

EXCELLENCE IN HIGHER EDUCATION

INDIVIDUAL, ORGANISATIONAL AND SOCIETAL OUTCOMES
OF EXCELLENCE EDUCATION IN THE NETHERLANDS

Renze Kolster



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Renze Kolster

born on the 2nd of September, 1983

in Zeevang, the Netherlands

This dissertation has been approved by:

Supervisor
prof. dr. A. Need

Co-supervisor
dr. D.F. Westerheijden

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Chair / secretary: prof. dr. T. Bondarouk

Supervisor: prof. dr. A. Need
University of Twente

Co-supervisor: dr. D.F. Westerheijden
University of Twente

Committee Members: prof. dr. J.L. Herek
University of Twente

prof. dr. ir. M. Boon
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Chapter 1: Introduction Excellence Education in the Netherlands

Excellence education has emerged as an educational choice within Dutch higher education over the past decades. Yet, knowledge gaps with respect to the effects of excellence education remain. The goal of the research presented in this book is to contribute to our understanding of these effects, by analysing and discussing the by students and employers perceived effects of excellence education on individual level, and the by different stakeholders observed effects of excellence education on organisational level. To set the stage, this introductory chapter discusses how the emergence of excellence education is connected to broader trends in higher education and what is currently known about the effects it has on students and higher education institutions. Through this literature analysis, the knowledge gaps are specified, and research questions are constructed. To frame the research, this chapter also introduces concepts, theories, and an analytical framework.

1.1 Excellence in mass higher education

In the higher education discourse, excellence has become a common objective of (European) universities (Krücken & Meier, 2006; Ramirez & Tiplic, 2014). The term excellence is strongly connected to the research done at universities. Excellent research stands for the “creation of new, high-quality scientific and technical knowledge, its transmission to user communities, and the commercial exploitation of that knowledge” (Tijssen, 2003, p. 91-92). Many scientifically advanced countries (and others) have embraced the term, and see it reflected in science policies. For example, in relation to research funding and research quality assurance (Tijssen, 2003). Also in the field of education, excellence has become a term used in marketing (Osman, 2008), governance (Salmi, 2009), and in educational policies. With respect to the latter, there are examples where (aspects of) study programmes can be scored as excellent in quality assurance schemes (Brusoni, et al., 2014). Excellence in education is connected to “quality of teaching, the capabilities of students, the scale of resource provision and the level of student achievement” (Brusoni, et al., 2014, p. 9).

The excellence narrative has also found its way to learning and teaching in higher education (Van der Wende, 2014). Across (continental) Europe, higher education institutions have started to offer additional or more challenging education for a select group of high performing students. This education is usually called excellence education or honours education. However, the meaning of excellence education and how it has been put into practice varies per country (Wolfensberger, 2015).

Vertically differentiated higher education systems, as for example in France, the United Kingdom, and the United States, are seen as offering a form of excellence education. In France, the *Grandes Écoles* are elite academic institutions, which admit a select group of high performing students. These institutions are usually disciplinary oriented and small-scale. In the United Kingdom, specifically, the universities of Oxford and Cambridge come to mind. Higher education institutions in the United Kingdom use honours classes groups, which reflect study load and achieved grades.¹ In sum, these higher education institutions attract (and select) the best performing students, are known for their small-scale, intensive education, which is supported by tutors (Allen et al., 2015; see also for a more extensive international comparison).

The United States has several elite universities, similar to the United Kingdom and France. However, also other (not necessarily elite) universities offer a form of excellence education through small-scale honours programmes and honours colleges. Through this type of education, American higher education institutions aim to challenge and attract the most academic and intellectual capable students (Allen et al., 2015). In the United States honours programmes were introduced in the 1920s and honours colleges in the 1990s (Van Eijl, Wolfensberger, Schreve-Brinkman, & Pilot, 2007; Humphrey, 2008).

The further expansion of excellence education in the American higher education system, as observed by the rapid increase of honours programmes and colleges over the past ninety years (Carnicom, 2011), relates to the increased inflow of (more diverse) students, i.e., the massification of higher education. Massification is connected to the changing relation between higher education systems and society and the economy (Scott, 1998). Massification increased the financial dependence of universities on the state, which in return desired more accountability and alignment with political purposes. One of the political purposes was increased accessibility,

¹ See: <https://www.nuffic.nl/onderwijssystemen/verenigd-koninkrijk-engeland-wales-en-noord-ierland/beoordelingssystemen#anchor-heading-5308> (accessed 23-02-2022)

resulting in further growth of the student population, with more diverse backgrounds (e.g., social-economic, sex, nationality, age), prior education, interests, capacities, and future perspectives (Schofer & Meyer, 2005; Scott, 1998). Massification also impacted the shape and structure of higher education systems. New types of institutions were established (e.g., universities of applied sciences), creating different system dynamics (Scott, 1998). Higher education institutions becoming larger also required further professionalisation of the organisation, resulting in – for example – institution-wide strategies and educational policies (Scott, 1998). To facilitate the larger body of students, education was affected through the increased need for standardisation, optimisation and (external) validation of curricula (Scott, 1998).

Another response to the massification of higher education was diversification. Diversification is understood as: (1) systemic diversity, (2) structural diversity, (3) programmatic diversity, (4) procedural diversity, (5) reputation diversity, (6) constituent diversity, and (7) values and climate diversity (Teichler, 2008, p. 354 citing Birnbaum, 1983). In other words, in response to massification, (1) the types of higher education institutions changed (e.g., inclusion of universities of applied sciences), (2) the organisational structure of higher education institutions changed (e.g., inclusion of student representatives in governance bodies), (3) curricula changed (e.g., with a focus on professional skills), (4) modes of teaching changed (e.g., inclusion of educational models beyond the traditional lecturing by professors), (5) differences emerged in the (perceived) status and prestige of higher education institutions, (6) the types of students served changed, and (7) higher education institutions' culture and social environments changed.

Excellence education – in the sense of additional or more challenging education for selected students – can be seen as a movement to counter the effects of massification on education by contributing to the diversification of higher education. In this respect Carnicom (2011, p. 50) commented on the American context that “the massive expansion of our colleges and universities came at a cost, particularly for students of high ability.” With the high ability students and distinct type of education in mind, excellence education addresses diversification aspects 3, 4, 5, 6 and 7: excellence education has a distinct curricula, modes of teaching are usually different from what is used in ‘regular’ education, offering excellence education could impact the reputation of a higher education institutions, it is focused on high-ability students, and an institution's study culture could be affected.

Excellence education in the Netherlands was inspired by the American excellence education practice, in the sense of education where explicit attention is paid to capacities of students, to student achievement, and to providing tailored and challenging education of high quality. Three political and systemic developments can be linked to the emergence and development of excellence education in the Netherlands.

First, as part of the Bologna Process, the Dutch higher education system saw the introduction of the two-tier bachelor and master degree structure, in 2002 (Westerheijden, et al., 2008). The implementation of the new degree structure allowed for experimentation with educational content, methods, and structure (Westerheijden, et al., 2008; Snijder, 2016), also to address challenges stemming from massification and desire for diversification (Van der Wende, 2014).

Second, in 2007 the Dutch Minister of Education, Culture and Science in the (more or less) quadrennial strategic agenda for the first time explicitly mentioned excellence in education as a policy objective (Ministerie van Onderwijs, Cultuur en Wetenschap, 2007). The background for this objective was found in the need for excellence in education for further economic growth. It is argued that the basic or regular quality higher education is not sufficient for future growth. The labour market is said to be in need of excellent graduates to increase productivity. To achieve this, the Minister set the ambition to alter the existing study climate where a majority of students seem reluctant to do more than what is required to barely pass, and where part of the student population at both universities and universities of applied sciences do not feel challenged by their study programme. The Minister also argued that introducing excellence in higher education was needed for the international reputation of Dutch higher education and with that for the attractiveness of higher education institutions to appeal to talented prospective students from the Netherlands and from abroad. To meet the objective, the Minister aimed for a further differentiation of the higher education programme supply, thus creating more variety, allowing an increasingly diverse student population to find options that meet their increasingly diverse needs. Towards this end, the strategy document included the development of excellence education as an instrument. To encourage institutions to develop excellence education, the Sirius programme was introduced. The programme existed from 2008 to 2014 and provided 60 million Euro in subsidies to universities and universities of applied sciences to introduce or expand their excellence education offer to talented students on bachelor and master levels (Allen et al., 2015). The Sirius programme gave a boost to the spread of excellence education in Dutch higher education. Not least, because the institutions were encouraged to

share experiences and good practices through a dedicated network (the Sirius network) (Sirius Programma, 2015). By the end of the Sirius programme, all Dutch research universities and most universities of applied sciences offered a form of excellence education (Wolfensberger, 2015).

Third, in 2010, the Committee on the Future Sustainability of the Dutch Higher Education System (Commissie Veerman, 2010) recommended to improve the quality and diversity of Dutch higher education. These recommendations were addressed in the 2011 strategic agenda of the Dutch Minister of Education, Culture and Science (Ministerie van Onderwijs, Cultuur en Wetenschap, 2011). The agenda explicitly argued that more differentiation in form and level was needed, and to attain these more students should be enrolled in excellence education. Consequently, when, from 2013 to 2016, the funding of Dutch public higher education institutions became partly dependent on pre-set performance indicators, the performance agreements signed with each publicly funded higher education institution paid specific attention to each institution's ambition to raise the overall quality of education. In connection to the strategic agenda discussed above, specific attention was paid to initiatives that increased participation in excellence education. To monitor this, institutions had to set targets for students' participation in programmes that were developed through the Sirius subsidy, or with recognition of the Sirius network (De Boer et al., 2015). The inclusion of targets related to participation in excellence programmes provided higher education institutions with an incentive to enhance their offer.

Related to, but also influencing, the context described above, three initiatives to promote excellence in Dutch higher education emerged. First, education where selected students are challenged beyond what regular education offers, gained momentum by the establishment of the first University College in Utrecht in 1998 (Reumer & Van der Wende, 2010; Wolfensberger, Van Eijl & Pilot, 2012). The university college provides liberal arts and sciences education to students of above-average ability and with strong motivation.² Different from (most) regular higher education study programmes, the university college students are selected, thus increasing the degree of selectivity in Dutch higher education.³ The university col-

² See: <https://www.uu.nl/en/organisation/university-college-utrecht/about-us/history> (accessed 21-01-2022)

³ In 1975, selectivity in the Dutch higher education system was introduced by limiting the number of seats available for new students wishing to enroll in Medicine, Dentistry, and

leges aim to attract high-ability students by offering them a challenging, demanding, and inter, or multidisciplinary learning experience on bachelor level. To date, Dutch universities founded ten university colleges.

Second, in relation to the political desire for more excellence in higher education and the wish for further diversification of higher education, research masters were introduced in the Dutch higher education system in 2003 (Snijder, 2016). These research-oriented master programmes diverge from the (in most cases) one year (taught) master programmes by being two-year programmes (120 EC), by preparing students better for a career as a researcher (PhD being the next step), and by having a degree of selectivity in access to the programmes (both students and faculty) (Snijder, 2016).

Third, extra-curricular programmes were developed for selected students enrolled in regular study programmes, to offer them a more challenging learning experience. By and large, these programmes are called honours programme, talent programmes, 'plus' programmes, or excellence programmes. I collectively refer to these type of programmes as excellence education because this term covers the diversity in the types of programmes best. The first excellence programmes were established by Dutch universities in the 1990s (Wolfensberger, Van Eijl & Pilot, 2004).

Although excellence education in the form of additional education (e.g., honours programmes) has been put into practice differently by Dutch higher education institutions, it is possible to distinguish most commonly used design and organisational features. First, excellence education programmes typically have a study load of an additional 30 EC (i.e., half a year of effort), which students are to achieve in one to two years. Second, programmes can have a monodisciplinary (deepening learning experience), multidisciplinary (deepening or broadening learning experience) or interdisciplinary (broadening learning experience) orientation, of which the intended learning outcomes are not specified to the degree seen in courses in 'regular' study programmes. Through this set up honours students are offered opportunities to achieve learning outcomes that differ from those of other students in

Veterinary Medicine programmes. Selection was based on chance (prospective students entered in a lottery system). In 1999, the Numerus Fixus policy was altered to give prospective students with high secondary education grades a better chance to gain access. At the same time, higher education institutions were granted more autonomy to set their own selection criteria (e.g., motivation and personal circumstances) for a limited number of study programmes (including programmes of University Colleges). For a more detailed discussion on selectivity in Dutch higher education, see: van den Broek, de Korte, Mulder & Bendig-Jacobs, 2018.

the same courses – and which are tailored to their individual interests and talents. Consequently, curricula of excellence programmes are usually not standardised through fixed learning outcomes. Third, upon completion of the excellence education programme students are granted a certificate or are given a mark of distinction on their ‘regular’ degree certificate (i.e., bachelor and master). Fourth, excellence education is selective, thus admitting the most-motivated and best-performing students even in study programmes that have open access as their general rule. Interested students can apply with a motivation letter, followed in some cases by an interview, while proving that they are amongst the best-performing through submitting their grade point average (GPA) achieved in their regular study programme (e.g., GPA of the first year of their bachelor programme) (Jacobs, Leest, Huijts & Meng, 2021b). Fifth, there is a degree of selectivity for the teachers involved in excellence education. Usually, teachers with a strong track record in research or teaching are asked to contribute. Sixth, given the (usually) extra-curricular nature of excellence education, the programmes are often organised outside regular teaching hours (e.g., in the evening). Seventh, in the context of selectivity and providing students a personalised learning experience, under the guidance of renowned teachers, excellence education is by definition small-scale, thus serving a small part of the entire student population.⁴ Lastly, because of its extra-curricular nature, formal external quality assurance and internal examination committees usually have limited influence on excellence education.

The broad adoption of excellence education in the Netherlands is a practical outcome of a political desire to stimulate talented students to develop themselves (Snijder, 2016; Reumer & Van der Wende, 2010; Wolfensberger, 2015). However, education for a selected few talented students has been a paradigm shift in the egalitarian nature of Dutch higher education (Snijder, 2016; Van der Wende, 2011; Reumer & Van der Wende, 2010; Wolfensberger, et al., 2012), in which up till then all (prospective) students had to be offered equal opportunities, and in which higher education qualifications should have similar value on the labour market. In this context, institutions investing additional resources in students who are already performing well was a somewhat controversial innovation (Allen et al., 2015). The controversy also initiated a discussion on the appropriateness of the term of honours and excellence, as it implies a form of exclusion and exclusivity. In response, in the Minister’s 2015 strategic agenda, excellence programmes, honours programmes,

⁴ In 2015, most research universities had a participation in excellence education of approximately 8% of the student population (Higher Education and Research Review Committee, 2017). In 2018-2019, participation at universities was on average 10% (ResearchNed, 2020).

but also “other distinguishing programmes focused on community involvement, art, sport, crossovers and entrepreneurship”, are referred to as talent programmes (Ministerie van Onderwijs, Cultuur en Wetenschap, 2015, p. 24).

Irrespective of the debate around the impact on the egalitarian nature of Dutch higher education, it is fair to say that with most higher education institutions in the Netherlands offering a form of excellence education – even after the end of the national Sirius subsidy programme and the performance agreements – excellence education gained a prominent place in contemporary Dutch higher education system. Yet, to understand excellence education taking root, also the institutional and individual outcomes are to be considered.

Higher education institutions that organise excellence education invest additional resources into students that are already doing comparatively well (Allen et al., 2015). Part of the justification for this investment is that institutions claim that these investments contribute to the learning of all students (Van Eijl et al., 2003). Excellence education functioning as a testing ground for educational innovations is the assumed mechanism for the contribution towards the broader organisation (Wolfensberger, et al., 2004; 2012; ten Berge, Kool, Kragten & Ruepert, 2018; Enthoven, et al., 2016). By and large, the testing ground may have institutional benefits on three aspects. First, educational innovations (e.g., teaching methods, teaching content, or organisational aspects) may be diffused to the regular organisation. Second, having excellence education may impact the broader student population because it stimulates all students to strive for excellence (i.e., institutional culture of striving for excellence). Lastly, excellence education could impact the attractiveness of higher education institutions towards prospective students and teachers / academics (Van Eijl, et al., 2007; Wolfensberger, 2015).

As the counterpart of ‘at risk’ (i.e., performing below average, at risk of dropout, etc.) students, for whom additional (remedial) education and other forms of support to enhance their chances to complete higher education should be offered, excellence education – on an individual level – aims to offer an inspiring learning experience to students that want a challenge on top of their regular study programme (Wolfensberger, 2015). Excellence education is to give motivated and high achieving students an opportunity to further explore and develop their talents. Consequently, through excellence education students gain (disciplinary, multidisciplinary, or interdisciplinary) knowledge beyond their regular study programme, while gaining the opportunity to explore their talents and interests within this context. However, also beyond the content of excellence education, it also meant to provide students

the opportunity to distinguish themselves from others. This distinction, for example, may give students that have completed excellence education a better chance to enrol in prestigious master programmes at renowned higher education institutions, and it may give them benefits later on the labour market (Joosten, 2014; Wolfensberger, 2015; Ministerie van Onderwijs, Cultuur en Wetenschap, 2007).

The above links excellence education to employability. There are indications in the literature that link the increasing number of graduates active on competitive national and international labour markets (i.e., massification of higher education), to students' wanting – more than in the past – to acquire a profile that by the time they graduate distinguishes them from other graduates (Jones, 2013; King, Findlay & Ahrens, 2010). From this follows that excellence education may be one of the routes students choose to distinguish themselves. There are, however, more choices than excellence programmes that students can make during their studies, thus after the selection of a study programme and a higher education institution.

Focusing on the Netherlands, university students typically have five educational choices with which they can differentiate their graduate profile: choosing a differentiating minor or elective, following a summer school, gaining international experience through a study or an internship abroad, becoming a board member of a university related association (e.g., student society, study association, or student sport association), and participating in excellence education. Through these educational choices students may attain labour market signals, in addition to those offered by standard study programmes, thus giving them a potential advantage when applying for a job.

The participation in associations connected to Dutch higher education institutions as board members or as volunteers declined from approximately 39% in 2015-2016 to 30% in 2018-2019 (ResearchNed, 2020).⁵ The participation of university students in associations is higher than students in universities of applied sciences (37% of university students and 27% of university of applied sciences students participated in an association in 2018-2019) (ResearchNed, 2020).

Approximately 30% of students (in 2018-2019, 32% of university students and 29% of university of applied sciences students) in the Netherlands attain an international

⁵ Considering the potential delay in their overall study progress, the willingness to participate in associations may have been affected by the reform in Dutch student financing (since 2015, students can take out a government subsidised loan to fund their study and living expenses, whilst prior to 2015 students would also receive a basic monthly grant) (Caminada, 2020).

experience connected to their higher education (ResearchNed, 2020). Particularly, university master students attain such an experience (49% in 2018-2019).

Participation in excellence education between 2010 and 2019 has been rather stable (ResearchNed, 2020). Around 6% of the student population participated in a form of excellence education. Noticeable is that the participation of university students is higher than the average (10% in 2018-2019; *ibid.*).

Most study programmes offered by Dutch higher education institutions have a dedicated space in the curriculum (e.g., the first semester in the third year of bachelor programmes) in which students can opt for broadening of specialising education. For example, within this elective space students can choose to do courses from a different study programme or at a different higher education institution. An international experience, excellence education or board membership could also be one of the choices students can make within this period. Students' participation in minors depends to a large extent on how it is organised by higher education institutions. Even if minors are offered, the organisation may be different per faculty.

Outside of the regular curriculum, students can gain further knowledge and skills by following a summer (winter or autumn) school. Within this period, students do a course with a limited study load. Students may receive a certificate upon completion, but the extent to which the earned credits contribute to the regular study programme depends on students' higher education institution and the specific study programme. No information could be found on student participation in this educational choice.

Having discussed the context of excellence education in the Netherlands, the problem statement continues by analysing the previously existing literature on effects of excellence education on individual and institutional levels.

1.2 Outcomes of excellence education for students

Excellence education intends to offer talented students a challenging learning experience. However, how the challenging learning experience has been operationalised into actual education differs per higher education institution, or even per excellence programme (Allen, et al., 2015). Irrespective of its configuration, excellence education – like regular education – is to contribute to students' knowledge, skills, and attributes. Knowledge is what a person knows, skills are what a person is able to do, and attributes are qualities related to how a person is (e.g., resilience and persistence) (see Chapter 3 for more detailed definitions). The extent to which these individual effects of participation in excellence education are achieved can be

measured. Focusing on excellence education in the Netherlands, four studies were found that analyse excellence education in relation to students' knowledge, skills, and attributes.

First, Scager et al. (2012a), studied how honours students differ from non-honours students on self-reported intelligence, creative thinking, openness to experience, the desire to learn, persistence, and the drive to excel. A total of 1,109 students from one Dutch university participated in the study. Scager et al. (2021a) found that these attributes, except persistence, differed significantly between the two groups. Honours students in particular reported to be stronger on desire to learn, the drive to excel and creative thinking. Looking at the regular study discipline of the respondents, the researchers found substantial differences. Notably, compared to their non-honours peers, honours students with backgrounds in Law and Humanities had more drive to excel, Physics honours students were more eager to learn, and Liberal Arts and Sciences honours students performed better on creative thinking.

Second, a study by Kool, Mainhard, Jaarsma, van Beukelen, and Brekelmans (2017) analysed the learning effects of participating in excellence education. The study considered students' skills (through self-perceived ability) and attributes (perseverance, desire to learn, acquire, and develop competences and knowledge, performance orientation, intellectual curiosity, and self-efficacy). Using a longitudinal research design a group of 94 honours and non-honours students were followed. The study concluded that in a six-month period of participating in excellence education, no large overall learning effects on the measured skills and attributes were found.

Third, the evaluation study of the subsidy programme for excellence education (Sirius programme), Allen et al. (2015) examined learning effects of excellence education using (1) self-reported outcomes, (2) students' performance on a validated standardised test, (3) through a re-assessment of bachelor theses written by students, and (4) through qualitative focus groups. The quantitative part of the evaluation had 367 respondents (honours and non-honours students). Through the self-assessment, students were asked to reflect on their knowledge (i.e., insight into own discipline), skills (analytical and critical thinking ability, English proficiency, research skills, mathematical and statistical abilities, writing skills, presentation skills, interpersonal skills, leadership skills, intercultural skills, problem solving skills), and attributes (i.e., social responsibility, self-awareness and self-knowledge, accuracy, persistence, ambition, creativity, intrinsic motivation and extrinsic motivation). Honours students showed significant more growth in research skills, persistence, and writing skills. Yet, non-honours students reported significant more

growth on their mathematical and statistical abilities. Moreover, honours students were significantly more intrinsically motivated, while no differences were found on extrinsic motivation. The standardised test⁶ measured performance on several skills: critical thinking, reading, writing and quantitative reasoning. On these variables, the study found no systematic significant differences between honours and non-honours students.

Theses with which students completed their regular study programme were used in the same study by Allen et al. (2015) as a reflection of the academic level that students had achieved by the end of their study. Therefore, the researchers asked 30 experts to blindly reassess 60 theses written by honours and non-honours students and to evaluate them on items related to skills (as measured by showed competences) and attributes (related to task commitment aspects and creativity). This part of the study concluded that theses written by honours students scored significantly better on perseverance (part of task commitment), suggesting that the ambitions described in the theses of honours students are accomplished more often.

In the qualitative part of the evaluation study by Allen et al. (2015), honours students and non-honours students were asked to reflect on the outcomes of excellence education in focus groups. They reported gains related to knowledge (interdisciplinary insight) and skills (interview skills, presentation skills, academic writing, and research skills), and attributes (personal development through reflection).

The fourth study to investigate individual outcomes of excellence education was from Jacobs et al. (2021a). In this publication the authors reported the findings of a study looking into cognitive and non-cognitive skills gained by students participating in excellence education. This study aimed to address several limitations of a previous study (Allen et al., 2015) looking into individual effects of excellence education. Consequently, the study design was longitudinal (roughly two years between pre and post measure: at the start and around the end of the excellence programme), included cognitive and non cognitive measures, combined self-reported outcomes with objective performance measures, aimed to have a comparable control group, while having a sizeable sample. Jacobs et al. (2021a) measured students' growth on skills (critical thinking skills through the Watson-Glaser test⁷, creativity

⁶ ETS Proficiency Profile, see: <https://www.ets.org/proficiencyprofile/about> (accessed 19-01-2022)

⁷ The Watson-Glaser test uses 40 statements to test argumentation, assumptions, deductions, inferences and interpretations of texts (Watson & Glaser, 2010)

skills through the Alternate Uses Test⁸, leadership skills through self-assessment), attributes (self-reported political engagement), and attained grades (self reported and administrative data). The study included 1,049 students from five higher education institutions (two universities of applied sciences, three research universities). About half of the sampled students (559) completed both (t_0 and t_1) measurements. The researchers concluded that the sample attrition did not affect the outcome variables, though with a possible exception for the creativity measure. In conclusion, the researchers found that after participating in excellence education, honours students did not show significantly more growth on the measured skills and attributes than the control group of non-honours students.

Learning outcomes, however, may not be the only outcomes for students. As excellence education is additional education and leads in most cases to a distinct qualification (e.g., an honours degree), completion may give honours students an advantage when applying for graduate education or on the labour market (Allen et al., 2015). Focussing again on the Netherlands, one study was found that tracked higher education graduates with and without having followed excellence education. The study by Allen et al. (2015) found that (1) honours students – as compared to non-honours students – more often find work on the level of their studies, (2) honours students from research universities thought their job required a higher competence level, (3) honours students – as compared to non-honours students – more often chose to continue their education (e.g., a master programme), and (4) former honours students from universities of applied sciences (but not those from research universities) earned more than their counterparts that did not participate in excellence education. These outcomes were based on surveys that recent graduates filled out around a year and a half after graduating (around 16,000 respondents participated in the surveys).

Reflecting on the studies, I can make several observations. First, the extent to which students gain additional knowledge through excellence education has not been studied in detail in the context of the Dutch higher education system. Second, studies often rely on self reported outcomes to measure gained or trained knowledge, skills, and attributes. Third, excellence education may contribute to students' academic skills (e.g., research and writing skills). Yet, excellence education does not seem to affect students' critical thinking and creativity, even though these skills are often associated with excellence education (see Section 1.5). Fourth, it seems that a stronger motivation to learn and perseverance to complete tasks are attributes that

⁸ The Alternate Uses Test assesses how many alternate uses of common household objects can be listed (Guilford, 1967)

honours students more often possess as compared to non-honours students. Fifth, excellence education may contribute to students' future educational and professional careers.

