2019, samt i meldingsdialogen mellom innmelder og NSD. Behandlingen kan starte.

MELD ENDRINGER

Dersom behandlingen av personopplysninger endrer seg, kan det være nødvendig å melde dette til NSD ved å oppdatere meldeskjemaet. På våre nettsider informerer vi om hvilke endringer som må meldes. Vent på svar før endringer gjennomføres.

TYPE OPPLYSNINGER OG VARIGHET

Prosjektet vil behandle alminnelige kategorier av personopplysninger frem til 31.07.2020.

LOVLIG GRUNNLAG

Prosjektet vil innhente samtykke fra de registrerte til behandlingen av personopplysninger. Vår vurdering er at prosjektet legger opp til et samtykke i samsvar med kravene i art. 4 og 7, ved at det er en frivillig, spesifikk, informert og utvetydig bekreftelse som kan dokumenteres, og som den registrerte kan trekke tilbake. Lovlig grunnlag for behandlingen vil dermed være den registrertes samtykke, jf. personvernforordningen art. 6 nr. 1 bokstav a.

PERSONVERNPRINSIPPER

NSD vurderer at den planlagte behandlingen av personopplysninger vil følge prinsippene i personvernforordningen om:

- lovlighet, rettferdighet og åpenhet (art. 5.1 a), ved at de registrerte får tilfredsstillende informasjon om og samtykker til behandlingen

- formålsbegrensning (art. 5.1 b), ved at personopplysninger samles inn for spesifikke, uttrykkelig angitte og berettigede formål, og ikke behandles til nye, uforenlige formål

- dataminimering (art. 5.1 c), ved at det kun behandles opplysninger som er adekvate, relevante og nødvendige for formålet med prosjektet

- lagringsbegrensning (art. 5.1 e), ved at personopplysningene ikke lagres lenger enn nødvendig for å oppfylle formålet

DE REGISTRERTES RETTIGHETER

Så lenge de registrerte kan identifiseres i datamaterialet vil de ha følgende rettigheter: åpenhet (art. 12), informasjon (art. 13), innsyn (art. 15), retting (art. 16), sletting (art. 17), begrensning (art. 18), underretning (art. 19), dataportabilitet (art. 20).

NSD vurderer at informasjonen om behandlingen som de registrerte vil motta oppfyller lovens krav til form og innhold, jf. art. 12.1 og art. 13.

Vi minner om at hvis en registrert tar kontakt om sine rettigheter, har behandlingsansvarlig institusjon plikt til å svare innen en måned.

FØLG DIN INSTITUSJONS RETNINGSLINJER

NSD legger til grunn at behandlingen oppfyller kravene i personvernforordningen om riktighet (art. 5.1 d), integritet og konfidensialitet (art. 5.1. f) og sikkerhet (art. 32).

For å forsikre dere om at kravene oppfylles, må dere følge interne retningslinjer og/eller rådføre dere med behandlingsansvarlig institusjon.

OPPFØLGING AV PROSJEKTET

NSD vil følge opp ved planlagt avslutning for å avklare om behandlingen av personopplysningene er avsluttet.

Lykke til med prosjektet!

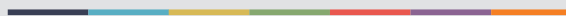Kontaktperson hos NSD: Marianne Høgetveit Myhren

Tlf. Personverntjenester: 55 58 21 17 (tast 1)

Feedback from the Norwegian centre for research data, 21 August 2020

NSD har mottatt bekreftelse på at prosjektet er avsluttet og at data enten er: permanent arkivert eller anonymisert eller slettet. Prosjektet er dermed registrert som avsluttet og NSD vil ikke foreta noen videre oppfølging.

uib.no