1.3 Outcomes of excellence education for higher education institutions

Beyond the individual students' outcomes, excellence education is assumed to contribute to the entire higher education institution (Van Eijl, et al., 2003; Wolfensberger, et al., 2004; 2012; ten Berge, et al., 2018; Enthoven, et al., 2016; Otto & de Kruif, 2017). The mechanism for this contribution is that innovations, experiences, and competences developed in excellence education may be upscaled – or rather diffused – to the other parts of a higher education institution. In other words, excellence education can have a testing ground function. In fact, this function of excellence education was observed at 16 of the 25 (64%) analysed (most of the then existing) honours programmes in 2003 (Wolfensberger, et al., 2004). This finding suggests that the testing ground function has been present since the start of excellence education in the Netherlands.

Excellence education functioning as a testing ground would suggest that observable diffusion effects should be able to be found. However, actual diffusion effects of excellence education have not been studied in detail. One of few studies to investigate actual effects found that the testing ground of excellence education showed effects on course content, didactics / pedagogy, educational instruments, and curriculum design / structure of the programme (Wolfensberger, van Eijl & Pilot, 2003a; Wolfensberger, van Eijl, Cadée, Siesling, & Pilot, 2003b; Wolfensberger, et al., 2004). Wolfensberger suggested that these effects related to the disciplinary, interdisciplinary, or multidisciplinary focus of an honours programme. In particular disciplinary honours programmes were found to have a testing ground function.

Building on the finding that excellence education actually functions as a testing ground, six studies analysed factors that may support or limit excellence education's diffusion effects on regular education.

First, Van Eijl et al. (2003) studied how students', teachers', and policy makers' experiences attained in excellence education are diffused to regular education. They noted that teachers in excellence education remained involved in regular education, thus enabling them to diffuse their experience with teaching in a different way to a different target group. The study also found that policy makers use their experiences with governing excellence education in regular education. The guiding role

of a liberal arts university college in the transition of the university to bachelor and master degrees (i.e., the first major requirement of the Bologna process), was mentioned as a key example.

Second, Wolfensberger, et al. (2003a) and Wolfensberger, et al. (2004) found five factors that supported diffusion effects: (1) disciplinary orientation of the honours programme, (2) recognition as a testing ground, (3) intrinsic motivation of participating students, (4) selection of participating students, and (5) development and evaluation of educational innovations.

Third, based on an inventory of all excellence programmes provided by Dutch research universities in 2010, combined with a literature study and an unspecified number of interviews, a study in 2012 reviewed characteristics of excellence programmes and how these relate to the spin-off function of excellence education.⁹ The researchers recognised the following aspects of honours programme as important for their spin-off effects on regular programmes: (1) inclusion of innovation in the programmatic mission, (2) intellectual quality and passion that create appeal for students, (3) selection process (including self-selection) that creates a safe learning environment in which experimentation can take place, (4) quality and dynamism of educational innovations, and (5) long-term impacts on national educational policy (Wolfensberger, et al., 2012, p. 164-165).

Fourth, studying factors that stimulate transfer of innovations developed in excellence education at a university of applied sciences, Griffioen, Doppenberg, Enthoven, and Oostdam (2016), found that the following factors limited diffusion: (1) innovations where students have a high degree of contact with teachers (i.e., not upscalable), (2) curricula of regular programmes are not flexible, (3) organisational structure of regular education is not flexible, and (4) regular education is highly standardised. As part of this study, 18 teachers involved in excellence programmes at the case study institution were interviewed.

Fifth, through ten interviews with the leadership and coordinators of honours programmes, as well as with honours teachers at a Dutch research university, Otto, de Jong, and Zunderdorp (2018) studied factors that support the transfer of innovations originating from excellence education. The found factors included: (1) the degree to which an innovation solves an existing problem, (2) the degree to which financial

⁹ The following characteristics were reviewed: “target group, educational methods, subjects, selection and admission procedures, duration, assessment, recognition, awards, and the innovation function” (Wolfensberger, et al., 2012, p. 153).

and practical aspects facilitate the implementation of the innovation in regular education, and (3) a supportive culture of innovation within the higher education institution is beneficial. Yet, transfer does not only depend on the innovation and the broader match within the organisation. The innovator (the teacher) is, according to the researchers, also a factor. Their thesis is that teachers with a larger professional network have more success in diffusing innovations within the broader organisation (Otto et al., 2018).

Lastly, Otto & de Kruif (2017) argue – based on a meeting with 36 experts on excellence education – that three aspects of excellence education are to be addressed to be able to promote the diffusion of innovations: (1) the need for a safe environment in the classroom, (2) the need to establish communities of teachers, and (3) the need for institutional support (Otto & de Kruif, 2017).

Table 1.1 clusters the factors that were found in these studies in broader categories that relate to individual aspects (teachers, policy makers, students), how excellence education has been set up and organised, the type of innovations that are developed, the programmes and organisation to which or in which innovations are diffused, and contextual factors.

The functioning of excellence education as a testing ground for educational innovations is the conceptual mechanism that allows excellence education to contribute to the entire higher education institution. The literature offers some evidence for excellence education actually fulfilling this function. However, studies that aim to observe actual outcomes appear to be scarcer than studies looking into factors that may support or limit the diffusion that results from the testing ground. The latter studies often have the assumption that diffusion happens. Moreover, the literature is often based on experiences found in a single case study, gathered through qualitative methods (often a relatively small number of interviewees). This limitation impacts the external validity of the conclusions. Observable is also that the excellence education literature rarely reflects on the broader body of literature on innovations in higher education (Otto & de Kruif, 2017). Likewise, the role of policy mechanisms to stimulate (or limit) diffusion is often not addressed (Otto et al., 2018).

Table 1.1: Clustering of factors that contribute to diffusion of innovations originating in excellence education

Cluster	Factor
Teachers	<ul style="list-style-type: none"> ▪ Teachers in excellence education remain involved in regular education (Van Eijl et al., 2003) ▪ Teachers have a large network (Otto et al., 2018) ▪ Existence of communities of teachers (Otto & de Kruif, 2017)
Policy makers in the institution	<ul style="list-style-type: none"> ▪ Policy makers are involved in excellence education and regular education (Van Eijl et al., 2003)
Students	<ul style="list-style-type: none"> ▪ Intrinsic motivation of participating students (Wolfensberger, et al., 2003a; Wolfensberger, et al., 2004) ▪ Selection of participating students (Wolfensberger, et al., 2003a; Wolfensberger, et al., 2004; Wolfensberger, et al., 2012).
Organisation of excellence education	<ul style="list-style-type: none"> ▪ Disciplinary orientation of the honours programme (Wolfensberger, et al., 2003a; Wolfensberger, et al., 2004) ▪ Recognition as a testing ground (Wolfensberger, et al., 2003a; Wolfensberger, et al., 2004) ▪ Inclusion of innovation in the programmatic mission (Wolfensberger, et al., 2012) ▪ Monitoring of development and evaluation of educational innovations (Wolfensberger, et al., 2003a; Wolfensberger, et al., 2004) ▪ Intellectual quality and passion that create appeal for students (Wolfensberger, et al., 2012) ▪ Degree to which excellence education offers a safe environment in the classroom (Otto & de Kruif, 2017)
Characteristics of innovation	<ul style="list-style-type: none"> ▪ Quality and dynamism of educational innovations (Wolfensberger, et al., 2012) ▪ Innovations that facilitate students to have an increased contact with teachers (Griffioen et al., 2016) ▪ The degree to which an innovation solved as existing problem (Otto et al., 2018)
Regular education / regular institution	<ul style="list-style-type: none"> ▪ Flexibility of regular programme curricula (Griffioen et al., 2016) ▪ Flexibility of organisational structure of regular education (Griffioen et al., 2016) ▪ Degree of standardisation of regular education (Griffioen et al., 2016) ▪ Degree to which financial and practical aspects facilitate the implementation of innovations in regular education (Otto et al., 2018) ▪ Supportive culture of innovation within the higher education institution is beneficial (Otto et al., 2018) ▪ Offered institutional support (Otto & de Kruif, 2017)

1.4 Knowledge gaps, research questions and relevance

Having described the literature on outcomes of excellence education for individuals and for institutions, knowledge gaps can be identified. Starting with the individual perspective, I found that there is empirical knowledge about the learning outcomes of excellence education. These outcomes mainly cover attributes of participating students (e.g., stronger motivation to learn and perseverance in or dedication for tasks). There is some insight into the skills developed (i.e., mainly academic skills), but not much on attained knowledge.

Looking beyond the learning outcomes, the impact of having participated in excellence education has not been studied in detail. This applies to objective or factual data on outcomes. Similarly, by students perceived impacts have not been extensively studied (Jacobs et al., 2021a). Moreover, there are few relevant national and international studies that investigated perceptions of employers on graduates' employability (Roulin & Bangerter, 2013; Igarashi & Saito, 2014; Tchibozo, 2007; Bakker, Hondema, van der Lans, Stevens & Zanders, 2012; Souto-Otero & Shields, 2016; Di Stasio, 2017; Di Stasio, 2014). This also applies to employability perceptions and actual outcomes of excellence education. One study investigated the objective labour market benefits of having participated in excellence education (Allen, et al., 2015). Yet, a knowledge gap – both for perceived and factual benefits – is that employment benefits of excellence education have not been comprehensively compared to (and contrasted with) other education choices (e.g., studying abroad or becoming a board member of a student association) students can make during their studies (Allen, et al., 2015). Furthermore, the studies that look into individual outcomes of excellence education often do not reflect on the mechanisms behind the outcomes. More specifically, through which mechanisms (e.g., knowledge, skills, attributes, credentials) do students who have completed excellence education gain employability? In sum, with respect to individual outcomes of excellence education there is an empirical and theoretical gap in terms of the employability outcomes.

The outcomes of excellence education on the institution – particularly focusing on the testing ground function of excellence education – are studied to some extent. Particular attention has been paid to factors that may support or, on the contrary, limit diffusion of innovations that result from the testing ground. Yet, the institutional policy and management perspective as a factor in the diffusion has not been sufficiently addressed (Otto et al., 2018). Insight into actual outcomes of excellence education on the institution as a whole (i.e., which innovations or effects have been

diffused?) also remains limited. As Wolfensberger et al. (2003a) observed two decades ago, more research is needed into the nature and size of diffusion effects. Reflecting on the literature, excellence education as a testing ground is rarely connected to broader literature on innovation in higher education, diffusion of innovations in public organisations, and organisational learning.

Filling these knowledge gaps has scientific and societal relevance. The scientific relevance relates to: (1) increased understanding of the mechanisms underlying individual and organisational outcomes of excellence education, and (2) gaining insight into (non-cognitive) outcomes of excellence education. The societal relevance of filling the knowledge gaps relates to optimisation of individual choices and organisational efficiency. Higher education requires substantial investments from individuals and society. From a personal development perspective as well as from an efficiency point of view, it is important to know the expected outcomes of excellence education on graduates' employability – also compared to competing choices that can be made. This knowledge can contribute to students making better-informed choices. That said, I recognise that employability may be only one of the (expected) outcomes in students' considerations. Their choices may also fulfil other functions. For students these could, for example, be related to intrinsic interest or wanting to be part of a community. From an organisational efficiency perspective, part of higher education institutions' justification to offer excellence education is that it is beneficial for the whole student population and for the whole organisation. Consequently, while excellence education itself is offered to a limited number of students, through diffusion effects the whole institution (community and organisation) benefits. For example, diffused innovations may enhance the quality of regular study programmes, or having excellence education may make the institution more attractive to prospective students. Yet, the extent to which this justification is valid, and through which policy measures the functioning can be improved, is largely unknown. It is, nonetheless, from a societal perspective, important to know because higher education institutions invest substantial public (and by students, private) resources to offer (and follow) excellence education. Insight into the efficiency of excellence education may contribute to optimisation of why and how excellence education is offered by and integrated within higher education institutions.

Considering the knowledge gaps with respect to individual and organisational outcomes of excellence education – and the relevance to fill these gaps, this dissertation has four research questions. The first two relate to individual (preferred) outcomes of excellence education, and the last two focus on organisational outcomes of excellence education.

1. Which type of honours students prefers which configuration of honours programmes?

This question investigates preferred configurations of excellence education, and the underlying motivations for students' participation in excellence education (*i.a.* preferred outcomes).

2. To what extent are international experiences, excellence education, and board membership considered signals of skills, attributes, or credentials in recruitment considerations of recruitment officers of employers?

This question compares excellence education to other educational choices, while more insight into the theoretical mechanisms contribution to employability benefits are gained. The comparison of excellence education to other educational choices is a novelty and adds to the validity of the study's outcomes.

3. To what extent are the testing grounds formed by excellence education in five Dutch higher education institutions, structural ambidextrous explorative units that create educational innovations?
4. What are the diffusional effects, and its preceding processes, resulting from excellence education at five Dutch higher education institutions?

With respect to the questions on organisational outcomes, particularly addressed are the existing knowledge gaps in empirically studying actual diffusion effects and the role of organisational and policies in these effects. Moreover, the inclusion of multiple case study institutions overcomes some of the methodological limitations of the present literature on organisational outcomes.

1.5 Conceptual aspects of excellence education's outcomes

Following the problem statement and knowledge gaps that have been identified, concepts relevant to studying outcomes of excellent education are discussed. I discuss concepts, theories, and effects in connection to their specific research question, and bring them together in an analytical framework. Note that the conceptual aspects are discussed in more detail in the following chapters of this dissertation.

1.5.1 Typification of honours students

In the context of a diverse student population, it is relevant to conceptualise the characteristics of students that excellence education aims to serve. The student body forms the input into excellence education and is therefore of relevance when discussing individual outcomes. The literature on excellence education (e.g., Kool et

al., 2017; Wolfensberger, et al., 2004; Griffioen, et al., 2018) often refers to Renzulli's (1978) three-ring conception of giftedness when discussing characteristics of honours students. Renzulli (1978, p. 185) argues that "Giftedness consists of an interaction among three basic clusters of human traits — these clusters being above-average general abilities, high levels of task commitment, and high levels of creativity". Above-average ability covers skills such as analytical and critical thinking, but also (prior) academic achievements as an indication of the above-average ability. Creativity concerns originality in thinking and in the used approaches. Task commitment includes engagement in a subject and attributes such as perseverance, motivation, and ambition. Operationalisations of these characteristics, for example grade-point averages as an indication for above-average ability, are used when selecting students for excellence education (Jacobs, et al., 2021b).

A recent conception of student excellence, specifically developed with excellence education in higher education in mind, suggests that there are different interpretations amongst students and teacher of who is an excellent student, what excellence of students is, why evoking excellence of students is necessary, and how excellence of students can be evoked (De Jong, et al., 2021). Focusing on who is an excellent student, the authors argue that there are inclusive and exclusive views on excellence. The inclusive view holds that all students can strive for excellence. The exclusive view argues that not every student can attain excellence. Related to who is excellent, the authors consider a student's potential and the student's performance. A student's potential in terms of abilities and intelligence can be viewed as malleable and changeable (i.e., inclusive) or fixed and unchangeable (exclusive). Performance can be regarded from an individual perspective, meaning that a student is performing better than before, thus linking excellence to development (i.e., inclusive). Conversely, performance can be viewed in relation to others, suggesting that to determine who is excellent, performances of other students are also to be considered. This exclusive view considers student excellence as being the best as compared to others (De Jong, et al., 2021). The conflicting interpretations of student excellence implies that excellence is in the eye of the beholder. In other words, there is not a single definition consisting of individual characteristics that allows for a comprehensively accepted typification of honours students.

1.5.2 Individual outcomes of excellence education

In this dissertation I focus on perceptions of students and employers of the employability gained through excellence education. Therefore, I must consider the concept of employability and the theoretical mechanisms that may contribute to graduates' employability.

Vossensteyn, et al. (2018) observed that the relevance of higher education is partly determined by the extent to which it enables students to find and remain in employment after graduation. Arguably this function of higher education has become increasingly important because of two reasons. First, knowledge-intensive and innovation-driven economies, require a highly skilled workforce (World Economic Forum, 2009; Harvey, 2000; Tymon, 2013; Andrews & Higson, 2008; Moreau & Leathwood, 2006). Second, through the massification of higher education (Trow, 1974; Schofer & Meyer, 2005; Scott, 1998), universities have seen their student population grow in number, while students' backgrounds (e.g., social-economic, nationality, age), prior education, interests, capacities, and future perspectives are increasingly diverse.

Employability has been extensively discussed in academic literature (Yorke, 2006; Grip, Loo & Sanders, 2004; Williams, Dodd, Steele & Randall, 2016), and is connected to the individual and societal relevance of higher education (Glass, 2013; Vossensteyn, et al., 2018). As a concept, employability has become increasingly connected to higher education policies since the 1980s. The development coincides with increased pressure on higher education to meet the needs of the economy (Harvey, 2000; Tymon, 2013; Andrews & Higson, 2008; Moreau & Leathwood, 2006; Scott, 1998). In this respect, Boden & Nedeva (2010, p. 38) comment that "in many contemporary neoliberal states the long-standing contributions of universities to the development of citizens' knowledge and skills have been re-badged as 'employability'." Likewise, they argue that the neoliberal rationales justify governments interventions in higher education, particularly to align curricula closer to the needs of employers. This is a clear sign that higher education institutions are expected to become more responsible for preparing graduates for their professional career (Boden & Nedeva, 2010; Tymon, 2013). At the same time it is an indication that the concept of employability is linked to a neoliberal view on education (Tight, 2019).

Several public policies have been connected to graduate employability. Perhaps most well-known are quality assurance regulations that encourage higher education institutions to establish formal links between curricula and the labour market (Kolster & Westerheijden, 2014). Links between funding of institutions and employability are also made, particularly through performance funding (De Boer, et al., 2015). On European level, the desired link was highlighted in the Bologna Declaration, which states that "The degree awarded after the first cycle shall also be relevant to the European labour market as an appropriate level of qualification" (The European Higher Education Area, 1999, p. 2, also Teichler, 2011). The Declaration also connects the Diploma Supplement, which was to be introduced, to employability. The supplement was to "promote European citizens employability and

the international competitiveness of the European higher education system” (The European Higher Education Area, 1999, p. 3). To investigate progress on these objectives, the Bologna follow up processes included data on the percentages of first cycle (i.e., bachelor) graduates that continue their education in the second cycle (i.e., master), and the percentage of graduates that do not. The latter could give an indication of the labour market relevance of the first cycle degree (see e.g.: European Commission/EACEA/Eurydice, 2018, p. 99).

Reflecting the focus of higher education’s impact on the labour market, statistics on graduate employment are collected by (national) statistics agencies, associations of universities, and higher education institutions themselves. On European level, Eurostat collects data on employment rates of recent graduates (aged 20-34, not in education and training). In the EU the average employment rate was 83.7% (in 2020).¹⁰ Comparatively, the Netherlands has the highest tertiary education employment rate (94.5%, Czechia, Sweden, Austria, Germany, Malta also have >90% employment rates).

Besides employment rates, common indicators to measure graduates’ employability are time to employment, degree to which the found employment is in line with study discipline and level, salary, and type of employment contract. In the Netherlands, data on these indicators are collected through graduate surveys (roughly held 1.5 years after graduation). The most recent outcomes are shown in Table 1.2.

Within a framework set by governmental regulations and policies, the design of curricula is (largely) up to higher education institutions. And also here links to employability can be made. Curricula may include elements that provide students with knowledge, skills, attributes, and qualifications (e.g., certificates and degrees). Likewise, higher education institutions can facilitate the transition to the labour market, for example by organising networking events, excursions, and job-market fairs (Kolster & Westerheijden, 2014).¹¹

¹⁰ See: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Employment_rates_of_recent_graduates (accessed 11-04-2022).

¹¹ The Dutch law on higher education and scientific research (Wet op het hoger onderwijs en wetenschappelijk onderzoek), explicitly requires study programmes offered by Universities of Applied Sciences to be relevant to the world of work (Artikel 1.3 lid 3 WHW). Dutch Universities are to offer academically oriented study programmes.

Table 1.2: Outcomes on employment indicators from Dutch graduate surveys (sources: National Alumni Survey and HBO-monitor). Note that the surveys operationalise employment indicators differently.

	University graduates (full-time master programme), 2019¹²	University of applied sciences graduates, 2021¹³
Time to employment	2.5 months	0 months: 80% >3 months: 12%
Found employment is inline with study discipline and level	57.1%	In line with study discipline: 76% In line with level: 79% (hbo-bachelor)
Salary (gross, monthly, full-time)	€ 3,123	€ 2,533
Type of employment contract	Permanent (fixed) contract: 46.7% Temporary contract, with outlook on permanent contract: 36.1% Temporary contract, without outlook on permanent contract: 21.7%	Permanent (fixed) contract: 56%

Employment-oriented higher education policies proceed from the assumption that employment outcomes are a direct result of efforts of higher education institutions. However, this contrasts with the narrative, propounded at the same time, that individuals are responsible for their own employability (Harvey, 2001). Indeed, largely outside the scope of higher education institutions, yet relevant for their employability, are students' previous (educational and work) experience, their off-campus extra-curricular activities, their career intentions, and their networks (Harvey, 2001). Consequently, employability is also developed outside higher education, e.g., through student jobs (i.e., non-formally, before or during their studies) and after graduation (e.g., while in employment) (Mason, Williams & Cranmer, 2009; Knight & Yorke, 2003). Moreover, research shows that employers do not "expect

¹² Statistics based on the National Alumni Survey from the Universities of the Netherlands, see: <https://www.universiteitenvannederland.nl/nae.html> (accessed 11-04-2022).

¹³ Statistics based on the HBO-monitor, from the Netherlands Association of Universities of Applied Sciences, see: <https://www.hbomonitor.nl/nl/resultaten> (accessed 11-04-2022).

higher education to turn out a finished product” (De Weert, 2007, p. 244). Therefore, while policy instruments tend to focus on either higher education institutions or students separately, employability could be seen as a characteristic developed by both in interaction.

Although the effectiveness of instilling relevant employability skills within classrooms is questioned (Cranmer, 2006), higher education institutions – steered through national policy instruments – still strive to do so. The way in which higher education institutions, in particular universities of applied sciences, do so has been researched by Kolster & Westerheijden (2014). They observe that higher education institutions and the study programmes that are offered can adopt strategic approaches that are thought to contribute to students’ employability. These are related to (Kolster & Westerheijden, 2014, p. 3):

- Broadening: e.g., inclusion of more general and transferable competences in terms of knowledge, skills, and attitudes.
- Specialising: e.g., offering elective specialisation modules.
- Academic orientation: e.g., inclusion of more academic competences
- Professional orientation: e.g., inclusion of more vocational competences
- Geographical (regional, national, or international) orientation: e.g., if regional employment perspectives were poor, attention in the input and process phases could shift to national or international employability.

Depending on how excellence education is designed by institutions, faculties or study programmes, the introduction of excellence education can be seen as broadening or specialising education, while at the same time it can affect the academic or professional orientation. Other educational choices can also be seen in this light (e.g., studying abroad). Yet, the impact on the entire curriculum should not be overstated because the number of activities higher education institutions can organise and students can undertake outside of curricula is finite. Likewise, space within curricula is limited too: not everything can be included in a 180 or 240 ECTS bachelor programme (Kolster & Westerheijden, 2014). For this reason, higher education institutions and students are to consider the balance between activities that could enhance employability carefully.

From the discussion above we may conclude that a broad range of factors are to be considered when defining employability. For this reason, the term employability has been used in a broad variety of ways, resulting in a variety of definitions of employability. (Forrier & Sels, 2003; Cranmer, 2006). By and large, the employability definitions can be grouped into three categories. First, a core definition which

holds that employability is determined by individual capacities. Second, a broader definition, which besides individual capacities includes willingness (i.e., motivation) to be successful on the labour market. Neither the core nor the broader definition incorporate external factors. However, as argued by, *inter alia*, Yorke (2006), Brown, Hesketh, & Williams (2003) and McQuaid, & Lindsay (2005), external factors, such as labour market conditions – the demand side – influence graduates' employability. More specifically, they argue that the concept of employability needs to extend beyond individual factors, thus also incorporating personal circumstances (e.g., childcare and transport availability) and external factors (e.g., supply of jobs in the region) (McQuaid, & Lindsay, 2005). Third, all-embracing definitions take outcomes of employability into account (Mommers, Künn & van Eldert, 2017). While Hillage and Polland (1998) see the outcomes as finding, maintaining, and obtaining new employment, Yorke (2006) connects employability also to employment that is beneficial to the applicant, the workforce, the community, and the economy. Hence, the third category of employability definitions, not only considers gaining employment, but also favourable aspects of the gained employment for the individual and the collective.

It is apparent that the employability concept is multidimensional (Pinto & Ramalheira, 2017). Not only is employability determined by individual factors, such as knowledge, skills, and attributes, but also by external factors, meaning the conditions of the labour market and the (local) economies they serve. Likewise, it is multidimensional in the expected outcome: employment (i.e., finding any job), relevant employment (e.g., match between field of study and job) and employment that is beneficial to the individual as well as to the collective.

Skills are fundamental to employability. In this respect, scholars distinguish a wide variety of skills. For example, key, core, hard, soft, generic, personal, transferable, work/employment related, process, and traditional intellectual skills (Boden & Nedeva, 2010; Knight & Yorke, 2001; Mason, et al., 2009; Andrews & Higson, 2008). A structured attempt to unravel the skills that make students employable was undertaken by Dacre Pool & Sewell (2007). They observed five elements of employability: employability assets (knowledge, skills, attitudes), deployment (career management skills, job search skills), presentation (job getting skills, cv writing, interview techniques), personal circumstances (family responsibilities, having to take care of someone), and external factors (state of the labour market).

The dynamics of what it means to be employable fit with observations of changes in labour markets in contemporary western societies (Fugate, Kinicki, and Ash-

forth, 2004; Tymon, 2013; De Weert, 2007; Little, 2001; Grip, et al., 2004; Bernstson, Sverke & Marklund, 2006; McArdle, Waters, Briscoe, & Hall, 2007). Observed changes with respect to employment and employability include:

- Employees have more employers in a lifetime.
- Lines between private life and work are increasingly blurred.
- Employing organisations are in an almost continuous state of restructuring or reorganisation, resulting in job change, job loss, stress, and making job security increasingly harder to attain.
- Employees are expected to have a high degree of adaptability and flexibility to adjust to new contexts and new technologies, to have a high degree of interpersonal abilities, and to have the ability to work in (diverse) project teams.
- Modern employees are expected to be confident and optimistic. Similarly, they are expected to anticipate organisational change proactively, and are expected to work as agents for improvement in their own work situation and job security.

An academic understanding of graduates' employability also requires a theoretical understanding of what makes graduates employable. In this respect the main – not necessarily conflicting theories – are human capital theory (Becker, 1964, Mincer 1958), signaling/screening (Spence, 1973; Stiglitz, 1975; Arrow, 1973), and credentialism (Collins, 1979). Summarising briefly, human capital theory claims that knowledge, skills, and attitudes gained through higher education enhance the productivity and therefore the attractiveness of graduates for employers (i.e., employability). Signalling theory suggests that educational achievements as well as other personal background factors may be used to signal graduates' ability to employers, and that employers screen applicants based on such signals. Credentialism proposes that the hard credentials gained through higher education (e.g., bachelor and master degrees, diplomas, additional badges, or certificates) matter for gaining employment, rather than the educational content. Likewise, social credentials in the form of social and cultural capital are argued to play a role in students' transition to the world of work. For example, in the networks students possess (social capital) and the customs and conventions they have been broad and grown up with (cultural capital) (Tomlinson, 2012; Greenbank, 2007; Williams et al., 2016).

Although a broad range of studies contributed to the topic, which theoretical perspective explains graduates' employability most accurately remains unclear (see Chapter 3 for a more detailed discussion). A general conclusion is that all theories

have merit, depending on the focus and context of the research question on which the theories are applied.

1.5.3 Organisational outcomes of excellence education

Organisational outcomes can be studied by conceptualising excellence education as part of an innovation cycle that impacts the higher education institution. The innovation cycle is visualised in Figure 1.1. The grey area in the figure represents excellence education as a testing ground for education innovations. The green area represents the organisation as a whole, including regular education, where diffusion effects and the processes leading up to diffusion take place. The concepts, mechanism and effects included in the figure will be discussed in this section.

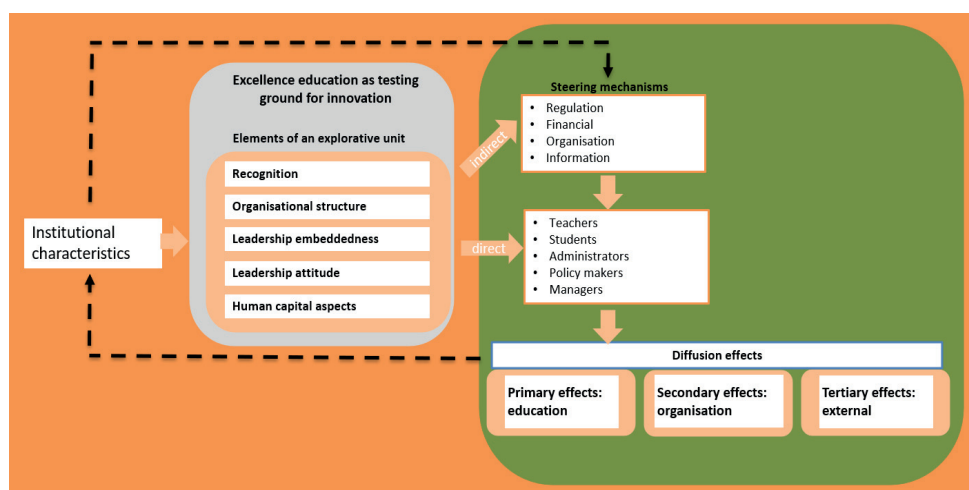


Figure 1.1: Analytical framework of the innovation cycle emerging from excellence education

Excellence education is assumed to be a testing ground for innovations. A testing ground is a unit within an organisation that is given autonomy to experiment with all aspects of the primary process. The experimentation can result in innovations. In the context of higher education, Brennan, et al. (2014, p. 4) defines innovation as a “new or significantly improved product, process, organisational method or an organisation itself developed by or having a significant impact on the activities of a higher education institution and/or other higher education stakeholders”. To make it more practical, within excellence programmes coordinators can organise education differently as compared to regular (curricular) education, for example by experimenting with student-driven approaches, in which students partly decide what to learn. If this innovation is thought to be beneficial, it may be diffused to (parts of) the whole institution.

Framing excellence education as an explorative unit within an organisation is derived from the literature on organisational ambidexterity. March (1991) proposed that organisational learning, and with that part of the organisation's performance and competitiveness, consists of exploitative and explorative activities (Kang & Snell, 2009; Phairah, 2019). Exploitation refers to incremental refinement, improvement or making existing activities more efficient, while exploration entails experimentation with radically new activities and innovations (Mathias, 2014; Junni, Sarala, Taras & Tarba, 2013). Organisations that successfully balance exploitative and explorative activities, thus improving existing processes and products while developing new ones, are thought of as ambidextrous organisations (Mathias, 2014; Junni, et al., 2013). Using the literature, several elements that are required for explorative units can be deduced (see Kolster, 2021b; Chapter 4). These elements are: (1) recognition of the explorative unit by all actors (e.g., teachers, students, and administrators) as a testing ground, (2) a supportive organisational structure, (3) leadership that is embedded within the wider organisation, (4) leadership with a focus on explorative actions, and (5) supportive human capital aspects (e.g., culture, dedicated teachers active in regular organisation, and networks).

Presumably, when the testing ground functions properly, innovations that have been developed will have to find their way to the wider organisation. The mechanism for this is diffusion. Rogers (2003, p. 5) defines diffusion as "the process in which an innovation is communicated through certain channels over time among the members of a social system". Translating the diffusion mechanism to the higher education context, diffusion is not only about communication (spreading information), but also about the actual adoption and implementation of an innovation. With this broader perspective on diffusion of innovations in higher education, diffusion may have an effect on higher education institutions on different aspects and levels. Three types of effects are recognised (Boyce, 2003). Primary effects emerge when the diffusion of an innovation affects educational aspects (e.g., new didactics spread to other courses). When organisational aspects are affected, secondary effects are observed (e.g., organisations' structure and culture through networks between teachers). And lastly, tertiary effects are observed when the diffusion of an innovation has external effects (e.g., diffusion of the innovation has an impact on the reputation and attractiveness of a higher education institution).

Contrary to previous literature on excellence education, in the analytical framework I assume that there are two diffusion processes: a direct and an indirect route. The direct route represents a diffusion process where actors directly adopt or implement an innovation in a new context. These can be, for example, teachers that used a didactical innovation developed in excellence education in their regular education.

Through the indirect route, innovations are diffused through policies that affect the behaviour of actors.¹⁴ Following the classic distinctions of governmental policy instruments by Hood (1983) (see also: Hood & Margetts, 2007; Van Vught & De Boer, 2015), higher education institutions policy instruments to steer diffusion can relate to regulation, funding, organisation, and information. To make this more specific, the diffusion of innovations can be, for example, guided by organising information sessions, or adoption may be made a requirement through regulations.

In addition to contributing to the diffusion of developed innovations, policy instruments can as well affect the organisational context, and with that the diffusion process. For example, policy instruments can affect employees' willingness to adopt innovations and with that the successful diffusion of innovations. The willingness can affect the amount of employees adopting an innovation. When more employees adopt an innovation, the diffusion is enhanced. More specifically, Rogers (2003, p. 361) noted that "The system's context for the critical mass can be important in providing pressures to adopt an interactive innovation. A system's hierarchy, reward system, and regulations can encourage, or discourage, the adoption of a new idea. A system can provide special resources (incentives) for the first adopters of an innovation and thus lower individuals' perceived efforts to adopt." Critical mass is achieved when an innovation has been adopted or implemented by a sufficient number of users (Taylor, 1998). At which point critical mass has been achieved is unclear. In a general sense, Taylor (1998) argues that it would be with 30% of employees using an innovation, while Rogers (2003) argues that achievement of critical mass depends on the specific innovation (Rogers, 2003). The point here is that institutional policies affect behaviour of actors and the system in which they operate, and thus influence the extent to which an innovation is diffused, and the time it takes to achieve this.

Reflecting on higher education, the system in which teachers and administrators operate is distinctly different from other public sectors (Kerr, 2011). What sets higher education apart from other public sectors is its focus on the handling of knowledge (Van Vught & De Boer, 2015), and the way it is organised to perform this task. Higher education institutions have a high degree of inertia, through specialisation, separation and loosely coupled structures (in faculties, departments, and administrative bodies), which all may have different, cultures, strategies, visions, and degrees of autonomy (Van Vught & De Boer, 2015). From this follows that the

¹⁴ See: 'policy-driven innovation', 'directed innovation' (Hannan, 2005, p. 981) or 'guided innovation' (Silver, 1998, p. 150).

way of valuing performance and willingness to innovate may differ within the organisation (Dee & Leisyte, 2016; Dill, 1999). Specific for higher education is that teaching and research are experience or credence good (Van Vught & De Boer, 2015), meaning that the quality of teaching and research can only be judged after ‘consumption’ (i.e., experience), or cannot be judged / verified at all (i.e., credence).

1.5.4 Analytical framework

The analytical framework shown in Figure 1.2 brings the sections of this introductory chapter visually together. It shows that excellence education emerged in – and is affected by – a context of higher education policies (e.g., Sirius subsidy), institutional aspects (e.g., diversification to meet demands of changing student population), and labour market conditions (e.g., employers’ preferences). Next are the outcomes of excellence education on individual and organisational levels. The former will be studied in this volume through measurements of perceptions of impact (e.g., skills, signals) and rationales of students and employers, which I use as a proxy for perceived gained employability through excellence education. The latter, the organisational aspects, are measured by studying the functioning of excellence as a testing ground for innovations, and the resulting diffusion effects. Studying both levels of outcomes of excellence education allows us to reflect on relevant aspects, such as the implications for students making educational choices during higher education and – through a feedback loop – how excellence education is organised by higher education institutions.

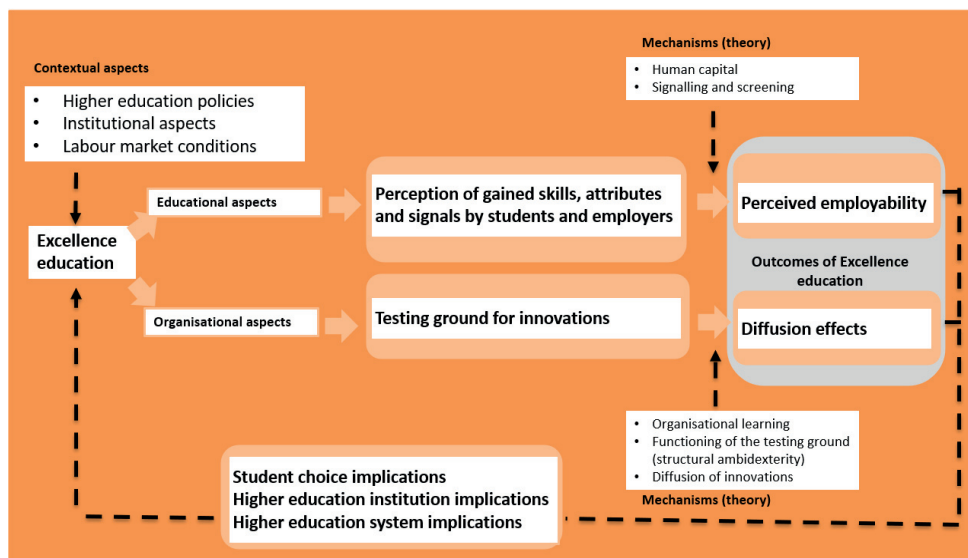


Figure 1.2: Analytical framework on (potential) individual and organisational outcomes of excellence education

1.6 Outline of the dissertation

In this introductory chapter the key theoretical and conceptual aspects of the research reported in this volume have been discussed. In this last section, I elaborate the outline of the remainder of this dissertation, and do so by providing an overview (Table 1.3) of the individual publications, the research methods used, a concise summary of the outcomes in relation to the addressed research questions, and details of my contribution to the research and publication. The publications form the theoretical and empirical body of this dissertation. Chapter 2 and 3 are used to address the research questions on individual outcomes, and Chapters 4 and 5, discuss the research questions on organisational outcomes. Together the findings reported in this volume make up the input for the concluding chapter, Chapter 6. In the discussion section of that chapter I also reflect on theoretical and societal implications of the outcomes.

Table 1.3: Overview of publications in this dissertation, and researcher's contribution

Chapter	Full reference of publication	Sample & Methods	Sub-question / Summary	Contribution
2: Students' perceptions of outcomes of excellence education	Kolster, R., Van Dijk, L., & Jongbloed, B. (2016). Introducing Excellence in Higher Education; Honours Programmes in the Netherlands and Students' Preferences, <i>Journal of the European Higher Education Area</i> , 2016, No. 3	Quantitative study based on a survey among 259 honours students from ten Dutch research universities.	1. Which type of honours students prefers which configuration of honours programmes? <i>Above-average ability students prefer selective and small-scale education, creative students are interested in multi- or interdisciplinary subjects, and task committed honours students are interested in disciplinary education with a student-centred approach. More than the other types, they also want excellence education to contribute to their employability. All honours students have considerable extrinsic motivation to participate.</i>	This publication is a follow-up study of the evaluation of the Sirius Programme, which was done by ITS (Radboud University), ROA (Maastricht University), and CHEPS (University of Twente) and was funded by the Dutch Ministry of Education (see: Allen, et al., 2015). The analyses of this chapter are an extension of the work done in the bachelor thesis of Lisa van Dijk (van Dijk, 2015). The thesis was supervised by me and Ben Jongbloed. Building on – but not limited to – the analyses done in the bachelor thesis, I took the lead to write an article that was published in a peer-reviewed journal.
3: Employers' perceptions of	Kolster, R., Westerheijden, D.F. & Need, A. (unpublished manuscript). <i>Perceptions</i>	Qualitative study based on interviews with 21 Dutch employers (various	2. To what extent are international experiences, excellence education, and board membership considered signals of skills, attributes, or	This research was part of a study funded by The Netherlands Initia-

<p>outcomes of excellence education</p>	<p><i>of educational choices in recruitment considerations: skills, attributes, and credentials.</i> CHEPS, University of Twente.</p>	<p>sizes and sectors).</p>	<p>credentials in recruitment considerations of recruitment officers of employers?</p> <p><i>The mechanisms used to evaluate educational choices in employers' recruitment considerations differ per educational choice. Board membership is more often considered for the gained skills, while excellence education is more often seen as a signal of attributes.</i></p>	<p>tive for Education Research (NRO).¹⁵ The study examines the added value of excellence education in the Netherlands. I was the project leader for this research project, and was responsible for the research design, data collection, and analysis.</p>
<p>4: Facilitating organizational outcomes of excellence education</p>	<p>Kolster, R. (2021). Structural ambidexterity in higher education: excellence education as a testing ground for educational innovations, <i>European Journal of Higher Education</i>, 11:1, 64-81,</p>	<p>Qualitative study based on interviews with honours coordinators, honours and non-honours teachers, policy makers, and honours and non-honours students (n=30) held at five case</p>	<p>3. To what extent are the testing grounds formed by excellence education in five Dutch higher education institutions, structural ambidextrous explorative units that create educational innovations?</p> <p><i>Using the structural ambidexterity concept, this paper concludes that excellence education functions as explorative units. Yet, the</i></p>	<p>This research is part of a study funded by The Netherlands Initiative for Education Research (NRO) that was mentioned above. It is a single authored paper and is published in an international peer reviewed journal.</p>

¹⁵ See: <https://www.nro.nl/onderzoeksprojecten/excellentie-het-hoger-onderwijs-selectie-effectiviteit-en-uitstralingseffecten> (accessed 21-03-2022), NRO project number: 405-15-601

		study institutions.	<i>functioning can be improved.</i>	
5: Actual organisational outcomes of excellence education	Kolster, R. (2021). Diffusional effects of excellence education on the institution, <i>European Journal of Higher Education</i> , 11:1, 82-96	Qualitative study based on interviews with honours coordinators, honours and non-honours teachers, policy makers, and honours and non-honours students (n=30) held at five case study institutions.	4. What are the diffusional effects, and its preceding processes, resulting from excellence education at five Dutch higher education institutions? <i>The study reports on educational, organisational, and external diffusion effects, and reflects on the diffusion process. It concludes that the diffusion process is nearly always direct; teachers diffuse innovation, and the role of policy instruments is limited.</i>	This research is part of a study funded by The Netherlands Initiative for Education Research (NRO) that was mentioned above. It is a single authored paper and is published in an international peer reviewed journal.

Chapter 2: Students' perceptions of outcomes of excellence education

This chapter has been published as Kolster, R., Van Dijk, L., & Jongbloed, B. (2016). Introducing Excellence in Higher Education; Honours Programmes in the Netherlands and Students' Preferences, *Journal of the European Higher Education Area*, 2016, No. 3.¹⁶

2.1 Abstract

This paper takes a closer look at excellence in higher education by looking into honours programmes in Dutch higher education. These programmes are selective and aimed particularly at the brightest students, offering them a more challenging – often extra-curricular – study experience compared to the regular bachelor's and master's programmes. Based on a survey (n = 259) of honours students at ten Dutch research universities, our study identifies three types of honours students: (1) task committed students, (2) above-average ability students, and (3) creative students. We asked each group how their ideal-type honours programmes would need to look like. Task committed honours students are interested in disciplinary honours programmes that have a student-centred approach. The above-average ability honours students demand a highly selective and small-scale honours programme that admits only the brightest students. Moreover, they prefer a programme that is isolated from regular study programmes. Creative honours students are interested in a variety of multi- or interdisciplinary subjects, not offered in the regular curriculum, often requiring substantial amount of extra time and effort on top of the regular curriculum. The differences in preferred configuration of honours programmes across the different types of students have policy implications for universities interested in introducing honours education.

¹⁶ As compared to the published version of this chapter, the positioning and numbering of the sections, figure and tables have been adjusted to fit the structure of this dissertations, and the bibliography of the published version has been included in the combined bibliography of this dissertation. Likewise, to fit the style of this dissertation, the texts in the margin of the published version have not been included in this chapter.

2.2 Introduction

Excellence has become an often mentioned objective of higher education across the world, particularly related to research, but also increasingly to education. As such excellence appears to have become a common objective of universities (Krücken & Meier, 2006; Ramirez & Tiplic, 2014). There are some recent insights in excellence in teaching and learning practices in Europe (Wolfensberger, 2015; Allen, et al., 2015). However, overall there little is known about how European higher education institutions strive to introduce excellence into their education. After discussing related developments, this introduction focusses on the Netherlands to see how institutions strive for excellence through honours colleges and programmes.

It is assumed that a highly heterogeneous student population requires a diversified higher education system, where all students are confronted with a varied set of stimuli in order for them to successfully complete their studies (Van Vught, 2008; Schuetze, & Slowey, 2002; Read, et al., 2003). This should be the case for the average-ability students as well for the brightest, above-average ability students. If the brightest students within a university do not feel challenged sufficiently by the programmes followed, the university may risk losing them – either to another university or to higher education altogether. The risk of losing unchallenged bright students to universities abroad is particularly high in countries like the Netherlands that have an egalitarian, open, non-selective higher education system. Offering programmes that are more selective and target primarily the brightest students is a way of addressing the risk.

Utrecht University was one of the first to divert from the egalitarian paradigm in Dutch higher education by offering honours programmes and excellence tracks. In 1998, the University College Utrecht (UCU) started a small-scale international college, modelled after American and British colleges and offering a programme in liberal arts and sciences to students who were of above-average ability and showed sufficient motivation. UCU gained increasing recognition as an example and source of inspiration on how to address the demands of high-ability students by offering them a challenging and demanding learning experience. The model of UCU was copied by other universities and another six liberal arts colleges have opened their doors in the Netherlands since (Sirius Programma, 2015). For their education, the colleges recruit their teachers from the universities' best scientists and teachers.

Following the diffusion of the liberal arts colleges in Dutch higher education, a subsidy programme (SIRIUS) was started by the ministry of Education in 2008.

This programme allowed Dutch higher education institutions – both research universities and universities of applied sciences – to apply for subsidies on the basis of a plan for the introduction of honours programmes within their institutions. The honours programmes thus initiated were expected to serve as a testbed for educational innovations elsewhere in higher education institutions and so contribute to learning about new didactical approaches, which would help increase overall quality and study success (i.e. excellence) in Dutch higher education. Still, first and foremost the honours programmes were expected to contribute to “providing extra opportunities to talented students” (Wolfensberger, 2015; p. 4). The Sirius programme ran from 2008 to 2014 and had a budget of 60 million euro, with which institutions that were awarded subsidies could develop honours education on bachelor and master level (Sirius Programma, n.d.). The programme has been a stimuli that lead to the expansion of honours education in all research universities and most universities of applied sciences (Wolfensberger, 2015).

From an international perspective, the Netherlands is certainly not the first country to introduce honours education in higher education. In the United States, honours programmes were introduced in the 1920s and honours colleges in the 1990s (Van Eijl, et al., 2007; Humphrey, 2008). The spread of honours education across the American higher education system may be interpreted as a reaction to the massification of higher education (Carnicom, 2011). In Europe, however, the Netherlands is one of the first countries to introduce, or rather experiment with, elements of honours education in higher education (Wolfensberger, 2015; Allen, et al., 2015). Other European countries are following, though at a slower pace. For example, in Northern Europe so far no country has introduced a comparable (financial) policy initiative to have institutions developed honours education (Wolfensberger, 2015).

For the adoption of honours education across Europe, lessons can be learned from countries that already have gained some experience with the concept. Particularly important for the introduction of honours programmes is to know the specific characteristics of honours students and the type of honours education they are interested in. However, empirical insights into these characteristics and demands are scarce (Achterberg, 2005; Scager, et al., 2012a; Scager, et al., 2012b, Wolfensberger, 2015). Having these insights would allow institutions to match the (potential) honours students to particular types of honours programmes, thus making the introduction of honours education more effective.

Using the experiences of the Netherlands as an early adopter of honours education in Europe, we can investigate the characteristics of honours students and their preference for particular types of honours education. Therefore, the research question

addressed in this paper is: Which type of honours students prefers which configuration of honours programmes?

2.3 Conceptual framework

In order to answer the research question we developed a conceptual framework covering (1) the characteristics of honours students, (2) their expected education demands and (3) the configurations of honours programmes.

2.3.1 Characteristics of honours students

To cluster the characteristics of honours students we use Renzulli's (1978, p. 185) three-ring conception of giftedness (Figure 2.1): "Giftedness consists of an interaction among three basic clusters of human traits — these clusters being above-average general abilities, high levels of task commitment, and high levels of creativity."

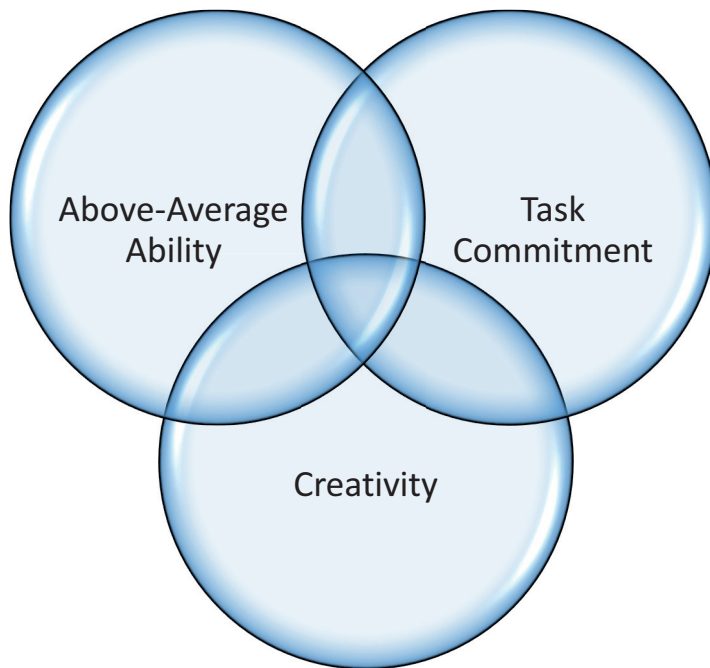


Figure 2.1: Three-Ring Conception of Giftedness (Renzulli, 1978)

Above-average ability includes analytical and critical thinking skills and academic achievement. Creativity focuses on the originality of thinking and inventiveness of approaches to tasks. Task commitment is the ability to engage fully in a subject or area for an extended period of time and persevere despite obstacles, difficulties, and setbacks. To fill the three clusters with related elements we used existing literature on characteristics of honours students, focussing on those in an academic research oriented setting (Achterberg, 2005; Scager, et al., 2012a; Freeman, 2010; Freyman, 2005; Hébert & McBee, 2007; Kaczvinsky, 2007; Otero, 2005; Renzulli, 2012; Shore & Kanevsky, 1993; Wiegant, et al., 2012; Wolfensberger & Offringa, 2012). To further operationalise the elements for the questionnaire (see methodology section), we combined the elements in statements. This resulted in the overview of characteristics of honours students per giftedness cluster shown in Table 2.1.

Table 2.1: Characteristics of honours students

Cluster	Element	Operationalisation
Above-average ability	Analytical and critical thinking skills	I am better at thinking and reasoning in an analytical and critical way
	Ability to reason	
	Ability to think abstractly	
	Ability to guide own thinking	
	Ability to comprehend complex ideas	I am more able to understand complex topics and I prefer to tackle difficult and challenging topics
	Preference for complexity and challenge	
	Ability to think/learn quickly	I think and learn faster
	Ability to learn from experience	
	Memorisation	
	Problem-solving skills	I am better at solving problems
	General intelligence	
	Capacity to process information	*
	Language proficiency	
	Spatial visualisation ability	
Academic achievement		
Creativity	Creativity	My ideas and solutions are more original, creative and inventive
	Originality	
	Inventiveness to approaches	
	Active imagination	
	Ingenuity	I am more prepared to put aside structured methods and standard procedures in order to follow a flexible approach
	Willingness to challenge or set aside convention, procedure and tradition	
	Less need for structure	
	Flexible in strategies/approaches	I prefer diversity in subjects and my curiosity is aroused by a broader range of topic
Curiosity: need for diversity/broad interest		
Task commitment	Task commitment; ability to fully engage in a subject	I am more willing to devote time and effort to a subject to which I am fully committed
	Willingness to devote time and effort	
	Persistence despite obstacles, difficulties, setbacks	I am more persistent in case of difficulties or setbacks
	Intrinsic motivation	
	Desire to learn	Learning in itself motivates me more and gives me a lot of satisfaction
	Extrinsic motivation: academic achievement	
	Desire to succeed/ need for achievement	
	Need for achievement	
	Need for competitiveness	I am more motivated to succeed in a course and get a higher grade
	Extrinsic motivation: strong focus on post-education career	
Ambition		
		I am more ambitious regarding my future post-education career
* not operationalisation for reasons of being too broad / abstract, overlap with other element, or (in Dutch context) not honours specific		

2.3.2 Educational demands of honours students

The characteristics described in Table 2.1 suggest that honours students “require a different, more challenging curriculum and other learning opportunities to satisfy [their] drive to learn, know and do” (Achterberg, 2005, p. 81). The literature suggests several educational demands of honours students (Achterberg, 2005; Van Gorp, et al., 2012; Wolfensberger & Offringa, 2012; Scager, et al., 2012b; Wiegant, et al., 2012; Gerrity, et al., 1993; Coppoolse, et al., 2013; Van Eijl, et al., 2007). These can be clustered in: freedom / independence, focus on competence and high expectations, and learning environment (see Table 2.2 and Table 2.5 for operationalisation).

Table 2.2: Demands of honours students

Cluster	Element	Statement
Freedom / independence	Freedom to discover and explore own fields of interest	15
	Freedom to take initiative and responsibility	16
	Student-centred approach	16
	Teacher to coach and facilitate	21
	Students are not restricted by guidelines or obligatory requirements	17
	Balance between structure and freedom	-
Focus on competence and high expectations	More demanding in content: difficulty, complexity, challenge	10, 11
	More demanding in quantity: time and effort	12
	Focus on personal development: competences and skills	18
	Focus on academic thinking, instead of only practical applications	20
Learning environment	Small-scale learning environment	4
	Like-minded peers	2

2.3.3 Honours programmes in higher education

Dutch higher education institutions developed honours education in a wide variety of ways, but always with the goal to provide extra educational opportunities to talented students. After reviewing the literature (Coppoolse, et al., 2013; Van Eijl, et al., 2007; Wolfensberger, et al., 2012; Wolfensberger, 2015; Allen, et al., 2015), we found, broadly speaking, four configurations by which honours programmes differ: student composition, programme organisation, programme content, and incentives for participation (see Table 2.3 and Table 2.5 for operationalisation).

Table 2.3: Configurations of honours programmes

Cluster	Element	Statement
Student composition	Selectivity (target group), selection criteria and admission procedures (1)	1, 2
	Bachelor or master phase (2)	-
Programme organisation	Educational methods / didactical considerations: seminars, lectures, assignments, group work, individual work, active participation, peer interaction, community formation, small-scale educational methods (3)	3, 4, 5, 6
	Duration, program size and associated credits (4)	7
	(Partly) intra- or extracurricular (5)	8
	Honours programme is embedded into the university (6)	9
Programme content	Disciplinary, interdisciplinary, multidisciplinary (7)	13, 14
	Content and subjects; including extent of freedom for students (8)	15, 16, 17
	Intended learning outcomes and competences (9)	18, 19
	Feedback and assessment procedures (10)	21
Incentives for participation	Financial issues: additional tuition fees or scholarships (11)	22
	Rewards for the completion of the programme: ECTS / formal acknowledgement (12)	23, 24
	Value of participation and completion for higher education sector and labour market (13)	25, 26

The configuration elements presented in Table 2.3 are used to tailor-make honours programmes. For example, an honours programme could (1) only select students performing in the top 10%, (2) design a programme on bachelor level, (3) using mainly small-scale education methods and group work, (4) that has a course load comparable to 30 ECTS, (5) which students earn on top of their regular required study points (i.e. extracurricular). The programmes can be (6) taught by a single department, (7) thus having a disciplinary focus, (8) but still with enough freedom for the students to pursue their own interest in that discipline. The programme is meant to encourage (9) students' critical thinking skills, which is assessed by (10) an oral exam. To encourage students to complete the programme, the institution offers (11) a small scholarship upon completion and will indicate (12) the distinction 'With Honours' on the students' bachelor diploma. Particularly, the latter is meant to (13) allow the student to pursue more advanced education opportunities (e.g. a selective master at the world's best universities).

2.4 Methodology

Primary data for this study was collected in May 2015 using an online survey. The survey formed part of a bachelor thesis study (Van Dijk, 2015). The unit of analysis

were bachelor students at Dutch research universities who were at the time of the survey taking part in honours education (i.e. honours students), thus excluding students studying at liberal-arts colleges. The choice to focus on research universities was made due to the fact that they are more comparable at the European level, given that the professional education offered by Dutch universities of applied sciences does not have a comparable equivalent in all European countries. We included only honours programmes at the bachelor level because these are most common in Dutch higher education. Inclusion of students of universities of applied sciences and students in the master phase would have required the inclusion of additional, other, and different characteristics of honours students and configurations of honours programmes. Respondents for the survey were found with the help of honours associations and administrators of the universities approached.

As shown in Table 2.1, the characteristics of honours students were translated into statements. The respondents were asked to judge, on a 7-point Likert scale, the extent to which the statements reflected their own characteristics, by comparing themselves to regular students (i.e. students in their study programme that do not qualify for participation in honours education, e.g. due to their grades and/or motivation). For example, if a respondent indicated a '4' on the statement 'I am better at thinking and reasoning in an analytical and critical way' the interpretation is that the honours student sees no difference between him and a regular student. A '7' indicates a very positive difference (i.e. likely a typical honours characteristic), and a '1' a very negative difference (i.e. likely a typical regular students' characteristic).

Similarly, the demands of honours students and preferred configurations of honours programmes have been translated into statements (see Table 2.5). The respondents were asked to reflect, using a 7-point Likert scale, on the extent to which they would like to see the topic of the statement in their ideal honours programme. For example, if a respondents indicates a '4' (neutral) on statement one: 'my ideal-type of honours programme includes only well-performing students (that received high grades in our study programme)', the interpretation is that the honours student is indifferent with respect to the inclusion of the topic of the statement in his ideal honours programme. A '7' indicates a very strong preference (i.e. most be included in an honours programme), and a '1' a very strong disfavour (i.e. should not be included in an honours programme). Two elements in Table 2.2 and 2.3 were not covered by the statements. First, 'Balance between structure and freedom' was left out because certain preference for a balance can be assumed by definition. Second, the 'Bachelor or master phase' configuration was not translated into a statement because the focus of this study is on the bachelor phase.

The data was analysed in four steps. First, descriptive statistics were used to provide information on the sample and the characteristics the respondents ascribe to themselves in comparison to regular students. Second, a principal components analysis was used to determine whether the data corresponds to the conceptually anticipated clusters: above-average ability, creativity and task commitment. Furthermore, to see whether it made sense to include all inquired items in the computation of the new variables identified by the principal components analysis, Cronbach's Alpha's were used. Third, descriptive statistics and analysis of variance (ANOVA) were used to determine whether there is a difference between the score the respondents attach to the characteristics of honours students in relation to preferred configuration of honours programmes. Fourth, an analysis of covariance (ANCOVA) was performed to statistically control for confounding variables adversely affecting the relationships. The following confounding variables were checked: gender, age and year of study.

2.5 Results

2.5.1 The sample

Data was collected of 259 respondents. Close to 70% of the respondents are female and 59% of the respondents were 20 or 21 years old. Students from ten universities filled out the questionnaire: 36% studies at the Radboud University Nijmegen, 20% at Utrecht University and 12% at Tilburg University. Most respondents studied Psychology (49), followed by Medicine (25), Law (21), Biomedical Sciences (16), International Business Administration (11) and Economics and Business Economics (10). Only 7% of the respondents were first year students, 46% were in their second year and 47% in their third year of their bachelor programme.

2.5.2 Characteristics of honours students

As shown in Table 2.4 (mean column), the honours students in our sample gave themselves higher scores on all items as compared to regular students. The highest scoring characteristics are: (1) 'More willing to devote time and effort to subject to which the student is fully committed', (2) 'More motivated to succeed in a course and get a higher grade', (3) 'More ambitious regarding future post-education career', (4) 'Prefer diversity in subjects and curiosity aroused by broader range of topics', and (5) 'More able to understand complex topics and preference difficult and challenging topics'.

The factor analyses supports the conceptual clusters, suggesting that there are above-average ability, creative, and task committed honours students (see Table 2.4). The eigenvalues of the components are all above the required 1.0. The

Cronbach's Alpha's of 'Task commitment' and 'Above-average ability' are above the required 0.7. The Cronbach's Alpha of Creativity is 0.59, which is lower than the usually acceptable reliability coefficient. However, for a smaller number of statements, the requirements should be interpreted less strictly, also because the inter-item correlations are sufficiently high ($r > 0.31$).

The questionnaire included an open question for respondents to state characteristics of honours students that were not included in the statements. Around half (47%) of the respondents used the open questions to provide more detailed characteristics, though they partly overlap with the characteristics included in the survey. Summarising, the respondents stressed that honours students are more inquisitive, enthusiastic, dedicated, disciplined, competitive, independent, perfectionist/precise, assertive, and self-confident than regular students. The drive to improve yourself, getting the best out of yourself, personal development, intellectual growth and seeing studying as a passion were also highlighted as typical characteristics. Respondents stated that honours students know what they want to achieve, work hard to get there and aim to distinguish themselves from other students. Discussing and thinking about complex topics and philosophical questions were by some indicated as typical attitudes. Moreover, the typical honours student shows initiative, has interests besides studying (e.g. involved in extra-curricular activities), is good at planning / time management and has developed more advanced social skills.

Table 2.4: Rotated Component Matrix and descriptive statistics of honours students' characteristics (n=259)

Item / component	1 Task commitment		2 Above-average ability		3 Creativity		Mean	SD
More motivated to succeed in a course and get higher grade	0.750						5.78	1.13
Learning in itself motivates more and gives satisfaction	0.709						5.43	1.15
More willing to devote time and effort to subject to which fully committed	0.702						5.86	1.07
More persistent in case of difficulties or setbacks	0.687						5.20	1.14
More ambitious regarding future post-education career	0.630						5.55	1.19
Think and learn faster			0.760				5.41	1.07
Better at thinking and reasoning in an analytical and critical way			0.729				5.45	0.94
Better at solving problems			0.709				5.05	0.98
More able to understand complex topics and preference difficult and challenging topics			0.655				5.46	0.93
Prefer diversity in subjects and curiosity aroused by broader range of topics					0.726		5.53	1.20
More prepared to put aside structured methods and standard procedures (flexible approach)					0.713		4.76	1.13
More original, creative and inventive ideas and solutions					0.665		4.51	1.07
Overall mean and SD	5.56	0.82	5.34	0.75	4.93	0.84		
Rotation converged in five iterations. Eigen values for the components 1, 2, and 3 are: 4.206, 1.430, and 1.165 respectively. Cronbach's Alpha's for the components 1, 2, and 3 are: 0.78, 0.76, 0.59 Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalisation.								

2.5.3 Preferred configurations and demands of honours programmes

The 26 statements measuring the demands of honours students (Table 2.2) and the configurations of honours programmes (Table 2.3), are shown in Table 2.5. The top five most important aspects of an honours programme feature predominantly incentives for participation. An honours programme should provide a (1) ‘formal acknowledgements for completion’ and should be provided at (2) ‘no additional costs’. Ideally the honours programmes also have a high return in terms of: (3) ‘allows to pursue more advanced educational alternatives’ and (4) ‘allows to acquire a better job position in the labour market’. Lastly, honours students like the honours programme to be organised as a (5) ‘small-scale learning environment, with a limited amount of students and close and personal student-student and student-teacher relationships’. As indicated in the table, overall honours students’ ideal honours programmes differs significantly on 11 items as compared to respondents who indicated to be similar to regular students (i.e. mean scores around 4). Particularly, these items are to be taken into account when designing honours programmes.

Table 2.5: Descriptive statistics: preferred configurations and demands of honours programmes

Category	Statement	Mean	SD	Sig.
Student composition	1 Only well-performing students (high grades)	5.04	1.62	
	2 Highly selective and exclusive (only best x% students invited)	4.92	1.67	*
	3 Creation of a close community through active participation and student-student interaction	5.44	1.39	
Programme organisation	4 Small-scale learning environment (limited amount students + close and personal relationships)	6.07	1.00	*
	5 Great deal of group work as opposed to individual work	4.13	1.56	
	6 Lectures and seminars as the primary educational method as opposed to assignments	4.42	1.51	
	7 During the full bachelor phase, instead of in a limited period	5.31	1.59	*
	8 Extracurricular, not (partially) intracurricular	5.76	1.36	
	9 Organised apart from the regular study programmes at the university	4.02	1.73	
Programme content	10 Totally different from the regular programme in terms of content	4.23	1.71	
	11 Challenging and demanding content: subjects are difficult	5.53	1.02	*
	12 Requires students to devote a substantial amount of time and effort	4.96	1.19	*
	13 Focuses on broadening the knowledge/skills: perspectives from variety of fields/disciplines (multi- or interdisciplinary)	5.50	1.53	
	14 Focuses on deepening the knowledge/skills in field of regular study programme (disciplinary)	5.46	1.49	
	15 Great deal of freedom to discover and explore own field of interest	5.86	1.11	*
	16 Focuses on the initiative and responsibility of the student	5.53	1.16	
	17 Little or no guidelines and obligatory requirements (limited structure)	4.02	1.71	
	18 Focuses on personal development of competences and skills	5.87	1.13	*
	19 Focuses on academic thinking	5.92	1.11	*
	20 Focuses on practical applications of knowledge	5.48	1.31	
Incentives for participation	21 Teachers coach students, not supervise the entire learning experience	5.84	1.09	
	22 No additional costs (no fee on top of the regular tuition fee)	6.49	1.15	
	23 Provides participants with extra ECTS	5.66	1.58	
	24 Provides participants with formal acknowledgement for completion	6.66	0.70	*
	25 Allows to pursue more advanced educational alternatives	6.19	1.01	*
	26 Allows to acquire a better job position in the labour market	6.13	1.17	*

* Significant at $\alpha < 0.05$ (ANOVA)

2.5.4 Characteristics of honours students and their preferred configuration of honours programmes

Now that we have identified the three broad types of honours students (Table 2.4) and know the overall ideal configurations of honours programmes (Table 2.5), we can look at the group specific preferred configurations. We do so by looking at the configurations and demand items on which respondents belonging to the three groups score significantly higher ($\alpha < 0.05$) as compared to respondents who indicated to be similar to regular students (i.e. mean scores around 4) in that specific cluster. The results are shown in Table 2.6.

Table 2.6: Characteristics of honours students and their preferred configuration of honours programmes

Statement		Task commit- ment	Above- aver- age ability	Crea- tivity
25	Allows to pursue more advanced educational alternatives	X	X	X
1	Only well-performing students	X	X	
2	Highly selective and exclusive	X	X	
11	Challenging and demanding content: subjects are difficult	X	X	
12	Requires students to devote a substantial amount of time and effort	X		X
16	Focuses on the initiative and responsibility of the student	X		X
14	Focuses on deepening the knowledge/skills in field of regular study programme (disciplinary)	X		
20	Focuses on practical applications of knowledge	X		
24	Provides participants with formal acknowledgement for completion	X		
26	Allows to acquire a better job position in the labour market	X		
4	Small-scale learning environment		X	
9	Organised apart from the regular study programmes at the university		X	
8	Extracurricular, not (partially) intracurricular			X
10	Totally different from the regular programme in terms of content			X
13	Focuses on broadening the knowledge/skills: perspectives from variety of fields/disciplines (multi- or interdisciplinary)			X
18	Focuses on personal development of competences and skills			X
19	Focuses on academic thinking			X

2.5.5 Confounding variables

From the significant preferences of different types of honours students discussed above, seven items suffer from the influence of a confounding variable, namely gender. The other tested confounding variables, age and year of study, have no significant influence on any preference described above. The significant differences ($\alpha < 0.05$) related to gender are:

1. Female honours students of all types indicate a significant preference for a focus on academic thinking, while male honours students do not.
2. Female above-average ability respondents attach a higher score to whether an ideal honours programme should result in the opportunity to acquire a better job position in the labour market than male above-average ability respondents.
3. Both male and female task committed honours students indicate a significant preference for a challenging and demanding content. Nevertheless, as expressed by a higher mean, the male students attach more importance to this aspect than the female students.
4. Female task committed honours students express a significant preference for a focus on practical applications of knowledge, while male task committed honours students do not.
5. Female task committed honours students indicate a significant preference for an honours programme that – after completion – allows them to acquire a better position in the labour market, while male task committed honours students do not.

2.6 Conclusion and discussion

The study confirmed the existence of three types of honours students: task committed honours students, above-average ability honours students, and creative honours students. The groups are not mutually exclusive, e.g. a student can belong to the task committed as well as the creative group. Furthermore, the groups differ with respect to their demands and preferred configuration of honours programmes. The outcomes underline the necessity to tailor-make honours programmes to fit particular type of honours students. The findings suggest the following:

- All honours students want the honours programme to be designed so that it enables them to continue their education at world-class institutions.

- Tasks committed and above-average ability honours students want challenging and demanding honours programmes that are highly selective and exclusive, only including well performing students.
- Task committed and creative honours students are willing to put in a substantial amount of time and effort, for which the initiative and responsibility should lay with the student.
- Task committed honours students prefer honours programmes with a disciplinary focus, which focus on the practical application of knowledge. Only for the task committed honours students it is highly important that an honours programme enables them to acquire a better job position in the labour market. The importance of the honours programme providing a formal acknowledgement can be related to this.
- Above-average ability honours students prefer honours programmes that are organised in a small-scale learning environment and apart from the regular study programme. Thus being isolated from their regular programme and regular students, and solely surrounded by like-minded peers.
- As compared to the two other types, creative honours students are more interested in honours programmes that are extra-curricular, different from their regular programme, include multi- or interdisciplinary perspectives, with which they aim to enhance their competences, skills and academic thinking. Consequently, these students want honours programmes that fulfil their broad interest, includes a diverse group of students (i.e. not only the well-performing students), and provides freedom to take their own creative initiatives.

On a more general level, the honours students have not expressed preferences for a specific educational method. In other words, honours students are neutral whether their excellence programme makes use of lectures and seminars instead of assignments, or whether it concentrates on group work as opposed to individual work. However, the honours students prefer a programme that is offered during the full bachelor phase. This implies that the educational demands of these students are not satisfied by the regular curriculum. Moreover, honours students' ideal excellence programme is extra-curricular instead of (partially) replacing courses from the regular curriculum.

Important to note is also that honours students on average demonstrate more extrinsic motivation than intrinsic motivation, since they attach a lower score to 'learning

in itself motivates more and gives satisfaction' ($m=5.43$) as compared to 'more ambitious regarding future post-education career' ($m=5.55$). Consequently, honours students see many gains from them following honours programmes, particularly in relation to them continuing their education at world-class institutions. They highly value that completion is awarded with a formal acknowledgement. Despite these benefits, the respondents are not keen on them compensating the higher costs of their extra and more intense education by paying additional fees.

The outcomes of this study have clear policy implications, particularly for higher education institutions and study programmes across Europe. First, it shows that challenging high-potential students beyond the standard curriculum is a worthwhile undertaking. Consequently, in addition to offering extra education options to students in need of more help, e.g. remedial courses, offering honours education to high potential students can have an important effect on study satisfaction and success. Second, institutions considering introducing honours education can use the study's outcomes to develop honours education tailor-made for particular type of honours students (i.e. task committed, above-average ability and creative honours students). A logical goal can be to ensure that all types have their own honours programmes. Third, introducing honours education requires the development of a culture of excellence. The latter is needed to find the essential support for honours programmes amongst staff and students. This indeed means that the egalitarian ideals, embedded in many European higher education systems, would be challenged. Fourth, to interest students in participating in honours education, institutions can appeal to students' intrinsic motivation to gain additional knowledge and skills, but should certainly not forget to also appeal to students' extrinsic motivation, particularly related to the opportunities to continue their education at world-class institutions and/or the future benefits on the labour market of having graduated with a honours distinction. Lastly, the honours students' willingness to financially contribute to honours education is very low. Therefore, institutions are to carefully consider the effectiveness and sustainability of the resources allocated to honours education.

The study design has a number of limitations, with consequences for validity. First, the respondents have not been randomly selected which is why we cannot claim to have a representative sample. Second, to answer the research question the study relies solely on students' own perceptions, which are by definition subjective. A more balanced view, albeit still subjective and beyond the scope of our study, could have been gathered by including insights from experienced administrators of honours programmes. They could be asked to provide more detailed suggestions for the development of honours education to particular type of honours students.

Lastly, in the operationalisation we combined different elements in single statements. Uncertain is the extent to which the operationalisation measures all elements equally.

With this paper we aimed to broaden our understanding of how excellence can be introduced in education through honours programmes, which are in line with students' characteristics and demands. Given the increasing focus on excellence in teaching and learning throughout Europe, further research is recommendable for both practical and academic motivations. With respect to the former, we suggest to further explore the topic by using a larger and representative sample in which additional dimensions can be included, such as gender, programmes on master level, and universities of applied sciences. Further attention can also be given to the operationalisation of students' characteristics. A more academic direction for further research would be to demonstrate how promoting excellence has become an important way for higher education institutions to signal their high status, and whether honours programmes could be employed to the end.

Chapter 3: Employers' perceptions of outcomes of excellence education

The publication included in this chapter will be submitted for peer review as Kolster, R., Westerheijden, D.F. & Need, A. (unpublished manuscript). *Perceptions of educational choices in recruitment considerations: skills, attributes, and credentials*. CHEPS, University of Twente.

3.1 Abstract

Students in Dutch universities can make educational choices that could potentially give them an advantage on the labour market. These choices include international experience, excellence education, and board membership experience in student associations. In this paper we aim to find whether and how these educational choices affect employers' recruitment considerations. We did so through a qualitative research approach consisting of 21 in-depth interviews. We found that in the recruitment stage overall a board membership experience is considered most beneficial. However, public organisations tend to value excellence education higher. Moreover, the rationales behind recruitment considerations differ by educational choice. In essence, a board membership is more often associated with skills and attributes allowing graduates to *do* a job, while particularly excellence education appears to be more perceived as a credential through which graduates may *get* a job.

3.2 Introduction

More than in the past, university students want to acquire a profile that distinguishes them from other graduates starting on the labour market (Jones, 2013; King *et al.*, 2010). To acquire a different profile, students can make educational choices. We are referring here to choices made during their study, i.e. after the selection of a study programme and a university. Focusing on the Netherlands, university students typically have four educational choices with which they can differentiate their graduate profile. First, within the standard curriculum, students may seek distinction by taking a minor (i.e. a coherent set of elective courses outside the major subject of study). A minor usually takes place within a designated period within a curriculum (e.g. one semester in the third year of a bachelor study). The period allows students to make their own choices regarding courses they study. They can opt for education in their own field of study that goes more in-depth, or education

from other fields giving a broadening experience. Other educational choices, such as studying abroad, may be organised as part of the elective period. National data on participation in minors is unavailable.

Second, also often within the standard curriculum, students may opt for international experience. An international experience can be achieved through studying or doing an internship abroad. The international experience can be promoted and facilitated through (financial) support, e.g. by institution's or through EU's Erasmus+ programme. In 2018, around 32% of the university students had a form of study-related international experience during their studies (ResearchNed, 2020).

Third, students may seek eligibility to participate in excellence education. Excellence education became an educational choice in the Netherlands over the past decades (Wolfensberger *et al.*, 2004; Wolfensberger, 2015; Kolster *et al.*, 2016). Excellence education programmes – as considered in this study – are usually extra-curricular course units students take in addition to their regular bachelor or master study programme. By and large, these programmes are called excellence programmes, honours programmes or talent programmes (Allen *et al.*, 2015). They typically have a study load of 30 EC, which are to be attained over a period of one to two years. Honours programmes usually have a multidisciplinary orientation that is not necessarily classified in fixed learning outcomes, making them personal learning experiences. Completion of an honours programme is typically acknowledged through a certificate or with a distinction on the degree. Excellence programmes are often selective, ensuring that only the most-motivated and best-performing students enrol. All Dutch universities offer a form of excellence education (Wolfensberger, 2015). In 2018, 10% of university students participated in some form of excellence education (i.e. broader than the excellence education programmes considered in this study) (ResearchNed, 2020).

Finally, usually also extra-curricular, students may join a board of a university council, a student society (e.g. a fraternity), study association (i.e. group of students linked to one or more study programmes involved in social and governing activities), or student sport association belonging to the institution. Students are usually selected or elected to such positions by their peers. Such positions can be full-time or part-time, usually for a period of one year.¹⁷ If full-time, regulations in the Netherlands often allow students to put their study on hold. Board members may receive financial compensation from the hosting university.¹⁸ The boards normally consist

¹⁷ For example, see: <https://www.rug.nl/education/bachelor/international-students/study-in-the-netherlands-groningen/student-associations/board-year> (accessed 03-07-2020)

¹⁸ See: <https://nos.nl/op3/artikel/2179054-waarom-moeten-studenten-betalen-voor-hun-bestuursjaar.html> (accessed 03-07-2020)

of at least a chairperson, secretary, treasurer, and an internal/external affairs officer (Voorend, 2019). In 2018, around 37% of the university students were board members or volunteers within a university-related association (i.e. broader than board membership considered in this study) (ResearchNed, 2020).

Literature on motivation of students to opt for certain educational choices shows their expectations of extrinsic benefits after completion (for international experience see: Waibel *et al.*, 2017; Nilsson & Ripmeester, 2016; Kolster, 2014; Hobsons, 2015; Crossman & Clarke, 2010; Brandenburg *et al.*, 2014, for board membership see: Kuhlmann, 2016; Kraaykamp & Vullings, 2002, Lundin *et al.*, 2016, and for excellence education see: Kolster *et al.*, 2016).

Less clear is how educational choices are perceived by employers— particularly in relation to each other. Yet, with respect to international experience, employers perceive a positive impact on employability (Malicki and Potts, 2013). Employers expect students who went abroad for their study to have better-developed skills (Janson *et al.*, 2009; Marcotte *et al.*, 2007; Prospect Marketing, 2006). To find employers' perceptions of board membership experiences, Koster (2013) did a stated-preference experiment (vignette or conjoint analysis) amongst 395 recruiters in the Netherlands, who reflected employment attractiveness of fictitious resumes of graduates differing on having been a board member, having been active in an association, or having gained international experience. The study concludes that a board membership, compared to the other two educational choices, increases the likelihood to find employment directly after graduation. Yet, the effect appears to differ across study programmes. Graduates from economics and business-related disciplines benefit more from having been a board member, as compared to engineering graduates. Studying effects of excellence education, Allen *et al.* (2015) found that half of the employers surveyed (n=520) were not aware of the existence of excellence education in the Netherlands and excellence education plays a limited role in selection considerations. No relevant national and international studies were found that investigated perceptions of employers on minors or electives.

The literature review above reveals our limited understanding of how educational choices – also in relation to each other – are perceived by employers. Nevertheless, the studies do indicate that employers appear to value international experience and board membership in recruitment considerations. This, however, raises a more theoretical question: what are the underlying mechanisms that lead to perceived employability benefits of different educational choices?

Initially, the mechanism that was thought to explain graduate employability was related to knowledge and skills that improve productivity and therefore the attractiveness of graduates for employers. This mechanism derives from *Human capital*

theory (Mincer, 1958; Schultz, 1961; Becker, 1967; 1993), of which the core hypothesis is that education – and each year in it – increases students’ skills (in a broad sense, also including knowledge and abilities) and with this their observable productivity on the labour market and in society, regardless of actually obtaining a qualification (Van der Meer, 2011; Walters, 2004; Fevre *et al.*, 1999; Brown, 2001; Baker, 2011; Williams *et al.*, 2016). Because of the skills learned in education that are relevant for the labour market, employers value the (assumed) increased productivity – as seen in job performance – of graduates, and reward this through better job opportunities and increased wages (Bills, 2003; Di Stasio, 2014).

The link between human capital theory and educational choices is fairly straightforward. Like education itself, choices within education – and time and effort invested in these choices – contribute to skills of graduates, which in turn are presumably contributing to the productivity of the holder, making them more attractive to employers.

Yet, a different theory claims that to explain graduate employability not only skills gained through education should be considered. More specifically, in the *signalling and screening theory* – also called sorting or filtering theory – personal signals and signals gained through education are the mechanisms that explains graduate employability. Signals can be human capital (knowledge and skills), but also personal attributes (e.g. health, motivation, perseverance, learning potential, trainability), and credentials (e.g. experiences, grades, degrees, school prestige, and qualifications) (Brown, 2001; Rivera, 2011; Di Stasio, 2014; Forrier & Sels, 2003). Note that there is a distinction between signals and indices (Spence, 1973). The latter include characteristics (largely) outside of the scope of influence of the agent, such as gender and age; in our study, indices do not play a role. A crucial difference with human capital theory is that according to signalling theory, skills and attributes do not necessarily need to be attained, but rather claimed or perceived. Put differently, signals are thought to allow persons to *get* a job, but not necessary *do* the job (Caplan, 2018).

Signals can be used by job applicants in their contact with employers, who in turn use the signals as screening devices (Spence, 1973; Stiglitz, 1975; Arrow, 1973; Weiss, 1995; Bills, 2003). Consequently, signals are ‘markers of competence’ (Brown, 2001, p. 22) and proxies for expected ability and productivity (Weiss, 1995; Feng & Graetz, 2017; Souto-Otero & Shields, 2016; Bills, 2003; Brown, 2001; Baker, 2011).

Signals above those that can be expected from ‘just’ following schooling, may provide the holders an advantage when applying for jobs (Weiss, 1995). In the absence of work experience, exhibiting additional signals will be especially important in obtaining the first job after attaining a university degree (Gerber & Cheung 2008)

because they signal skills and personal attributes other applicants may not have (Weiss, 1995). Showing additional signals may be of particular importance for jobs where an oversupply of potential job applicants exists (Stiglitz, 1975). This makes signalling a zero-sum game, where the labour market advantage of signal holders means a disadvantage for those without. Consequently, screening is to the benefit of holders of signals (Stiglitz, 1975). However, once in employment those that do not have the ‘additional signals’ may still show they have the abilities associated with the signals (Gerber & Cheung, 2008). Thus, work experience can level out wage return in the long run (Weiss, 1995; Lundin, Nordström Skans, & Zetterberg, 2016). A consequence of graduates attaining additional signals may be signal inflation, meaning signals lose their value in screening processes as the proportion of holders of these signals increases (Spence, 1973; Brown *et al.*, 2004; van der Meer, 2011; Roulin & Bangerter, 2013; Waibel *et al.*, 2017). Consequently, a signal is only of value as a positional good (Tomlinson, 2008; Nemanick Jr & Clark, 2002) if it has a certain degree of exclusivity as compared to other job applicants, and if the signal is recognised as such in screening processes (Pinto & Ramalheira, 2017).

The extent to which educational choices – or broader extracurricular activities – provide graduates with signals has been mainly studied through vignette studies where recruiters are asked to evaluate résumés. By-and-large, outcomes show that these activities are positively evaluated by recruiters (Cole *et al.*, 2007; Nemanick, Jr & Clark, 2002; Pinto & Ramalheira, 2017; Di Stasio, 2017). However, vignette studies have difficulty in capturing the underlying mechanisms in recruitment, which are better studied through more in-depth qualitative studies. Yet, such studies into employers’ considerations of signals are scarce (Cai, 2013). Exceptions are the study by Rivera (2011), who finds “firms performed a strong secondary screen on candidates’ extracurricular accomplishments, favoring high status, resource-intensive activities that resonated with white, upper-middle class culture” (p. 71). And Gallagher’s study (2014) which notes that “Employers use the master’s as a screening tool as much as a discrete demonstration of hard skills/competency, consistent with the screening and signaling variation of human capital theory” (p. 3). However, which mechanisms recruiters use to provide benefits to educational choices (and to extracurricular activities), and if these differ per choice, remains unstudied.

3.3 Research question and operationalisation

We have identified a knowledge gap when it comes to how educational choices are perceived by employers. A similar gap is there for mechanisms that could explain links between educational choices and graduate employability. We want to address both gaps in this article by answering the following research question:

To what extent are international experiences, excellence education, and board membership considered signals of skills, attributes, or credentials in recruitment considerations by recruitment officers of employers?

To allow us to identify the extent to which educational choices are considered signals related to skills, attributes, or credentials, we need to operationalise the signalling mechanisms. We distinguish three mechanisms. First, skills may entail signals of abilities a person has to do a certain task, and these skills are learned through following educational choice for which length of the choice matters. Second, attributes may be signals of the character of the holder, in the sense of personality, motivations, interests, and engagements (Kjelland, 2008). They are then more inherent to the person and are not necessarily attained through an educational choice, and not through the length of the choice. Third, credentials are achieved by completing an experience, and this completion, rather than gained skills and attributes – and length of the choice, may be viewed as a signal in recruitment considerations.

To study this distinction in signalling mechanisms, we need to ascertain whether skills and attributes are perceived as a direct result of the education choice or rather are signals of pre-existing skills or attributes, and whether length of the education choice is a factor. To do so we ask the following two sub-questions.

1. To what extent are skills and attributes of recent university graduates perceived as a direct outcome of an educational choice?
2. To what extent is the length of an educational choice important to the perceived associated skills and attributes of recent graduates?

To study signalling mechanisms, we also need to consider whether educational choices provide job applicants signals that employers favour in their recruitment consideration because the associated skills, attributes or credentials are essential to do a job. The alternative is that a signal may not be considered essential to do a job, but is still positively evaluated in recruitment consideration. In the latter case, a signal may not help recent graduates to do a job, but may help to get a job. For example, for a job at a small regional law firm, skills gained by an international experience may not be important, but the credential of having completed an international experience may be a factor in recruitment considerations. In relation to being able to do or get a job, we also want to know if recruitment considerations are affected by the number of recent graduates that have done a certain educational choice. If the consideration is related only to being able to do a job, the number should not matter. Yet, if educational choices are in recruitment considerations used as a credential to filter applicants (i.e. not having done an educational choice, means

less chance of acquiring a job in the pre-selection / recruitment stage), the number does matter. To study this distinction, we ask the following two sub-questions.

3. To what extent do employers prefer to recruit university graduates with an educational choice because the skills and attributes that result from that choice are crucial to perform the job for which they are recruiting?
4. To what extent is the benefit of an educational choice in recruitment considerations higher when fewer university graduates have done or completed an educational choice?

3.4 Methodology

To study recruitment considerations of employers we collected qualitative data through 21 in-depth interviews with talent acquisition managers, corporate recruiters, campus recruiters, independent recruiters, and other human resource professionals. All informants are actively involved in recruitment processes of recent university graduates in the Netherlands. We collectively refer to these informants as employers.

A qualitative method was chosen because it allowed us to gain in-depth insight into the considerations for each educational choice, and how these relate to each other. Such qualitative insights are rare for studies into educational choices. Often quantitative methods are used, which usually are unable to provide detailed insights into mechanisms at play in recruitment considerations.

The informants were found through convenience sampling within the Netherlands. For this, we used our own networks, a search query on LinkedIn, and referrals. The informants were selected based on their involvement in and knowledge of recruitment of recent university graduates. Furthermore, we aimed to have a wide range of organisations recruiting recent graduates, that is public and private organisations, varying in geographical orientation and in size. The sample includes, for example, banks, law firms, universities, and hospitals. Due to the sample size and broad selection, we cannot claim that the study is representative, and therefore avoid giving generalisations. Yet, the data allow us to analyse signalling mechanisms in recruitment considerations in detail, while potentially recognising disparities in outcomes by type of employers, thus providing insights that can be used in further research.

We focus our study in three ways. First, we aim our research question on university graduates, hence excluding graduates from universities of applied sciences. We do so because university graduates have broader access to the four educational choices (Bisschop *et al.*, 2017). A second way in which we focus our study is by excluding the minor or elective as an educational choice. We have done so because (1) there is a high degree of diversity in how universities design the elective space and (2)

other educational choices can be part of the elective period, making it harder to distinguish the educational choices. Lastly, to induce in informants a similar frame of reference, they were asked to think of typical jobs for which they recruit recent university graduates. No further instructions were provided.

Apart from one face-to-face interview, all interviews were conducted over the phone. The interviews lasted between 30 to 70 minutes, were conducted in Dutch, and took place between October and December 2019. All interviews were recorded and transcribed. The informants are referred to by numbers (1 to 21). Table 3.1 provides an overview of the sample, and the characteristics of organisations for which the informants are involved in the recruitment.

Table 3.1: Informants and key characteristics of their organisations (N=21)

Geographical orientation:	Private organisations	Public organisations
International		
Number of informants	9	2
Number of employees	350-11,000	3,000-3,500
Typical job for which graduates are recruited	communication officer, engineer, financial support officer, project support officer, R&D officer, sales software developer, trainee lawyer, traineeship	Data analyst, PhD candidate
Number of vacancies per year	10-100	60-400
Geographical orientation:	Private organisations	Public organisations
National		
Number of informants	4	6
Number of employees	300-2,200	400-19,500
Typical job for which graduates are recruited	journalist, pharmacist, project manager, medical resident	Engineer, business manager, policy officer, project managers, PhD candidate, regulator, medical resident
Number of vacancies per year	5-75	30-400

The transcripts were analysed using Atlas.ti software. A code book was used to identify relevant aspects of the operationalisation. To check intra-coder reliability – which is commonly used to analyse interview transcripts (Given, 2008) – the transcripts were coded in January 2020, and three randomly chosen transcripts in

Augustus 2021. Both times the coding was done by the first author. The *Krippendorff's alpha* for the four identified semantic domains are: skills and attributes (0.989), credentials (0.965), length (0.818) and benefits (0.937). The alphas are sufficiently high to assume overtime coder agreement, implying that the code book is reliable and suitable for coding by a single researcher.

There are two limitations of the chosen research design. First, we must recognise that educational choices are context dependent. For example, excellence education is not necessarily accessible by students from all disciplines. This in combination with the relatively young age (though the first honours programme started in 1993; Wolfensberger, van Eijl, & Pilot, 2004) could affect the familiarity of employers with this choice. Second, this study has a limited number of informants, meaning that quantitative insights should not be regarded as representative.

3.5 Results

Before analysing the mechanisms used in recruitment considerations, we first discuss which educational choice is perceived as having most benefit. Table 3.2 shows the results of our analysis: almost half of the recruiters (10 out of 21) consider a board membership to have most benefit in recruitment considerations. Fairly similarly, nine recruiters thought excellence education provided most perceived benefit and eight recruiters were of the opinion an international experience provided most benefit. Table 3.2 also shows an international experience is perceived as most beneficial by private organisations, while in public organisations excellence education is perceived of as most beneficial. The divergence suggests that the perceived benefit of educational choices dependent on the characteristics of the job, private or public employer, but not so much the geographical orientation of the organisation.

Table 3.2: Educational choice with the most perceived benefit in recruitment consideration by characteristics of employers (n=21)

Characteristics of jobs and organisations	Educational choice			n
	International experience	Excellence education	Board membership	
International	4 (8; 9; 19; 21) *	4 (8; 10; 16; 20)	4 (1; 6; 10; 12)	10
National	4 (4; 5; 11; 13)	5 (2; 3; 5; 7; 17)	6 (3; 5; 11; 14; 15; 18)	11
Total	8	9	10	21
Public	2 (5; 11)	6 (2; 3; 5; 7; 16; 17)	4 (3; 5; 11; 18)	8
Private	6 (4; 8; 9; 13; 19; 21)	3 (8; 10; 20)	6 (1; 6; 10; 12; 14; 15)	13
Total	8	9	10	21
Commercial jobs	3 (9; 13; 19)	2 (17; 13)	2 (10; 9)	5
Government jobs	1 (5)	2 (3; 5)	2 (3; 5)	2
Support jobs	1 (19)		1 (18)	2
Specialist jobs		1 (2)	3 (1; 14; 15)	3
Technical jobs	3 (8; 9; 21)	3 (10; 8; 20)	1 (11)	6
Training jobs	1 (4)	2 (7; 16)	3 (6; 12; 18)	6

Note. Some informants chose more than one educational choice as most important, and some informants reflected on more than one type of job. Both explain why the rows do not add up to the number of informants.

** The numbers in brackets in this and the following rows represent the informant's code*

Divergence is also found in the argumentation of informants. With respect to board experience, the ten informants who indicate this education choice as having most perceived benefit in recruitment consideration, by and large use three arguments. First is that informants associate board membership with leadership competences, which are relevant for the later career in the organisation (6:66; 12:38; 14:58; 15:61).¹⁹ Consequently, recruitment based on board membership experience is a way to secure high potentials for future managerial positions, as follows from the statement below.

“Of importance is the leadership competences because at [organisation] a trainee is expected to grow towards a management position.” (6:66).²⁰

¹⁹ Coding shows the informant's number and the specific quotation number.

²⁰ Direct citations were translated from Dutch to English by the article's first author.

Second, as part of the board membership experience, participants enlarge their social network (1:77; 21:65; 10:63). For example, when organising events for students, board members are often in direct contact with (sponsoring or hosting) organisations. As illustrated below, a board membership is assumed to increase social capital, which in turns benefits them in recruitment considerations.

“In the environment where I work [large law firm] it is important to make connections, also by looking where you want to work during your studies. The people with board membership experience often have already contacted us. They ensure that we recognise their names [when they apply for a job after graduation]” (1:77).

Third, having gained board membership experience is seen as a form of work experience (3:38; 11:58). Having this experience is valued by employers in recruitment considerations.

Nine informants regard excellence education as providing most benefit in recruitment considerations. However surprisingly, two of these informants (5; 16) indicated not to be fully familiar with excellence education. Six informants reason that in excellence education, skills and attributes may be relevant for the job (7:50; 7:55; 8:51; 10:66; 16:67; 17:66; 20:47; 20:59). For example:

“[Excellence education] indicates certain skills and a willingness to work hard. I think that is highly appreciated here. Depending on the [honours] programme it may also have contributed to their knowledge, which they need to conduct further research [in a PhD project]” (7:50).

Moreover, excellence education serves as a proxy for ambition or growth potential (8:60; 16:30), dedication or motivation (7:50; 10:54; 16:30; 17:66), quality in the sense of being amongst the best students (2:56; 4:67; 3:30; 5:50; 10:54; 16:30), and intelligence (16:67; 16:30). Consequently, for the informants, excellence education is an indication of ability and personality, as illustrated below.

“You want to have to best people for a PhD trajectory. And these are often intelligent people, with ambition, goal orientation and intrinsic motivation. [...] When there are 100 applications these are the things that separate the wheat from the chaff” (16:30).

International experience is seen by eight informants as the educational choice with most benefit in recruitment considerations. This is of particular importance when a job, department or organisation has an international orientation (5:74; 8:22; 8:59;

9:52; 13:48; 19:44; 21:67). An international experience gained through an internship has the extra benefit that it can be seen as work experience (11:60; 13:70). The following statement exemplifies the associated benefits:

“If I am recruiting for an international company, I would select someone with an international experience rather than someone without such an experience. [...] The good thing of an international experience is that such a person has put the skills into practice, thus has shown to have the skills, which I take as proof of attainment.” (19:44).

3.5.1 Skills and attributes as direct outcomes

<p>Sub question 1: To what extent are skills and attributes of recent university graduates perceived as a direct outcome of an educational choice?</p>

As shown in Table 3.3, informants particularly associate language skills and attributes such as courage and independence with an international experience. Excellence education is associated with analytical skills, while also showing ambition, perseverance, intelligence, and motivation. A board membership experience is perceived as a sign of leadership skills and being entrepreneurial. The degree to which skills and attributes are considered as direct outcomes of educational choices is discussed below per choice.

Table 3.3: Skills and attributes associated with educational choices as mentioned (two or more times) by recruiters (N=21 multiple skills and attributes can be mentioned by an informant, in brackets the number of times the item was mentioned)

International experience		Excellence education		Board membership	
Skills	Attributes	Skills	Attributes	Skills	Attributes
Language (foreign) (11)	Courage (9)	Analytical (4)	Ambitious (8)	Leadership (11)	Entrepreneurial (4)
Intercultural (8)	Independent (7)	Cooperative (2)	Perseverant (8)	Organisational (8)	Motivated (3)
Communication (5)	Entrepreneurial (6)		Intelligent (8)	Cooperative (8)	Perseverant (3)
Social (4)	Adventurous (5)		Drive / motivation (8)	Social (5)	Insight into policy / politics (3)
	Open minded (5)		Goal / result oriented (5)	Communication (5)	Ambitious (2)
	Adaptability (4)		Broad interest (4)	Planning (5)	Consensus oriented (2)
	Ambitious (3)		Curious (4)	Political sensibly (3)	Goal oriented (2)
	Flexible (3)		Discipline (3)	Financial (2)	Persuasive (2)
	Proactive (3)		Future employment oriented (3)	Writing (2)	Proactive (2)
	Goal oriented (2)		Entrepreneurial (2)		Responsible (2)
	Ground-breaking attitude (2)		Step outside comfort zone (2)		Independent (2)
	Networker (2)				
	Curious (2)				
	Outgoing (2)				
	Step outside comfort zone (2)				
	Self-sufficient (2)				

The informants in general perceive the skills and attributes associated with an international experience as a direct outcome of the educational choice. Nevertheless, there are exceptions. One informant argues that foreign language skills are not necessarily related to an international experience; “many technical specialists already know English” (20:65). Likewise, one informant argues that courage is not gained by the international experience, but rather is a prerequisite for the decision to go abroad (1:59). Another argues that the skills and attributes can also be attained

through different experiences; they are not unique (14:22). Lastly, an informant states that an international experience can only be done if the skills and attributes are already present (19:69).

With respect to excellence education, eight informants argue that the associated skills and attributes are not a direct outcome. They were already present prior to the educational experience (1:27; 1:28; 7:65; 11:66; 12:73; 14:66; 16:75; 18:29; 19:26; 19:54). Statements that led to this observation include:

“They are often the best boys and girls in the class. To be this, all the skills are important, you will never let these go, because they are part of you” (11:66).

“I assume students get accepted [to excellence education] after a rigorous selection, and that students can complete the programme. I assume that if a student does not complete the programme, or not within a certain time, that one of the skills has not been fully developed” (1:28).

“Qualifying to participate in an honours programme says enough about your attributes” (12:73).

With a board membership the informants associated, comparatively, more skills. By and large the informants argue that the skills and attributes are a direct outcome of the board membership experience. Yet, there are two indications of exceptions where informants argue that capacity can be proven through a board membership (1:91), and the position in the board (e.g. treasurer) is related to personality, which in turn is related to certain attributes (e.g. working diligently) (18:74).

To answer the first sub-question, we find that the degree to which skills and attributes are seen as direct outcomes of an educational choice differs. Recruiters' responses suggest direct outcomes in terms of skills and attributes of a board experience, while the outcomes for excellence education and to some extent for international experience were already present irrespective of following the educational choice. This suggests the closer the experience gained from the education choice is to actual work experience, the more it seems to add to students' skills, thus indicating that different mechanisms are used by employers to evaluate the benefits of educational choices.

3.5.2 Length and attainment of skills and attributes

Sub question 2: To what extent is the length of an educational choice important to the perceived associated skills and attributes of recent graduates?

Table 3.4 shows the number of informants who stated that the length of the educational choice is important for the development of skills and attributes per educational choice.

Table 3.4: Perceived importance of length of education choices for development of skills and attributes according to recruiters (n=21; numbers in brackets represent the informants' codes)

	Importance of length of education choice for development of skills and attributes			
	Important	Not important	Inconclusive	No information
International experience	5 (10; 15; 16; 20; 21)	11 (2; 3; 5; 6; 8; 9; 12; 13; 14; 18; 19)	2 (1; 4)	3 (7; 11; 17)
Excellence education	7 (10; 11; 13; 17; 18; 19; 21)	5 (1; 3; 5; 6; 14)	4 (9; 12; 15; 16)	5 (2; 4; 7; 8; 20)
Board membership	12 (1; 4; 9; 11; 12; 14; 15; 17; 18; 19; 20; 21)	7 (2; 3; 5; 6; 8; 10; 13)	0	2 (7; 16)

Five informants claim that the *length* of an *international experience* is important for the development of skills and attributes. Most important are the assumed link between length and the development of language skills (10:16; 15:19; 21:19), as well as independence (20:17). Most recruiters (11) find the length unimportant: “the step you take [to go abroad] is the indicator, the length of the stay – whether two months or half a year – will not make a difference in the degree of entrepreneurship or curiosity” (4:47). Seven informants find the length of *excellence education* important for development of skills. For example, they argue that more people would drop-out if there is a longer duration, leaving only the students with the most determination, goal orientation, ambition, or discipline (10:24; 12:58; 13:55; 15:27; 18:27;). In contrast, five informants argue that length is not important for the development of skills and attributes. One argument includes that the skills and attributes needed to complete an honours programme were already represent, thus not learned during excellence education (1:27; 5:27; 12:56; 16:27), making the length of little relevance (14:27). Likewise, it is argued that a student’s previous motivation and dedication is shown if a programme has a length of a year (3:27; 5:27).

Twelve informants reason that the length of a *board membership* makes a difference in the attained skills and attributes. For example, during an extended period, people will have to work with different people, thus increasing their flexibility (9:34; 18:35). Likewise, the longer, the more problems board members need to solve (20:29). Seven out of 21 informants reason that the length of the experience of a board membership does not matter: “shorter is fine because it gives a taste and students do not lose a whole year” (2:35).

In sum and as an answer to the second sub-question, we find that in the perception of informants particularly the length of a board membership experience has an influence on the assumed attained skills and attributes. For international experience and to a lesser extent excellence education, we do not find this, suggesting that in recruitment considerations the length of these choices does not matter for skills and attribute development, thus suggesting that these educational choices are considered as credentials.

3.5.3 Skills and attributes crucial to do a job

Sub question 3: To what extent do employers prefer to recruit university graduates with an educational choice because the skills and attributes that result from that choice are crucial to perform the job for which they are recruiting?

To answer the third sub-question, we need to combine informants’ answers on three questions: (1) the extent to which an educational choice gives benefits (i.e. the graduate has an advantage) in recruitment considerations, (2) whether the benefit is based on the skills and attributes that result from an educational choice, and (3) whether the associated skills and attributes are crucial to do a job.

The combination provides six answer options, of which two and five suggest that the educational choice is considered as a credential (i.e. having completed the educational choice gives the advantage, not what was learned).

1. The skills and attributes are crucial to do a job, and the education choice gives an advantage in recruitment because of the learned skills and attributes.
2. The skills and attributes are crucial to do a job, and the education choice gives an advantage in recruitment, but not because of the learned skills and attributes (i.e. skills and attributes are not mentioned in the benefit in recruitment consideration).
3. The skills and attributes are crucial to do a job, but the education choice does not give an advantage in recruitment because of the learned skills and attributes.

4. The skills and attributes are not crucial to do a job, nevertheless the education choice gives an advantage in recruitment because of the learned skills and attributes.
5. The skills and attributes are not crucial to do a job, nevertheless the education choice gives an advantage in recruitment, but not because of the learned skills and attributes.
6. The skills and attributes are not crucial to do a job, and employers do not give graduates with this educational choice an advantage in recruitment.

To show the reasoning used by recruiters, Table 3.5 counts the co-occurrence of whether the educational choice gives benefits in recruitment considerations, whether the benefit is based on skills and attributes as outcomes of the educational choices, and whether the associated skills and attributes are crucial to do a job. All educational choices to some extent provide skills and attributes that are crucial to do a job for which recruiters recruit recent graduates. Particularly board membership stands out as the educational choice that is less often mentioned as providing non crucial skills and attributes (i.e. options 4, 5 and 6). As compared to the other two educational choices, the benefit in recruitment considerations of a board membership is more often linked to skills and attributes that are learned (option 1). Excellence education, on the other hand, is associated with crucial skills and attributes, and is rewarded in recruitment considerations, but in comparison more often not because of associated skills and attributes (i.e. option 2). International experience is associated with crucial skills and attributes, which also provide benefit in recruitment considerations (i.e. option 1). Nevertheless, as compared to the other two choices, international experience provides crucial skills and attributes, but does not have benefits in recruitment considerations (i.e. option 3).

In sum, all three educational choices provide skills and attributes that are crucial to do a job. For a board membership and to a lesser extent international experience these skills and attributes are also the reason that these educational choices give benefits in recruitment considerations. Yet, for excellence education it are not the gained skills and attributes that are mentioned as the reason for benefits in recruitment considerations. Suggesting that excellence education is more often viewed as a credential (i.e. completing an experience, rather than gained skills and attributes, is the considered signal).

Table 3.5: Type of reasoning for benefit in recruitment considerations (n=21)

	Crucial / benefit because of skills & attributes	Crucial / benefit but not because of skills & attributes	Crucial / no benefit	Not crucial / benefit because of skills & attributes	Not crucial / benefit but not because of skills & attributes	Not crucial / no benefit
International experience	9 (job functions*) (3; 4; 6; 8; 12; 15; 16; 19; 21)	2 (9; 18)	7 (1; 2; 7; 10; 13; 18; 20)	3 (3; 4; 17)		5 (2; 5; 9; 11; 20)
Excellence education	5 (7; 16; 18; 20; 21)	10 (1; 2; 3; 5; 8; 10; 12; 15; 17; 19)	2 (6; 8)		3 (3; 10; 11)	4 (4; 9; 13; 18)
Board membership experience	12 (1; 3; 5; 6; 9; 12; 15; 17; 18; 19; 20; 21)	3 (10; 11; 13)	4 (2; 4; 9; 16)			5 (2; 7; 8; 9; 15)

* Informants in some cases reflected on more than one job function for which they would recruit recent university graduates, hence explaining why the numbers do not add up to n=21.

3.5.4 Fewer graduates with an education choice; more benefit?

Sub question 4: To what extent is the benefit of an educational choice in recruitment considerations higher when fewer university graduates have done or completed an educational choice?

In response to the final sub question, Table 3.6 provides an overview of the numbers of informants who indicated that the benefit of an education choice in recruitment consideration decreases when more university graduates have done or completed an educational choice.

Table 3.6: Numbers of informants who indicated that the benefit of an education choice in recruitment consideration decreases when more university graduates have done or completed an educational choice (n=21)

More holders decrease the benefit of the educational choice	Yes	No	No answer
International experience	12 (informants) (3; 4; 8; 9; 10; 11; 12; 13; 15; 17; 18; 21)	3 (6; 16; 19)	6 (1; 2; 5; 7; 14; 20)
Excellence education	11 (2; 3; 4; 7; 8; 10; 12; 13; 16; 18; 21)	0	10 (1; 5; 6; 9; 11; 14; 15; 17; 19; 20)
Board membership experience	5 (3; 10; 12; 18; 21)	0	16 (1; 2; 4; 5; 6; 7; 8; 9; 11; 13; 14; 15; 16; 17; 19; 20)

Twelve informants state that the value of an international experience decreases with more graduates having done that educational choice. For example:

“the more people put an international experience on their resume, the less special it becomes” (3:41),

“[because many graduates have done so] currently, recent graduates stand out more if they do not have an international experience, than if they do” (12:65)

Yet, the destination may make a difference for recruiters (e.g. a highly reputable university) (10:70). Moreover, the value of an international experience may have changed because with more students going abroad, it has become associated with “partying in the sun for half a year” (10:70) or because technology and more structured Erasmus-exchange arrangements have made it easier, e.g., to navigate foreign cities or to find housing (12:65). There are also informants who do not see a change in the value of international experience for recruitment. They argue that with organisations becoming more international, and more international companies being in the Netherlands, an international experience will continue to be valuable (6:41; 16:41; 19:66).

Eleven informants argue that the benefit of excellence education would decrease with an increase in the number of graduates with this signal. Consequently, selectivity is important to the distinctiveness of this signal. For example:

“If many students get to do excellence education, the conditions are unfit as this takes away the uniqueness of excellence education, and with this the added value on the labour market” (8:62).

Likewise, an informant argues that since currently many students actively try to do something on top of their study, because excellence education has selectivity, the educational choice gains in relevance (18:68). Consequently, it is important for the labour market that excellence education remains selective (3:41; 16:41). That said, a condition is that recruiters become more familiar with excellence education (20:35 also 6:41).

Fewer (five) informants argue that a board membership experience would decrease in value with an increase in the number of graduates with the experience. For example:

“The distinctiveness of a board membership would devalue if additional board membership opportunities were created” (3:41)

“If more people [recent graduates] have international experience or board membership experience, we will look for other things, for example, we would want graduates to have done all three study choices” (12:65)

With respect to selectivity, one informant argues that if a student would want to be active in a board, it should not be difficult to find an organisation with a vacancy (18:68). Most informants did not discuss a board membership experience devaluating in value, suggesting that this educational choice (*vis-à-vis* the other two) largely maintains its value in recruitment considerations, irrespective of the number of graduates with this experience.

More generally, informants indicate that the value of educational choices on the labour market depends on labour market conditions. It appears that recruiters react to an oversupply of graduates for popular vacancies (e.g. traineeships) by looking more closely at education choices, or when this is also similar among candidates, by looking at other experiences, such as jobs taken on as students or the reputation of the university (1:81; 4:65; 6:41; 6:67; 7:52; 11:73; 12:65; 15:65; 18:70; 19:68; 21:71). Consequently, oversupply appears to lead recruiters to do hard screening of resumes for educational choices (2:59; 3:71; 4:64; 5:64; 6:68; 6:69; 9:54; 10:55; 11:61; 12:52; 15:53; 15:64; 16:55; 18:60; 19:67; 20:60). The aforementioned suggests that the labour market condition (e.g. oversupply of applicants) determines the degree to which educational choices are evaluated as credentials (11:50; 11:61; 14:41; 14:60; 20:46). Likewise, it implies that what is learned through educational choice is of less importance: when there are so many candidates in the first stage of recruitment, recruiters look for any kind of ready-made signals of ‘something extra’. In this context, informants advise students – particularly in more popular study programmes – to complete educational choices, as this gives them an advantage in the recruitment stage (11:62; 11:74; 14:61; 16:70; 17:77; 18:70; 20:61).

In sum, we found that particularly the value of excellence education and international experience in recruitment considerations is dependent on the number graduates that have done these education choices. The more graduates that have this experience, the less of interest to employers a graduate with these education choices becomes (i.e. signal inflation). A board membership experience, however, appears to hold its value. That said, when there is a large supply of applicants especially for popular vacancies (e.g. traineeships), all three education choices are used to screen resumes (as suggested by Weiss, 1995; Stiglitz, 1975; and Brown, 2001).

3.6 Conclusion and discussion

After analysing the results, now we can reflect on the main research question: *To what extent are international experiences, excellence education, and board membership considered signals of skills, attributes, or credentials in recruitment considerations by recruitment officers of employers?*

Our study revealed that educational choices are an aspect in recruitment considerations of recent university graduates by employers; employers expect a positive impact of educational choices on employability, which confirms findings of previous studies (e.g. Malicki and Potts, 2013; Koster, 2013). Although differences between education choices are not highly distinct, in the perception of the recruiters, a board membership experience provides slightly more benefit in the recruitment stage, as compared to excellence education and international experience. The employers' valuing a board membership experience most is comparable to the finding of Koster (2013).

We found that employers' perceptions appear to be influenced by the type or organisation they work for. Recruiters in public organisations have more interest in graduates with excellence education, while private employers value board membership and international experience more.

Having found that educational choices give benefits in recruitment processes, we turn to address the knowledge gap with respect to the underlying mechanisms in employer's recruitment considerations.

Summing up the outcomes on the four sub-questions, we conclude that all three educational choices give relevant signals that are of benefit in recruitment considerations. However, there are differences. The benefit of a board membership experience can be largely explained by the associated skills and attributes. But this is less often observed for excellence education, where the credential of having completed the educational choice is a major consideration. Moreover, in particular excellence education is more associated with attributes (e.g. perseverance), which exists irrespective of graduates actually doing the educational choice. It appears that

a board membership experience signals to an employer that a recent graduate can do a job (i.e. skills), while excellence education allows graduates – through their enhanced résumé – to acquire a job. We conclude that particularly excellence education and international experience are positional goods because the value in recruitment is related to the exclusivity of the signal (Tomlinson, 2008; Nemanick Jr & Clark, 2002).

This study's contribution to the academic discussion is that we find that the closer education or an experience is perceived to be to developing actual skills (i.e. board membership), the more likely it is that these are important signals in recruitment considerations. Contrarily, if an educational choice is more associated with pre-existing attributes (e.g. perseverance, motivation, etc), benefits in employers' recruitment considerations are more likely to stem from credentials, which are not necessarily important to actually do a job.

For future research it would be recommendable to expand the theoretical framework, particularly to examine more in-depth the importance of specific signals, while also accounting for influences of gained or pre-existing social capital (Fevre *et al.*, 1999). More specific suggestions for further research follow from the limitations in the design of our study. For most, a larger number of informants would have increased the generalisability of the outcomes, as would perhaps a stronger focus on one economic sector (e.g. public sector). Despite its limitations, our study offers novel insights into recruitment considerations of recruiters, while also contributing to the literature by empirically studying signalling theory through an operationalisation of the mechanisms.

Our study has two broad implications for universities and students. First, educational choices are used in recruitment considerations, and therefore connected to graduate employability. Consequently, students should get a chance to participate in these choices. Universities can be advised to (continue to) offer or enable students to make education choices. Students, particularly those in popular study programmes, can be advised to do educational choices, as this gives them an advantage, and some more than others (e.g. board membership in the private sector and excellence education in the public sector).

Second, providing students with opportunities to conduct activities beyond the regular curriculum, could become a zero-sum game through signal inflation (Stiglitz, 1975), meaning a situation where students increasingly supplement their regular education with numerous other activities to get an advantage on the labour market by distinguishing themselves from peers. An indication this is taking place we find in the extrinsic motivation of students to study abroad and to participate in excellence education (Kolster, 2014; Kolster *et al.*, 2016). It is imaginable that these

extrinsic stimuli could have adverse effects on students' mental health and on their performance in intracurricular education. Likewise, some students may have more means than others (financial but also social or cultural capital) to engage in educational choices that give them an advantage on the labour market (e.g. Vossensteyn *et al.* (2010, p. 10) find that "ERASMUS students tend to come from higher socio-economic groups"). Moreover, fewer first-generation higher education students in the Netherlands participate in excellence education or gain board membership experiences (ResearchNed, 2020). Consequently, inequality in employability after completing higher education is to be considered. The policy challenge is to find a balance between opportunities for and fair outcomes of educational choices. To do so, universities can think of creating incentives to ensure diversity in the student population undertaking educational choices. More concretely, one can think of targeted scholarships and information to study a period abroad, varying selection criteria allowing disadvantages students to participate in excellence education, and setting regulations or incentives to ensure diversity in boards of associations sponsored by universities.

Chapter 4: Facilitating organisational outcomes of excellence education

This chapter has been published as Kolster, R. (2021). Structural ambidexterity in higher education: excellence education as a testing ground for educational innovations, *European Journal of Higher Education*, 11:1, 64-81.²¹

4.1 Abstract

Excellence (‘honours’) programmes are a relatively new way in Dutch higher education institutions to serve the needs of talented and ambitious students, but may also serve as a testing ground for educational innovations. Using the structural ambidexterity concept, this paper investigates if and how excellence education functions as explorative units. Based on qualitative empirical insights from key actors at five case study higher education institutions, we conclude that excellence education function as testing grounds for education innovations. Diffused innovations are, for example, student-driven learning approaches and student assessment practices. However, the role of excellence education in a learning organisation should not be overestimated. The amount of diffused innovations is rather limited and excellence education is not the most important source of educational innovation. To improve the impact of excellence education on the organisation, we see room for improvement in the integration of excellence education in the organisation, particularly through leadership attitudes and connectedness of key actors.

4.2 Introduction

March (1991) proposed that organisational learning, and with that part of the organisation’s performance and competitiveness, consists of exploitative and explorative activities (Kang & Snell, 2009; Phairah, 2019). Exploitation refers to incremental refinement, improvement or making existing activities more efficient, while exploration entails experimentation with radically new activities and innovations (Mathias, 2014; Junni, et al., 2013). Organisation that successfully balance exploitative and explorative activities, thus improving existing processes

²¹ As compared to the published version of this chapter, the positioning and numbering of the sections, figure and tables have been adjusted to fit the structure of this dissertations, and the bibliography of the published version has been included in the combined bibliography of this dissertation.

and products while developing new ones, are thought of as ambidextrous organisations (Mathias, 2014; Junni, et al., 2013).

There are different modes of ambidexterity. In the contextual ambidexterity mode employees conduct both exploitative and explorative activities at the same time (Úbeda-García, et al., 2016; Kang & Snell, 2009). Temporal ambidexterity is achieved by organisations that alternate between exploitative and explorative activities, thus making the process sequential (Canonico, et al., 2013; Kang & Snell, 2009). Lastly, there is structural ambidexterity where exploitative and explorative activities are spatially separated through a unit that focuses on exploration (innovation), while the regular organisation operates as a stable organisation (exploitation) (O'Reilly & Tushman, 2004; Canonico, et al., 2013; Huang & Kim, 2013; March, 1991). In this paper we focus on the latter form of ambidexterity.

Having been mainly discussed in the business administration literature, more recently the concept of ambidexterity has emerged in literature on public sector organisations (Gieske, et al., 2020; Boukamel & Emery, 2017; Cabeza-Pullés, et al., 2019; Kokkeler, 2014). The emergence is linked with the greater attention for innovation in the public sector (Gieske, et al., 2020). However, the explorative side in the public sector is often overshadowed by the sector's nature to favour exploitation, imposing barriers to the creation and sharing of knowledge, and isolation of structurally and culturally different departments preventing synergies (Boukamel & Emery, 2017). Consequently, the public sector may learn from suggestions to balance exploration and exploitation (Nguyen, et al., 2016). That said, the mode of ambidexterity with most beneficial outcomes may differ for institutions within the public sector, just like it appears to be the case in the private sector (Junni, et al., 2013). Such insights are, however, limited in the public sector, and to the best of our knowledge insights from the structural ambidexterity literature have not been applied to the higher education sector.

Having briefly outlined the conceptual background, we now turn to the linkage with the topic at hand: excellence education as a testing ground (meaning the same as an explorative unit) for education innovation. Recent overviews show that introducing excellence in teaching and learning practices is becoming a trend in Europe (Van der Wende, 2011; Wolfensberger, 2015; Allen et al., 2015). In continental Europe, the Netherlands is a frontrunner in this development. All thirteen universities and many of its three dozen universities of applied sciences have introduced excellence education. The introduction of honours programmes and university colleges is a marked departure from the egalitarian tradition of Dutch higher education (Wolfensberger, et al., 2012). The first honours programme in the Netherlands started in 1993 (Wolfensberger, et al., 2004).

In the Netherlands there are broadly two types of excellence education. First, bachelor or master programmes that are labelled by external organisations (such as the accreditation or ranking agencies) or self-declared by higher education institutions as being of excellent quality. The second type are (often extra-curricular) programmes that selected students do on top of their regular bachelor or master study programme. By-and-large, these programmes are called excellence programmes, honours programmes or talent programmes. They typically have a study load of an additional 30 EC (i.e. half a year of effort), spread across one to two years.

Honours programmes usually have a multidisciplinary orientation that is not necessarily classified in fixed learning outcomes, making them a unique learning experience. Completion of an honours programme often is acknowledged through a certificate or with a mark of distinction on the degree. The programmes are typically selective, ensuring that only the most-motivated and best-performing students enrol. A common practice is for interested students to apply to the honours programmes (see publications by Jacobs, Leest, Huijts & Meng, and Leest and Wolbers, in this volume). Selectivity is important because: (1) it puts selected students in a learning environment with like-minded students and (2) it gives motivational direction to all students.

Excellence education aims to offer an inspiring learning experience to students that want a challenge on top of their regular study programme. Somewhat paradoxically against the background of the egalitarian nature of higher education in the Netherlands, excellence education requires institutions to invest additional resources in students who are already performing well. Part of a justification is that institutions claim that these investments contribute to the quality of learning for all students (Van Eijl et al., 2003). Particularly because honours programmes are expected to serve as a testing ground for educational innovations (Wolfensberger, et al., 2004; 2012; ten Berge, et al., 2018; Enthoven, et al., 2016). Put differently, excellence education as a testing ground for educational innovation is to undertake – as a structurally separate unit – explorative activities within a higher education institution. These explorative activities are to have a positive effect on the exploitive practices. For example in terms of the quality of education, on the effectiveness of learning, or on the attractiveness of the university for new students. The following citation taken from the strategic plan 2017-2020 of the Honours College that organises the honours programmes of the University of Groningen (UG) is illustrative of the above (University of Groningen, n.d., p. 1-2):

“The Honours College is a testing ground for teaching innovation and offers lecturers from across the UG [University of Groningen] the opportunity to experiment with new modes of instruction and assessment. Thanks to the unique extracurricular

content and the talented group of students who take part in the programmes, the Honours College is a fertile and safe educational environment in which lecturers and students work together on innovations in teaching. In recent years this has resulted in pilot projects with learning communities, active learning, project-based learning and the international classroom concept. Lecturers see the Honours College as an inspiring teaching lab for innovative education. Positive experiences and results are shared within the lecturers' community of practice, and can be rolled out and used in regular UG degree programmes."

4.3 Research questions

Using the conceptualisation of the explorative aspect of structural ambidextrous organisations, this paper aims to identify factors influencing the functioning of excellence education – in the form of honours programmes – as a testing ground for innovations. By doing so we aim to find insights into the potential of the testing ground's explorative activities finding their way into the exploitive activities of the regular organisation, thus making excellence education serving the interest of the entire staff and student population. Consequently, we have formulated the following research question:

To what extent are the testing grounds formed by excellence education in five Dutch higher education institutions, structural ambidextrous explorative units that create educational innovations?

4.4 Conceptualisation

We make the assumption that the testing ground function of excellence education fits with the exploration aspect of structural ambidexterity. First, we discuss how we see the testing ground conceptually. Second, we deduct the elements of what the literature suggests is important to create functional structural ambidexterity within organisations.

Conceptually, the testing ground for educational innovations forms part of an innovation cycle within higher education institutions that consists of three steps. First, innovations emerge from the explorative testing ground (or what some call a dedicated community of practice; Dee & Leisyte, 2016). Second, innovations diffuse to the regular organisation and regular study programmes (i.e. the exploitive units). And third, the diffusion may become institutionalised within the regular exploitive activities. The process is similar to what Kang and Snell (2009) identify as going from individual knowledge, to social knowledge, to organisational knowledge.

Related to higher education, Brennan, et al. (2014, p. 4) define innovation as a “new or significantly improved product, process, organisational method or an organisation itself developed by or having a significant impact on the activities of a higher education institutions and/or other higher education stakeholders”. Brennan’s definition closely aligns to what can be expected from an explorative unit within a higher education institution. For example, through excellence education teachers can develop or experiment with new teaching methods, which through diffusion could affect the entire institution. Likewise, innovations can also provide a new way to organise education.

From the literature on (structural) ambidexterity we have deduced the conceptually important aspects of successful explorative units (i.e. units that make an organisation ambidextrous). This perspective is unique. First because it is applied to higher education institutions. Second because the literature has paid limited attention to what constitutes a well functioning explorative unit (Phairah, 2019).

Literature on structural ambidexterity suggests that the success of an explorative unit in terms of innovation development and diffusion depends on its integration with the exploitive units of the organisation (Hansen, et al., 2019). The integration is vital for the explorative activities to have the potential to be diffused to the regular organisation (Boukamel & Emery, 2017). Without integration, excellence education as a testing ground remains in isolation where only occasionally and by chance an innovation diffuses from. Note that there needs to be a balance in the degree of integration because too much integration may hinder the proper working of the explorative unit. In this context Hansen, et al. (2019) talk of cross-contamination.

As part of what can be called an ambidexterity strategy, the integration should be consciously designed by founding actors (e.g. policy makers and institutional leadership) when setting up the explorative unit (Gieske, et al., 2020). Arguably, such a strategy is an essential part of how an institution integrates innovations within the organisation. An ambidexterity strategy is to be worked out in structural elements that integrate the explorative unit with the rest of the organisation.

As a first design element, the unit has to have the explorative function recognised within the organisation. The constitutional vision of the unit should state that it is designed to function as an explorative unit that develops innovations useful for the broader organisation (Gieske, et al., 2020). As a next step, the testing ground is to be recognised by key stakeholders as a source of innovations that may impact the rest of the organisation. Operationalised, we expect policy documents and key actors to indicate or recognise that excellence education was meant as a testing ground, and that it functions as such.

When it comes to organisation, the unit is to be allowed to operate independently and with autonomy in the formation of its own processes, structures and cultures (Tushman & O'Reilly, 1996; Kauppila, 2010; Huang & Kim, 2013). A unit can achieve this through supportive regulations, stable funding, and administrative support. That said, considering the integration, the unit cannot have complete dissimilar rules, procedures, job instructions and communications as these align the unit to the rest of the organisation. Consequently, a balance between autonomy and integration is needed for the development and diffusion of innovations (Chang & Hughes, 2012; Kang & Snell, 2009). Translated to excellence education, we would expect the unit to function independently, thus allowing the creation of a unique culture, and to do so under stable conditions (i.e. funding and support), yet to have organised connections with regular education.

Leadership embeddedness is an important component in the integration of the explorative unit with the regular organisation. Particularly important are linkages on the top management level (Chang & Hughes, 2012; Kang & Snell, 2009; Boukamel & Emery, 2017). Connected management allows the explorative unit to be accountable for changes that affect the whole organisation, rather than on other organisational units within the regular organisation. Likewise, as argued by Kauppila (2010, p. 285, "The tight coordination and integration of top management are vital for ambidexterity, as they allow cross-fertilization and resource sharing across units". The literature indicates that organisations with an integrated management are more successful in implementing innovations (O'Reilly & Tushman, 2004; Dee & Leisyte, 2016). Excellence education as a well functioning explorative unit is thus to have a close connection between its leadership and that of the higher education institution.

Besides the structural position of the leadership of the explorative unit, similarly important is the attitude of the leadership. Chang and Hughes (2012, p. 2) suggest that "supportive leaders, flexible managers and an aligned top management team are important antecedents underpinning any form of ambidexterity". Leadership is to accept the potential for failures in terms of the impact on the regular organisation (Chang & Hughes, 2012). However, this does not mean a disinterest. In fact, quite the opposite, because without interested and supportive management, and organisation is less likely to be ambidextrous (Chang & Hughes, 2012; Boukamel & Emery, 2017). Consequently, for the testing ground we would expect that it is led by top management, which integrates excellence education with the rest of the organisation, while having an ambidextrous leadership style, which motivates, connects, and shows a keen interest in what is developed within the testing ground (Gieske, et al., 2020; Tushman & O'Reilly, 1996; Canonico, et al., 2013; Filippini, et al., 2012).

The explorative unit is, of course, not complete without considerations of human capital aspects. We consider here human resource management (HRM) configurations that instil core values and beliefs (i.e. culture) (Kang & Snell, 2009), influence employees' performance (Huang & Kim, 2013), and facilitate motivated and competent staff to dedicate efforts to exploratory activities (Úbeda-García, et al., 2016). Moreover, Adler et al. (1999) argue that employees' creativity, flexibility and efficiency is improved through job enrichment, which can be achieved through a degree of job rotation (switching) between organisational structures (explorative and exploitive units). A degree of job rotation, thus, appears a good measure to create structural ambidexterity (also see Huang & Kim, 2013). Job rotation is also related to integration. Similarity, social or professional networks are important to create ties between actors (Phairah, 2019). This can be between actors within the explorative unit, as well as between actors of the unit and those outside. The social dimension allows an explorative unit to develop and have a shared identity and culture (Phairah, 2019). Networking with actors outside the explorative unit may further facilitate the diffusion of innovations.

What this means for the ideal testing ground is that there are organisational directives on the culture of the testing ground and HRM directives with respect to performance, motivation, and capacity. For the testing ground we would expect to see that it involves highly motivated, dedicated teachers and students, prone to experiment with education. To facilitate creativity, flexibility, and efficiency we would expect that the testing ground involves administrators, teachers and students that are active in both excellence education as regular education. For the integration of teachers and students of the explorative unit between themselves and the wider organisation we would expect to see internal and external networks.

Based on the above, we conceptualise that the testing ground of excellence education within higher education institutions is to have recognition by all actors (e.g. teachers, students and administrators) as a testing ground, a supportive organisational structure, leadership that is embedded within the wider organisation, leadership with a focus on explorative actions, and supportive human capital aspects (e.g. culture, dedicated teachers active in regular organisation, and networks).

4.5 Methodology

To study the testing grounds for educational innovations formed by excellence education, we have performed in-depth qualitative case studies at three research universities and two universities of applied sciences in the Netherlands.

Our case studies employed three research methods. First, we did a document analysis to identify the institution's vision on (excellence) education, educational mission, didactical approaches, study culture, and rationale for excellence education. Selected documents included annual reports, quality assurance documentation, study programmes' syllabi and exam regulations, internal and external policy reports and evaluations, and news items. Second, to study the functioning as a testing ground, and the resulting innovations, we held through a carefully designed interview protocol semi-structured interviews and focus groups (in Dutch) with key actors within higher education institutions. The actors included policy makers on institutional and faculty levels, coordinators / administrators of excellence programmes, teachers in excellence programmes, and students who participated in excellence education and those who did not. In total we interviewed 30 employees at five higher educational institutions and 15 students studying at four higher education institutions. Third, prior to the interviews, interviewees (with exception of students) were asked to fill out a digital survey and 27 respondents did so. In the survey we asked, *inter alia*, if excellence education functioned as a testing ground. The results from the document analyses and survey fed into the questions asked in the semi-structured interviews.

The interviews were transcribed, after which structured case study reports were written. These case studies also included information collected through the other two methods, thus allowing us to cross check found documentation on excellence education. Through this triangulation we aimed to increase the internal validity of the empirical evidence.

4.6 Results

In this section we discuss the results. We do by analysing the empirical data using the conceptualisation. To make the testing ground more tangible we start with the type of innovations that respondents have linked to the testing ground. Next, we discuss the five elements of an explorative unit. We conclude this section by looking beyond the testing ground function.

4.6.1 Type of innovations

Respondents indicated several innovations that emerged in the testing ground, and which were diffused to regular education or the broader organisation. Below an overview (Table 4.1) is provided of the developed innovations, grouped in five topics: Educational concepts / Didactical methods, Assessment forms, Educational content, Educational tools, and Organisational.

The most prominent educational concept developed in the testing ground is student-driven learning. Almost all institutions are using the concept within their excellence

education, where students are given a high degree of independence and freedom to choose their own learning pathways and methods of assessment. Instead of teachers instructing what has to be learned, students are made responsible to set their own goals, and methods to attain these. Teachers take on a more coaching role. The flipped classroom is a clear example of an imported innovation that is experimented with in the testing ground. A teacher at a university mentioned that he tested this approach in excellence education, and now also uses it in his regular education. Consequently, showing diffusional effects.

Two innovations are mentioned by teachers and administrators in the area of assessment. Both are related to the student-driven learning concept. Students of an excellence programme of a university of applied sciences may set their own assessment criteria. The learning outcomes are not entirely freely determined by the students, but the approach to attain the outcomes is. The learning process is central. Students collect evidence of attaining a learning outcome. Having students set their own assessment criteria is said to make the assignments of more interest to students.

Within excellence education teachers and administrators experiment with educational content. For example, a university experiments with personal leadership in excellence programme and developed a training to this end. This training is now also applied in regular study programmes. Likewise, we came across examples where excellence education is strongly focussed on societal relevant themes, for example provided by NGOs, and on multidisciplinary topics.

The testing ground offers opportunities to evaluate the effects of new educational tools. An example is the self-defined (informal) behavioural codes to which students commit themselves. According to a policy maker, the tool was found to increase trusts and lower the required transaction costs (monitoring and regulating) and is now also applied in regular education. In another example a tool was developed to successfully match a team of students, based on the assignment, students' preferences and disciplinary background. One university experimented with digital educational tools. The function of digital tool was to support interaction through video-conferencing and intranet communities. The relatively low amount of experiments with digital tools is perhaps related to the often 'low-tech' setup of excellence education. Indicative is that in one excellence programme students are asked not to use PowerPoint when giving a presentation. Likewise, in one case, assignments are not to be submitted through a digital learning environment (e.g. Canvas or Blackboard), but rather emailed directly to the teacher.

Table 4.1: Overview of innovations that were developed in the testing ground of excellence education

Topic / case study	Case study 1 (UAS)	Case study 2 (UAS)	Case study 3 (University)	Case study 4 (University)	Case study 5 (University)
Educational concepts / Didactical methods	<ul style="list-style-type: none"> - Student-driven learning - Experiential learning - Guest lectures 	<ul style="list-style-type: none"> - Student-driven learning - Teaching through coaching - Equality approach (vs hierarchical) 	<ul style="list-style-type: none"> - Think tanks - Internship - Activating education 	<ul style="list-style-type: none"> - Student-driven learning - Research based learning - Academic advising 	<ul style="list-style-type: none"> - Student-driven learning - Project-based learning - Activating education - Team based learning - Flipped classroom
Assessment forms	<ul style="list-style-type: none"> - Open form (student tailored) of assessment 	<ul style="list-style-type: none"> - Open assessment matrix 			
Educational content	<ul style="list-style-type: none"> - Inter / multidisciplinary education 	<ul style="list-style-type: none"> - Real-live case providers - Societal relevant themes 		<ul style="list-style-type: none"> - Leadership training - Professional skills development - Historical Book Review 	<ul style="list-style-type: none"> - Societal relevant themes - Reflective education
Educational tools		<ul style="list-style-type: none"> - Selective aspects of education - Learning communities - Innovation work-places 	<ul style="list-style-type: none"> - ICT-facilitated interaction 	<ul style="list-style-type: none"> - Matching tool for group assignment - Competence-portfolio 	<ul style="list-style-type: none"> - Behavioural codes of conduct - Personal development plans - Personal pursuit projects
Organisational		<ul style="list-style-type: none"> - Students working together with professors 		<ul style="list-style-type: none"> - Quality assurance system - Matching of students to study programmes - Common rooms 	

Innovations can address the way education is organised. For example, in the way research groups of universities of applied sciences are involved in education. This was first done within excellence education, but now has a broader application, also in regular education. We also came across an example of comfortable workspaces for students (common rooms) started by a university college that are now adopted throughout the university. Lastly, a central coordination office of excellence education introduced a quality assurance system for excellence programmes, aspects of which are now used by the entire institution.

4.6.2 Recognition

The innovations discussed above indicate that excellence education can indeed function as a testing ground. However, we are interested to see whether this was an explicit function of excellence education.

Policy documents reveal that three of the five institutions had explicitly indicated the testing ground function. First, a university of applied sciences highlights the importance of creating an honours community – consisting of honours students and teachers involved in honours (also see: Otto & de Kruif 2017). This community is to stay in contact with the rest of the organisation – including regular education – through which aspects of the excellence education can also be applied there. Second, two research university particularly attach the testing ground function to their university colleges (i.e. liberal arts college). The small scale, financial support, and small groups of motivated students in colleges allow experimenting with innovative approaches (e.g. student-driven learning) and topics (e.g. new interdisciplinary fields that may be translated into specialisations in masters, such as neuroeconomics).

Respondents of the university of applied sciences that did not mention the testing ground function explained that their institution did not participate in a national subsidy scheme for excellence education, which – according to these respondents – had made ‘testing ground’ an important criterion for the subsidy.

Interestingly, even if policy documents did not indicate that excellence education was designed to be a testing ground, most respondents indicate that it does functions – at least partly – as a testing ground (see Figure 4.1).

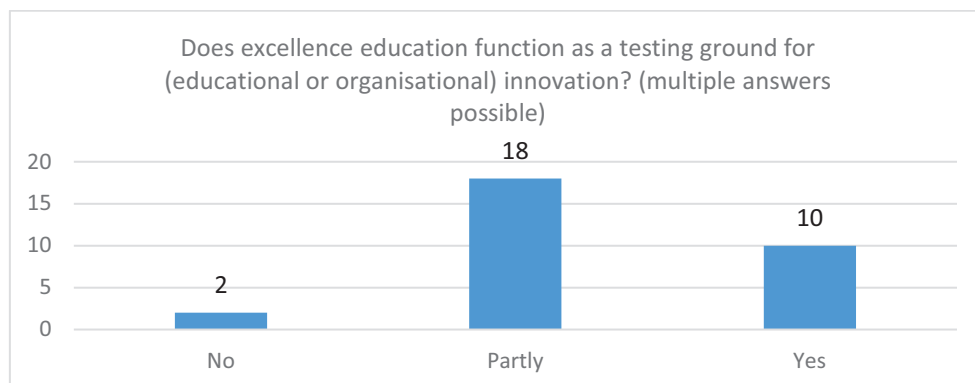


Figure 4.3: Functioning of excellence education as a testing ground for (educational or organisational) innovation (total count of answers, $n=27$)

The two respondents (a teacher and an administrator) that indicated that excellence education does not function as a testing ground say this is due to the small-scale character of excellence education which provides limited possibilities to up-scale innovations and the organisational design of excellence education. With respect to the latter, one interviewee notes that excellence education should not be seen as a front runner of regular education. In the respondent's perception excellence education and regular education are two separate educational approaches.

Part of recognition of the testing ground function lays in the impact it has as a source for innovation. Therefore, the respondents were asked what to them are the most important sources for renewing or improving education (see Figure 4.2). By far, initiatives of individual teachers are said to be most important, followed by initiatives by centres of expertise in learning and teaching and academic policy makers (deans, rectors). As compared to these sources, excellence education is the least important. Some respondents explain that excellence education does not have a monopoly on experimenting with new educational approaches. Exploration can also be done in regular education, for example through adoption of new educational instruments (e.g. Virtual Reality) or new assessment techniques.

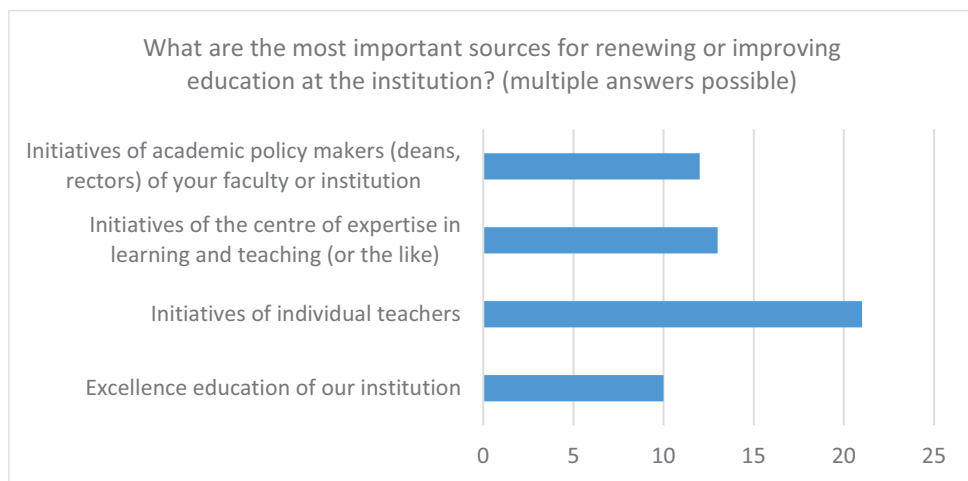


Figure 4.4: Most important sources for renewing or improving education at institutions (total count of answers, $n=27$)

4.6.3 Organisational structure

The respondents that indicated that excellence education functioned as a testing ground for education innovation were asked which elements contribute to this function (see Figure 4.3). By far, most important is the educational freedom. Meaning the autonomy that teachers and coordinators have to experiment with excellence education (Otto & de Kruif, 2017). The reduced regulations or management pressure on the organisation of excellence education is also beneficial to the testing ground function (Wolfensberger, et al., 2012). Respondents connect this element to the extracurricular nature of excellence education, and to the absence of externally determined learning outcomes (e.g. accreditation standards and requirements). Moreover, the respondents praise inter- or multidisciplinary excellence programmes because this allows teachers (and students) from different disciplines to interact, which may result in innovations.

Through the vision on excellence education, respondents indicate that it is important that the institution makes it a goal of excellence education to function as a testing ground (Wolfensberger, et al., 2012; Otto & de Kruif, 2017). Supportive in this respect could be the organisational design of excellence education. For example, to have a central department that has a coordinating role in the different honours programmes that make up an institution's excellence education. Through such as structure, non-academic staff can support diffusing innovations from the testing ground.

The respondents have not explicitly mentioned financial resources as important to the testing ground function. Perhaps this suggests that the higher education institutions provide adequate resources to organise excellence education.

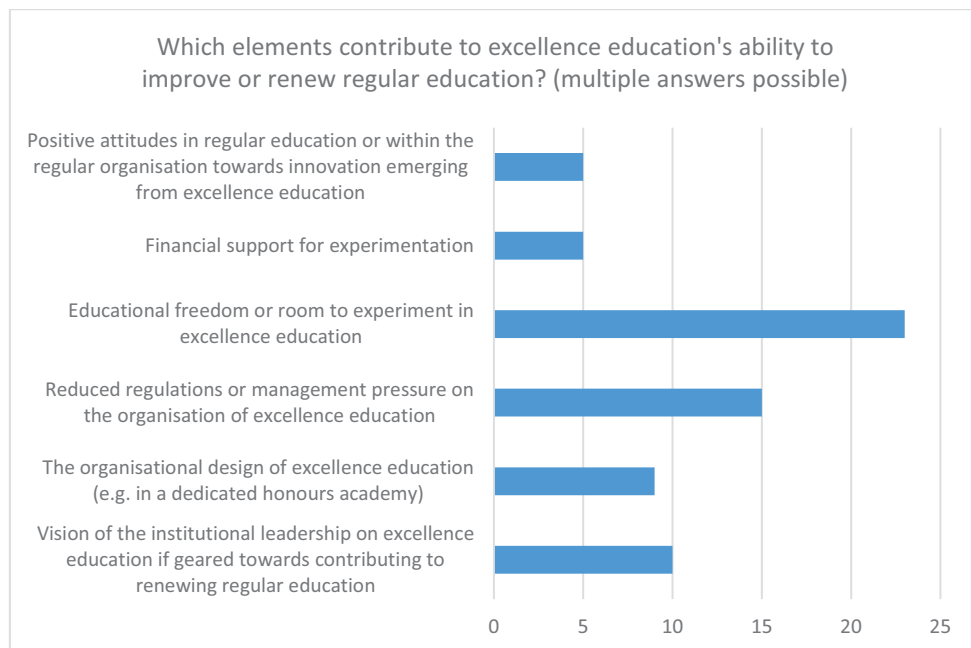


Figure 4.5: Elements contributing to excellence education's ability to improve or renew regular education (total count of answers, $n=27$)

Related to the organisational setup of excellence education, the respondents report that excellence education can create an interdisciplinary or multidisciplinary environment, not seen in regular programmes. Consequently, within the excellence education environments students from various educational backgrounds learn together, and bring together teachers who would normally not work together. The inter-disciplinary focus is said to contribute to the testing ground function.

4.6.4 Leadership embeddedness

Looking more closely at the embeddedness of the leadership we see differences per institution. Most common is that the unit that organises excellence education throughout the institution (e.g. an honours academy) is linked to the regular organisation through a high-level management position. In three of the five institutions the unit is led by an honours dean, which is either a position on par with deans of other faculties, a position a dean from a faculty has in tandem, or a function of the institution's rector. In another case the unit in charge of organisation of honours programmes is led by a vice-rector of the institution. The high-level

management positions suggest that from an ambidexterity perspective, the embeddedness of the leadership is well organised in four of five cases. In the only aberrant case there does not appear to be a strong central coordinator of excellence education. Meaning that the leadership of excellence education is mainly linked to individual faculties, rather than linked on institutional level. In this case institution there is also no overarching unit that organises excellence education throughout the institution.

4.6.5 Leadership attitude

The literature indicated that the leadership is to have an ambidextrous leadership style, which motivates, connects, and shows a keen interest in what is developed within the testing ground. In this respect the respondents state that often there is limited institutional focus and recognition of what comes out of the testing ground. We also found this in the interviews with policy makers at institutional level. In all five case studies policy makers often do not know which innovations emerged from the testing ground. Likewise, linkages in policy and practice between excellence education and regular education are not frequently and structurally made by institutions' centers of teaching and learnings. Consequently, the respondents indicate that the testing ground function and diffused innovations can increase through supportive leadership attitudes.

4.6.6 Human capital aspects

The respondents report that the excellence education is populated by enthusiastic and qualified teachers and highly motivated students. Both groups have been selected to participate in excellence education. In all five case studies interviewees recognise that teachers involved in excellence education tend to be more exploratory in their regular teaching too. The honours students are reported to be tolerant and forgiving towards new education approaches and are able to cope with the granted autonomy (e.g. in selecting their own assessment criteria). The selective nature of excellence education makes it that relatively few teachers and students are involved. The small scale allows the excellence education to be more flexible than regular education.

For the diffusion of innovations it can be indispensable for teachers in excellence education to remain involved in regular education. In four of the five case studies teachers in excellence education remain involved in regular education. This configuration is reported to be indispensable for the diffusion of innovations. The other case mainly used external guest lectures in its honours programme, thus not establishing a link between excellence and regular education.

By and large, human resource management is not used to steer performance, motivation and capacity of actors involved in excellence education. The involved teachers are not financially compensated individually for their contribution to excellence education. Rather, their ‘regular’ department is through common institutional funding channels compensated for teachers’ nominal time contribution to excellence education. One case does have a mandatory training course for prospective honours teachers. The course is used to develop academic competences, instil the core beliefs of excellence education (i.e. culture) and allows those involved to form a network.

All case studies have regular meetings where teachers in excellence education come together to share experiences or best practices, or discuss practical organisational matters. Actors outside excellence education have a limited role in these meetings. The creation of a community of honours teachers gets explicit attention at two case studies. Given the important role of teachers in the development and diffusion of innovations, the lack of attention for a community of like minded (internal and external) teachers is surprising. That said, all institutions do have formalized communities of honours students. They have formed honours students associations. These associations also have formed a network at national level. Similarly, a national network of honours deans was established.

4.6.7 Looking beyond the testing ground function

We discussed the testing ground function of excellence education. However, excellence education may also contribute to enrich the learning experience of students. In fact, for most respondents this – and not the testing ground function – is the primary objective of excellence education. Students’ learning outcomes relate to knowledge and skills. The broader effects pertain to employability and the connectedness between students and teachers.

The respondents observe that the education design of excellence education provides a broadening or deepening of knowledge and skills on top of the regular study programme. Specific competences that respondents see being developed through excellence education are:

- Academic competences: critical, analytical and academic competences, development of students to become academics, inter- and multidisciplinary broadening, and academic writing skills.
- Social and marketable skills: advising, contact with clients and principals, coping with and giving feedback, negotiation, discussing, planning, presenting, creativity, and cooperating.
- Personal development: resilience, perseverance, showing courage, developing a personal vision, and coping with autonomy.
- Entrepreneurial: showing initiative, leadership, and taking responsibility.

Looking beyond learning outcomes, respondents observe that the particular design of excellence education may have other individual effects. First, students that accomplished excellence education may have an advantage on the labour market. Upon completion they receive a certificate or an honours degree. Respondents see that this gives students an advantage because it allows students to distinguish themselves. Students themselves also see this benefit (Kolster et al., 2016). Moreover, in some cases employers themselves actively scout honours students for internship places. Similarly, through the educational design (e.g. guest lectures) students may gain a better professional network.

The small-scale setup of excellence education allows students and teachers to be more connected. Teachers more often take on the role of coaches, also advising students on professional and education trajectories. Respondents see that honours students opt for educational pathways that are different from their peers. Students of an honours programme at a university of applied sciences more often enter master programmes. Honours students of a university more often decide to continue their education by doing a PhD (also see Wolfensberger, et al., 2012).

4.7 Conclusion

In this paper we sought an answer to the question: To what extent are the testing grounds formed by excellence education in five Dutch higher education institutions, structural ambidextrous explorative units that create educational innovations?

Reporting on excellence education's function as a testing ground, the respondents have reported several innovations that have found their way into regular education. These innovations relate to educational concepts or didactical methods, assessment forms, educational content, educational tools, and organisational aspects. Particularly student-driven learning stands out as a diffused educational concept at all but one institution. Teachers also experimented – and diffused – practices related to flipped classroom, research-based and project-based learning. Tools developed may also be diffused, for example a tool used to compile project groups based on students' competences and interests.

We can conclude that on many of the elements the literature suggests are important for an explorative unit, the testing ground of the case studies do rather well. Excellence education can and is recognised as an explorative unit within higher education institutions. Even if excellence education does not have an explicit aim in policy documents to be a testing ground, it still – in the perception of most

respondents – functions as such (confirming the finding of Wolfensberger et al., 2004; 2012).

The organisational structure is supportive of the explorative function. Actors experience autonomy that allow them to experiment. However, the autonomy may also have a shadow side, as too much autonomy can suggest limited organised integration with the regular organisation.

Through the leadership by deans or rectors, the institutions have integrated the organisation of excellence education with the wider institution. The connection to high level managerial positions allows the testing ground (on paper) to maintain links to the regular organisation. Although the embeddedness of leadership is well organised, there are signs that the leadership's attitude towards the testing ground can be improved. Often policy makers on more central levels have limited oversight of what comes out of the testing ground, either suggesting limited interests or limited dissemination of information. We see this as a limitation of the testing ground function.

We conclude that some human resource aspects are used to create ambidexterity. Perhaps the key aspect is to have honours teachers and students staying involved in regular education. However, the steering through human resource management of the testing ground function is limited. Of particular relevance is that communities of teachers are not commonly created and if there are initiatives, they are mainly internally orientated, rather than externally, thus not contributing to the integration of the testing ground. Moreover, we highlight that the type of students populating excellence education is of importance to the testing ground function. The selected students are reported to be tolerant and forgiving towards new education approaches and are able to cope with the granted autonomy. Consequently, the selective nature of excellence education (of students and teachers) is important to the testing ground function (Otto & de Kruif, 2017).

To answer the research question, we conclude that the testing ground does indeed produce innovation that can renew regular education, and as such functions as an explorative unit. However, as the integration of the testing ground with the regular organisation can be improved, the impact of excellence education as a source to renew exploitive activities (i.e. improve education) should not be overestimated. First, the functioning of the testing ground depends on the degree of integration within the institution. Second, modesty in the potential impact of the testing ground is warranted because the more traditional exploitive side of the institution may not always be willing to integrate the innovations originating from the explorative unit (i.e. excellence education). Third, in all case studies initiatives of individual teachers are most important as a source of innovations. Therefore, what we have

observed is closer to contextual (vis-à-vis structural) ambidexterity where individuals with the behavioural capacity do exploration and exploitation at the same time (Canonico, et al., 2013; Swart, et al., 2019). This particularly applies to the teachers involved in both regular and excellence education.

When thinking of a solution for the testing ground's functioning, we come to a paradox. On the one hand the testing ground functions – according to the respondents – well in absence of regulation and strict oversight, but on the other hand, more oversight and regulation may be needed to make excellence education contribute more to the exploitative side of the institution (Otto & de Kruif, 2017). Consequently, more central involvement and coordination (i.e. leadership attitude) of the testing ground and the innovations that results from there could be justified. As it stands, the emergence of innovations and diffusion is for a large degree left to chance through bottom up processes, whilst we would expect from an explorative unit that diffusion would be guided through top-down mechanisms (Gieske, et al., 2020). Hence, a balance between regulation, steering and autonomy should be found. Note that this conflict in the degree to which exploration is to be steered is also observed in other organisations aiming for organisational ambidexterity (O'Reilly & Tushman, 2013). Furthermore, there is an opportunity to improve the integration by steering through human resource management. Particularly through connectedness of actors in networks or communities, which are not exclusively internal, but also external - with actors within the regular or exploitive departments (also see: Cabeza-Pullés, et al., 2019).

This paper can be read as a case of introducing innovative education through an explorative unit that has a potential to affect learning and teaching at the programme and institutional level. Papers based on the same study will elaborate on diffusional effects of excellence education on regular education, on institutions and other stakeholders (e.g. employers). Here we also reflect on the extent to which diffusion processes can be influenced through steering instruments.

This study points to a number of topics that require more research attention. First, for this study we have used five in depth case studies, which limits the external validity of our conclusions. Using the insights of this paper, more quantitative approaches that also include actors not involved in excellence education can be recommended. Likewise, a larger sample could shed more light on the influence on the specific design of testing grounds and how this influences innovations and diffusion. Second, longitudinal research could tell us more about how the testing ground as an exploration unit develops over time. Third, more attention can be paid to the individual level, thus contribution to our understanding of what motivates individual teachers to innovate and how this can be supported through leadership styles (Gieske, et al., 2020). Lastly, while doing well on some elements of structural

ambidexterity, this paper concludes that the case study institutions should learn more about how to develop explorative units and how to integrate this in the organisation. These lessons can be also of value to other higher education institutions, both in and outside of the Netherlands.

Chapter 5: Organisational outcomes of excellence education

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5.1 Abstract

Having found that excellence education in Dutch higher education institutions can function as a testing ground for educational innovations, we ask the questions: Are ‘excellence education’ teaching methods diffused towards courses in regular study programmes? Are organisational structures affected? And are there noticeable external effects? And through which processes is the rest of the organisation impacted? We study these questions using qualitative empirical insights of five case study higher education institutions. We see some educational, organisational, and external diffusional effects. In education, teachers indicated to experiment with educational content in excellence education, after which they implemented this in regular study programme courses too. On organisational level a prominent effect was the creation of new relationship structures, particularly amongst teachers involved in excellence education. Commonly heard external effects included heightened reputation and visibility of the institution due to offering excellence education. Reflecting on the diffusion process, we observe that the diffusion mainly happens through teachers who are involved in excellence and regular education. Policy instruments are rarely specifically designed to create diffusional effects. Consequently, steering of the diffusion of innovations by *inter alia* university management appears not to happen often.

5.2 Introduction

Excellence education in the Netherlands is provided since the late 20th century through ‘university colleges’ and dedicated (honours) programmes. Excellence

²² As compared to the published version of this chapter, the positioning and numbering of the sections, figure and table have been adjusted to fit the structure of this dissertations, and the bibliography of the published version has been included in the combined bibliography of this dissertation.

(honours) programmes are often extra-curricular and have a disciplinary or interdisciplinary focus. The programmes take around 1 to 2 year to complete. These classes or projects come in addition to students' regular study programmes. Often teachers with a proven track record in education are asked to be involved in excellence education. The excellence education or honours education is available to a selected group of high performing and motivated students during their bachelor or master programmes. Excellence education is, however, not only said to have individual effects, also the wider institution is to benefit (Wolfensberger, et al., 2004; 2012). A recent study of five case study institutions in the Netherlands concluded that excellence education can function as a testing ground for education innovations (Kolster, 2021b).

Educational innovation that emerged from the testing ground are, for example, student-driven learning approaches, student assessment practices, educational content, educational tools, and aspects of organising education. However, the role of the excellence education in the development of educational innovations should not be overestimated. The amount of diffused innovations is rather limited, and our study showed that excellence education is not the most important source of educational innovation. Irrespective of the quantity of educational innovations, the diffusion process and the potential broader impacts – or diffusional effects – beyond education deserve detailed study because it contains insights into the extent to which higher education institutions can be learning organisations. Although 'the learning organisation' has been the topic of research for a long time, not much is known about how higher education institutions learn (Dee & Leisyte, 2016).

In this paper we look at three types of diffusional effects of excellence education as seen within the higher education institutions: primary (education), secondary (organisational) and tertiary (external) effects. We discuss which actors are important in the diffusion and reflect on the policy side of the diffusion. The overriding research question we have to research this is:

What are the diffusional effects, and its preceding processes, resulting from excellence education at five Dutch higher education institutions?

5.3 Conceptualisation

To analyse the diffusional effects of excellence education, and its preceding processes, we elaborate on a number of relevant concepts in this section. Also provided is an analytical framework that aims to conceptualise the place of excellence education in an innovation cycle at higher education institutions.

A key concept in this study is diffusion, which is “the process in which an innovation is communicated through certain channels over time among the members of a social system” (Rogers, 2003, p. 5). The social systems in our conceptualisation are the higher education institutions. Following Boyce (2003) we conceptualise that there primary, secondary and external (tertiary) diffusional effects may occur. Primary effects of diffusion from excellence education concern effects on the regular education, for example in the didactics used and in the usage of educational tools. Secondary effects are effects on the regular organisation. Creating networks of teachers, new units in the organisation, changes in organisational culture, are examples of secondary effects. The third type of effects are related to the external aspects. These include, for example, reputational effects of having excellence education on employers, social partners, and prospective students. We would like to note that diffusional effects may also be negative. For example, diffused educational innovations may not necessary work best for some students in regular study programmes.

Diffusional effects may take a direct or indirect route. The direct route means that an effect is achieved in the regular organisation or education, without the assistance of intervening factors, i.e. steering instruments. For instance, teachers use an innovation (often using tacit knowledge) outside the context of excellence education, where it achieves an effect. When steering instruments are used to achieve an effect, we call it indirect diffusion. This route relates to ‘policy-driven innovation’, ‘directed innovation’ (Hannan, 2005, p. 981) or ‘guided innovation’ (Silver, 1998, p. 150). Several steering instruments can influence actors to achieve diffusional effects, for example by financially supporting diffusion or through regulations making diffusion mandatory. Following the classic grouping of policy instruments by Hood (1983) (also see: Hood & Margetts, 2007; Van Vught & De Boer, 2015), in addition to regulation and funding, also organisation and information instruments may be used to steer behaviour.

The concepts discussed lead to the analytical framework presented below. The framework visualises the hypothetical innovation cycle. The grey area in Figure 5.1 represents excellence education as a testing ground for education innovations (see Kolster, 2021b). The green area represents the regular organisation, including regular education, where diffusional effects and its preceding processes take place. The feedback cycle consists of three steps. First, innovations emerge from the testing ground of excellence education. Second, innovations are diffused to the regular organisation and regular study programmes. And third, diffusional effects may become institutionalised, thus affecting institutions’ characteristics.

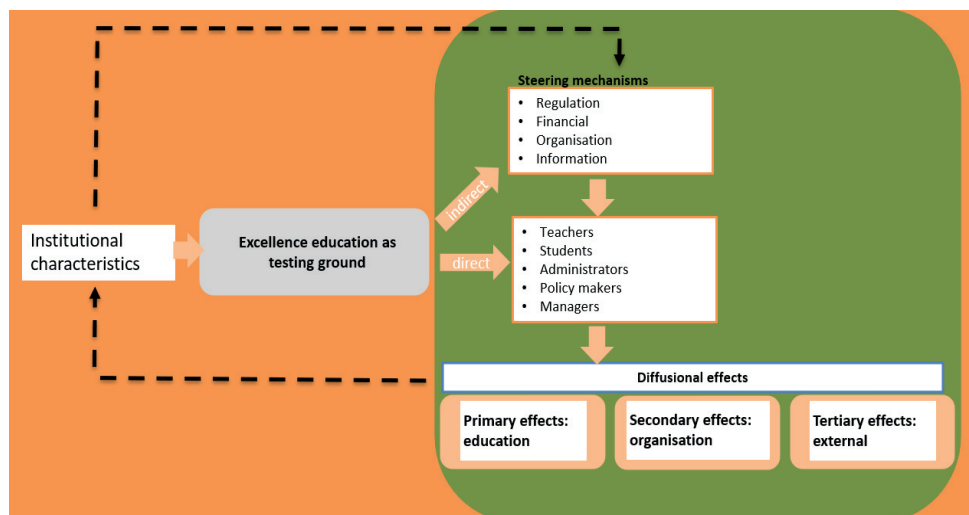


Figure 5.6: Analytical framework of the innovation cycle emerging from excellence education

5.4 Methodology

To study the diffusional effects of excellence education, we have performed in-depth qualitative case studies at three research universities (coded as UNI 1, 2, and 3) and two universities of applied sciences in the Netherlands²³ (coded as UAS 1 and 2).

Our case studies employed three research methods. First, we performed a document analysis to identify the institution's vision on (excellence) education, educational mission, didactical approaches, study culture, rationale for excellence education, and reported diffused innovations and effects. Selected documents included annual reports, quality assurance documentation, study programmes' syllabi and exam regulations, internal and external policy reports and evaluations, and news items. Second, invited interviewees (except students) were asked to fill out a digital survey and 27 respondents did so. In the survey we asked, *inter alia*, for examples of diffused innovations. The results from the document analyses and survey fed into the protocol of our semi-structured interviews. Finally, through a carefully designed interview protocol semi-structured interviews and focus groups (in Dutch) with key actors within higher education institutions we collected data on, *inter alia*, diffusional effects and the preceding processes. The interviewed actors are teachers in excellence programmes, students who participated in excellence education and

²³ UAS are mainly bachelor-level, mainly teaching-oriented higher education institution with a focus on professional training, although they also have a minor (applied) research role and award a small number of masters' degree programmes.

those who did not, administrators (coordinators, and programme managers) of excellence programme, and policy makers on institutional and faculty levels. In total we interviewed 30 employees at five higher educational institutions and 15 students studying at four higher education institutions.

The interviews were transcribed, after which structured case study reports were written. These case studies also included information collected through the other two methods, thus allowing us to triangulate and increase the internal validity of the empirical evidence.

The case studies are not necessarily representative of the entire Dutch higher education sector. Particularly also because excellence education has developed in a wide variety of forms (Allen et al., 2015). Consequently, it is best to view this study as explorative, but valuable because not much is known about broader diffusional effects of excellence education.

5.5 Results

In this section we present the found diffusional effects (Table 5.1). To discuss the preceding processes, we will examine the diffusion route, by reviewing the involved actors and the applied steering instruments.

Table 5.1: Diffusional effects indicated by respondents.

Diffusion type	Diffusion effect category	Diffusion effect	Nr. of cases in which observed
Primary: Education	Content and didactics in regular education	Educational concepts	5
		Student work and supervision approaches	5
		Design of education with input from students	4
		Assessment methods and criteria	3
		Lectures	3
		Courses	3
		Educational tools	1
	Interaction	Teachers that teach in both excellence and regular education, supporting diffusion	5
		Honours students in regular education (active role in lectures, advising and helping regular students)	4
		Interaction between honours students and teachers, resulting in intellectual challenges for both	3
Secondary: Organisational	Work and learning environment	Satisfaction and motivation of students	3
		More active students on campus	3
		Vision of education and excellence	2
		Study success (e.g. lower drop out)	2
		Excellence culture / culture of the organisation	1
	Staff and networks	Networks between staff	4
		Satisfaction and motivation of teachers	3
External effects	Attractiveness	Reputation of the organisation	5
		Visibility of the organisation	4
		Attractiveness for prospective students	2

5.5.1 Primary effects: education

In all five case study institutions mainly teachers indicated that excellence education has influenced the educational concepts used in regular study programmes. The intensity, however, differs across institutions. At one institution (UAS1), teachers indicate that in excellence education they do not experiment much with new didactics and if this is done, only marginal – individual – diffusion takes place to regular

study programmes. Teachers of two institutions (UNI2; UNI3), on the other hand, see that the didactics of many regular study programmes have been impacted because of the experiments in excellence education with research-based learning and student-driven learning.

Diffusional effects on student work and supervision approaches are recognised by respondents involved in education. One institution (UAS1) highlights the multidisciplinary nature of excellence education also becomes more visible in regular study programmes, though at a slower pace than students would like to see. The students in a health-related multidisciplinary excellence programme reason that employers in the health sector are also increasingly working multidisciplinary, and education should follow suit. With respect to supervision, one case study (UAS2) indicates that the teachers in excellence education have a more coaching role, based on equality between student and teachers. Also this approach has been diffused to regular study programmes. Similarly, at a case institution (UNI3) honours student work in self-guided groups, which are supported by a teacher.

Policy makers and teachers at three institutions (UAS1; UAS2; UNI2) recognise diffusional effects on assessment methods and criteria. Examples include assessment of portfolio, assessment criteria set by students themselves, and formative assessment practices.

Teachers, administrators and policy makers see that because of excellence education, regular study programmes have started to include the input (i.e. requests, ideas, suggestions) from students in the design and deliverance of education (UNI2; UNI3; UAS1; UAS2), thus allowing more flexibility in the learning pathways of students. An example is the internship period of one institution. It used to be 20 weeks at one hosting organisation, but now students can arrange to split the internship period between different organisations (UAS1).

The interviewed teachers provided examples of diffused educational content, which they now use in regular lectures and courses. Examples included that guest lecturers in excellence education provided valuable insights into professional practices, which are shared in regular education (UAS1). Successful assignments used in excellence education are re-used (after some tailoring) in regular study programmes (UAS2). First year students are taught by teachers of the honours programme about how their discipline relates to other academic disciplines (UNI2). Note that the diffusion process can also be reverse: successful courses or assignments may find their way from regular study programmes to excellence education (UNI2).

Having excellence education appears to affect the interaction among students and between students and teachers. These effects are, however, more intuitive than tangible. Moreover, the group of honours students and honours teachers is usually too small to have a large-scale impact and relatively few teachers of regular study programmes know which students are participating in excellence education (e.g. preventing making informed project group compositions). However, some teachers note that having honours students in regular study programmes classes has positive effects. For example, on group dynamics because honours students are more motivated (UNI3), raising the level of in-class discussions (UNI2), or by having honours students provide lectures in regular study programme courses (UAS1; UNI2). Also, students themselves see that the study attitudes learned in honours programmes positively affect their approaches in their regular study programmes (UNI2).

An administrator and a policy maker provided two examples of excellence education affecting the interaction between students and teachers. First, academics who previously were not very motivated by education have become eager to supervise honours students (UNI2). Second, a community formed between honours students and honours teachers because both are challenged through excellence education (UNI3). Note that these are internal honours networks, with limited external interaction.

5.5.2 Secondary effects: organisation

Respondents hesitate to claim causality between excellence education and changes in institutions' vision on education. More reasonable, they say, is to assume that excellence education is an outcome of the institutions' educational vision. For example, UNI2's vision of education is based on research-based learning, and the excellence programme with it strengthened focus on students doing research can be seen as a result of that vision. Interestingly, the staff involved in excellence education, such as the vice-dean of the University College, were also involved in developing the university's educational vision.

All actors of UNI3 noted that the – later developed – institution-wide education model uses similar educational concepts as its excellence education.²⁴ Examples are research-based learning, independent project work, students formulating their own educational goals, team-based learning, societal orientation in education, reflectiveness of students, T-shaped professionals, and teachers and module teams.

²⁴ In the Dutch context an educational model is an operationalisation of an institution's education vision, determining for all study programmes aspects related to didactical approaches and deliverance of education, e.g., project-based learning in student teams.

Respondents are reluctant to claim direct causation, yet one teacher asserts that the implementation of the education model would have been more difficult if the institution did not have the positive experience of excellence education.

Policy documents of the two universities of applied sciences and one university (UNI2) state that excellence education is to contribute to a change in the institution's culture. In short, when an increasing number of students excel, others will follow suit, creating an institution-wide culture of excellence. As indicated by two administrators, a policy maker, and a teacher of one university of applied sciences (UAS1) and a policy maker and a teacher of the university (UNI2), respondents do not (yet) see that this institution wide-cultural change has taken root. The UAS1 and UNI2 respondents argue that the scale of excellence education is too small in terms of participating students to have a broad cultural effect. Moreover, the interviewed university students (UNI2) still see the typical low level of ambition amongst regular students. They observe this particularly amongst domestic students, while international students are keener to participate in excellence education and do well in their regular study programme. A policy maker, administrator and teacher of the other university of applied sciences (UAS2) are more positive about a cultural change; in their institution, it has become more accepted that students differentiate their study programme, for students to stand out, and work multidisciplinary.

Largely based on anecdotal evidence, policy makers and students from the two universities of applied sciences see some effect on students' study success, satisfaction, and motivation of honours students (i.e. limited broader diffusional effects). Students have heard stories of peers that would have dropped out of their regular study programme, if they would not have participated in excellence education. However, some students indicate that they may have achieved better grades in their regular study programme, if they were not involved in excellence education.

Honours students as a distinct group of students at the institution facilitate diffusional effects at three case study institutions (UNI2; UNI3; UAS1). These students organise or are involved in events on campus, such as design labs, hackathons, and prospective student recruitment events.

There are two type of diffusional effects related to staff and their networks. Two administrators at UAS1, a policy maker at UNI2, a teacher and an administrator at UNI1, and two teachers and a policy maker at UNI3 indicate positive effects on the satisfaction and motivation of teachers. Through the multidisciplinary orientation, teachers learn from honours students and guest lecturers (UAS1). Motivation of

honours teachers at UNI2 is increased because of (1) the freedom they have to determine education content (they can teach their ‘hobby’), (2) teaching motivated and interested students, and (3) because of the lack of stringent regulations (vis-à-vis regular education). Two respondents added that excellence education has a motivation effect on teachers because it provides variation in their tasks (UAS1) and it allows them to experiment with new teaching methods (UNI3).

A diffusional effect of excellence education is that it creates networks between teachers and between teachers and support staff within an institution. Honours programmes connect teachers from different departments, who would usually not work together. This makes excellence education not only a testing ground for education innovation, but also a place where motivated teachers get in touch with each other. That said, institutional efforts to create a community of honours teachers are limited and the networks are largely internal (i.e. among actors involved in excellence education).

5.5.3 Tertiary effects: external

External diffusional effects are observed concerning the attractiveness of the institutions. Results from excellence education may be used to increase the visibility of the organisation. According to policy makers and teachers at UNI2 and UNI3 the honours students’ products (theses, projects, designs) are used to exemplify the institutions’ educational vision, thus improving the visibility of the institution and of excellence education. Likewise, the initiatives and achievements of honours students often receive media attention (UNI3). Policy makers and administrators of the universities of applied sciences and one university (UNI2) observe a positive effect on the connection with the professional fields, as a rule through their involvement in projects done by honours students.

Excellence education may also improve the academic reputation of institutions. An administrator of UNI2 shared that their student exchange partner universities abroad were very impressed by honours students’ achievements, and that one even considers developing their own excellence education.

Respondents are hesitant – also in the absence of evidence – to claim that excellence education has an effect on the attractiveness of the institution towards prospective students. Students say in this respect that many Dutch higher education institutions offer some form of excellence education, thus not making excellence education a

differentiating aspect (UNI3).²⁵ Yet, relying on anecdotal evidence some staff respondents say they have heard of students choosing their institution because of their excellence education offer (UAS1; UNI2). At all case study institutions excellence education gets promotional attention at events aimed at prospective students.

5.5.4 Negative effects

The mentioned diffusional effects are positive of nature. However, respondents also mentioned negative diffusional effects. First, Dutch higher education traditionally has been of an egalitarian nature: everyone is to be offered similar opportunities. With the emergence of excellence education, higher education institutions – and students – broke this tradition. Some respondents (policy makers, administrators, teachers, and students) say this may lead to a divide in the student population. It is the opinion of some employees that excellence education is taught to an elite group of students, and adhering to the egalitarian tradition they view this as an unwanted development. To counter the image of an elite group of students, or elite type of education, higher education institutions started to use different terminology to refer to excellence education. For example, avoiding the term excellence programmes, but using honours or talent programmes (UNI2; UAS2).

Honours students also occasionally encounter a lack of understanding amongst their peers: “why would you voluntary follow education on Monday evenings?” (UAS1). Likewise, some honours students indicate that in project work in regular study programmes they do a majority of the work (UNI2). This is related to them having to attain a high GPA to be allowed to continue to participate in excellence education and to their peers in regular education expecting them to do more work. A strategy to overcome this is to work together with fellow honours students on projects in regular education. However, this reduces the potential diffusional effects between honours and regular students.

Second, as indicated by teachers, administrators and students, the diversification in educational pathways students can follow in Dutch higher education may have contributed to the performance pressure experiences by students (UAS1; UNI2). Excellence education, together with other education choices, such as obtaining a board experience, international experience, or do a relevant part-time job, add to what is expected of students. Just following the regular study programme may not be enough anymore to get a positional advantage on the labour market (UNI2; UNI3). Teachers and students at UAS1 and UNI3 also see this in the students’ motivations

²⁵ Note, however, that the design of excellence education varies widely between universities (Allen et al., 2015)

to participate in excellence education. A portion of the participating students have an extrinsic motivation (participation for resume building) (also see Kolster et al., 2016). According to interviewed students, these students do not appear to take full advantage of what is offered by not striving to excel, but rather just to pass (UAS1).

Third, improvements are possible in the organisation of excellence education. Excellence education requires a high degree of coordination between staff from different departments, academies, or faculties. At the same time coordinators of a programme in excellence education have a high degree of autonomy, leading to a varying interpretation of the excellence education concept, and to differing results, also in terms of diffusional effects. That said, in a situation where excellence education has a high diffusional effect on regular study programmes, the distinctiveness of excellence education is lost. Consequently, excellence education should always be keen on developing itself (UAS2; UNI1).

Fourth, linked to the discussion on the suitability of excellence education in the egalitarian tradition, are the costs associated with excellence education. The extra education requires extra resources which otherwise could be dedicated to the regular study programmes (UNI1; UNI2). Teachers (often the more dedicated) that devote time to excellence education, do not have this time available for regular study programmes (UNI2). A counter argument to devoting more resources to students that perform well is that in regular study programmes they are often the group that requires fewest resources (e.g. tutoring time) (UNI2).

Finally, the different actors see an issue in that the added value of excellence education is not very visible, hard to measure, and as a result remains unclear to most (UAS1; UAS2). According to a policy maker at UNI3 this (limited insights into the benefits of excellence education) makes it more difficult for the board of the university to legitimise funding excellence education. Consequently, actors at UAS1, UAS2, UNI1, and UNI3 express their desire for excellence education, and those involved, to show (or increase) the benefits of excellence education, also in terms of (identified and currently limited) diffusional effects.

5.5.5 Actors involved in the diffusion process

We distinguish five types of actors that can be involved in the diffusion process: teachers, students, administrators, policy makers, and managers.

The most prominent actor in the diffusion of educational innovation (primary effects) are teachers. Three factors are of relevance for their key positions. First, teachers in excellence education that remain involved in regular education can more easily diffuse innovations (UAS1; UAS2; UNI2; UNI3). Second, honours teachers

are often also involved in educational developments, coordination or decision making on study programme, faculty, or institutional level (UAS1; UAS2; UNI2; UNI3). Third, and more related to secondary diffusional effects, honours teachers are often involved in promotional activities of excellence education to students and other teachers (UAS1). Note that a limitation is that there are a limited number of teachers involved in excellence education (UAS1; UAS2; UNI2; UNI3), and often there is no equal contribution to excellence education of teachers from different study programmes (UAS1; UNI3). Honours programmes that rely strongly on external guest lectures to provide excellence education also miss the connection with regular study programmes (UAS1).

Students have a limited role in the diffusional effects emerging from excellence education, particularly because there are relatively few honours students (UAS1; UAS2; UNI2). Yet, they may have some influence through three identified functions. First, they can be ambassadors of excellence education, and by doing so they are involved in marketing and visibility of excellence education (UAS1; UAS2; UNI1; UNI2; UNI3). Honours students are also involved in external quality assurance activities (e.g. as student representative) (UNI2), or in boards of study associations (UNI3). Second, through the continued participation of honours students in regular education they can utilise gained knowledge in excellence education (e.g. on research methodologies) (UAS1; UNI2). Although not happening often, teachers may also give honours students a distinct role in regular educational activities (e.g. in group formation, UNI2). Third, honours students can vocalise education desires of aspects they experience in excellence education and would like to see in regular education. Examples include graduation ceremonies (UNI2), common rooms (UNI2), and an internship in a regular study programme (UNI1).

Administrators and policy makers may facilitate diffusion (UAS1; UAS2; UNI2). They can connect teachers, involve teachers in policy making, include teachers in the promotion of excellence education, and facilitate dedicated teacher professionalisation courses. They could also monitor diffusional effects, however, this is hardly systematically done, which results in a lack of insight into the effects of excellence education (UNI2).

The managers of excellence education (rectors, vice-rectors, or deans) can spread information of innovation throughout their higher education institutions, or have a guiding role in the wider diffusion of effects. In one case the institution's rector actively did so (UNI3). However, a policy maker at UNI3 and a teacher at UNI2 note that the management layer usually appears to pay limited attention to what emerges from the testing ground and the potential diffusional effects (UNI1; UNI3).

Illustrative is that excellence education is not standardly mentioned in strategic documents as an essential component linked to quality assurance and the institution's educational vision (UAS1; UNI3; exceptions are UAS2 and partly UNI2).

Based on the above, we observe that most primary effects follow the direct route through teachers. The route is largely informal, unstructured, spontaneous and a bottom-up process. Essential are teachers involved in both excellence education and regular education.

5.5.6 Applied steering instruments

Teachers are essential for attaining primary effects, but for secondary and tertiary effects, steering instruments may be used. We talk in this respect of indirect diffusion routes. We provide an overview of the observed instruments, clustered along four types of policy instruments.

First, regulation is used to create the conditions for excellence education. For example, the selection and retention criteria for students, internal quality assurance processes, and selection and participation of teachers. These regulations partly form the testing ground, but are not necessarily linked to achieving diffusional effects. In this respect we observed only few regulations, such as:

- Regulation determines that educational projects with which honours students complete an honours programme are to have external visibility through (graduation thesis like) publications and presentations (UNI2)
- Honours students are asked to sign a form agreeing that they are ambassadors of excellence education and can be asked to contribute to information meetings (UAS1).

Second, funding mechanisms are used to facilitate excellence education, such as additional compensation for faculties organising excellence education and funding of teachers' involvement (UNI1; UNI2; UNI3). We have not observed any funding instruments that aim to impact the diffusion of innovations or effects.

Third, through organisational instruments conditions are shaped for excellence education to function as a testing ground. Enlarged autonomy is part of this in all case study institutions. Steering excellence education is characterised by a degree of decentralisation: it is up to the management, administrators, teachers, and students to form excellence education. Yet, there is a difference between institutions regarding the organisation of autonomy. Four of the five case study institutions have created an overarching structure to manage and create coherence in excellence education within the institutions (exception is UAS1), usually called an honours academy.

Three institutions have created a dean-level position for the management of excellence education through the honours academy, which is either a position on par with deans of other faculties (UNI3), a position a dean from a faculty has in tandem (UAS 2), or a function of the institution's rector (UNI1). In one case the institution's vice-rector oversees the organisational unit that organises excellence education (UNI2). Looking more at the organisational instruments to create diffusional effects, we observe:

- Recruiting honours teachers amongst regular education teachers (UNI1; UNI2; UNI3; UAS1; UAS2).
- Organising honours teacher's trainings explicitly meant to create and share innovations (UAS2).
- The internal quality assurance scheme is designed in a way that honours programmes can learn from each other. It facilitates honours teachers meeting each other (UAS2).
- A community of honours teachers and students is actively organised by four institutions (UNI1; UNI2; UNI3; UAS2). These institutions also have formal associations for honours students. The communities organised academic and social activities for exchange of experiences and for networking in general. Note that diffusion is limited because of the internal (honours) focus of these communities.
- Related to external diffusional effects, some institutions actively participate in external networks. The network of Honours Deans and network of Honours Students Associations are examples (UNI3). This too is interaction among honours communities, but then across higher education institutions.
- One institution employs an account manager and a marketer (UAS2). The account manager gathers assignments for honours students from employers in the regions. The marketer helps honours students with the (external) communication of educational products.

Finally, information instruments can be used to spread knowledge about innovations emerging from excellence education. Often existing platforms are used to this end. For example, an online newsletter (UAS1) and the university newspaper (UNI2). In the latter, honours students report their research findings. Institution-wide education days to share best practices are also used (UNI1; UNI3). Note that at none of the institutions the information instruments' focus is explicitly on excellence education. More related to individual effects, two institutions actively gather

information on honours alumni (UAS2; UNI2). Attention is paid to alumni's professional and educational careers.

5.6 Discussion and Conclusion

Having presented the empirical data, we now turn to answering the research question: What are the diffusional effects, and its preceding processes, resulting from excellence education at five Dutch higher education institutions?

We have observed primary effects on education, secondary effects on the organisation and tertiary or external effects. For education we have seen diffusion in educational content, didactics, and interaction between actors. Examples include educational concepts (student-driven learning), honours students in role in regular education (active role in lectures, advising and helping regular students), and honours teachers continued involvement in regular education.

Secondary effects on the organisation were observed concerning the work and learning environment, and on staff and networks. Effects include satisfaction and motivation of students and teachers, activities of students on campus, and networks between staff.

The tertiary effects relate to the attractiveness of the higher education institution. In particular the visibility, reputation, and attractiveness for prospective students.

There are also some negative diffusional effects, which relate to a division in the student population (regular and honours), costs, limited diffusional effects, extrinsic motivation of honours students, pressure to perform, and diversity of the approaches to excellence education due to decentralized steering.

Diffusional effects often prove to be small scale, consequently having a limited impact on the entire institution. Moreover, diffusional effects are often not seen by all involved actors. Particularly policy makers on a more central level admit having limited insight into the effects of excellence education on regular education and the organisation.

Related to the above, we observed that the role of students, administrators, policy makers, and management in achieving diffusional effects is limited. In the case studies these actors mostly appear to have a facilitating role. Teachers, to the contrary, are the key actors in the diffusion processes. Three conditional factors are of importance. First, honours teachers continue to be involved in the delivery of regular education. Second, in some cases honours teachers are intentionally involved

in development, coordination or decision making of regular education. Third, honours teachers have a role in the promotion of excellence education. Therefore, we conclude that teachers are vital in achieving diffusional effects from excellence education, and that this most often happens through the direct diffusion route.

The indirect diffusion route is not entirely invisible. Regulation instruments are used to create and shape conditions of excellence education. However, they do not often contribute to the creation or spread of diffusional effects. We find this surprising because three of the five institutions envisioned at the inception of excellence education that it should have diffusional effects to the broader institution. Consequently, we could have expected regulations that, for example, asks those involved to report on diffused innovations or on diffusion effects, or even set quantitative targets to do so.

Similar to regulation, funding instruments are not used to guide the diffusion of innovations and diffusion effects. One could imagine funding schemes that enable honours teachers to adapt innovations emerging from excellence education for inclusion into the context of regular education. However, such initiatives specifically for excellence education were not observed.

Several policies under the organisation instruments were identified as contributing to diffusional effects. The instrument mainly does so by creating links between the regular organisation and excellence education, for example through communities and networks. The latter two are, however, particularly focused on the communities of excellence education and its students, thus limiting the external visibility of, for example, good practices and innovations. Moreover, the teachers' communities are often informally and de-centrally organised.

Also information instruments might have an important role in the diffusion of innovations, though, they appear to be hardly used to this end. In the few observed examples existing platforms were used to spread information.

To sum up, excellence education has had some but limited, mostly positive, diffusional effects in the five case study institutions. Effects were shown in education, organisation and externally. Teachers are the primary actors to create diffusional effects, particularly with respect to education. Steering instruments can be linked more to the second and third order effects. However, few policies were observed that aim to create such diffusional effects. Therefore, we conclude that there is limited steering on excellence education to develop broader effects on the institution as a whole. It appears that diffusional effects are largely left to individual teachers and to a degree of chance. The latter is a reminder of the garbage can model of

decision making (Cohen et al., 1972), in which solutions, problems, and actors form separate streams that in a contextually opportune moment may meet to create an innovation. The reliance on bottom-up processes, absence of steering instruments and limited diffusional effects shows that excellence education in the case studies have had a limited impact on making institutions learning organisations.

Reflecting on the above, we consider that ex ante expectations about potential diffusional effects of excellence education were in many cases overstated. Excellence education is small-scale with limited administrative support, and has few students and teachers involved. In this context it seems reasonable not to expect excellence education to have a major impact on, for example, a culture of excellence in the broader organisation. Nevertheless, opportunities to get more diffusional effects from excellence education are missed. The diffusion process currently relies strongly on individual teachers that diffuse experiences through a bottom-up process. We see few signs of policy-driven, directed or guided innovation initiated by actors other than teachers. Consequently, there is room for policy makers, administrators, and managers to expand their contribution to diffusional effects. They can identify innovations with high potential and support their diffusion by considering aspects that individual teachers may not (e.g. needs of the entire population, financial feasibility to implement and innovation). Similarly, better embeddedness of excellence education in the organisation could support the diffusion process. We think here particularly of organisational and information instruments. Policy makers and management can:

- ensure teachers from a wide variety of study programmes are involved in excellence education,
- create a common organisational unit that supports excellence education, creates coherence, and assists in diffusion of effects,
- closely monitor and spread information on what is developed in excellence education,
- monitor diffusional effects, e.g. attractiveness of excellence education on prospective students or civil effects of honours certificates and degrees,
- utilise funding instruments to assist teachers in making developed tacit knowledge explicit, thus accelerating diffusion of innovations and effects,
- improve the internal and external visibility of excellence education, e.g. through communities and active communication.

Our study is a stocktaking of the diffusional effects of excellence education in a specific time. We can imagine that with excellence education becoming more mature and more integrated within higher education institutions, new or more substantial diffusional effects can emerge.

Chapter 6: Conclusion and discussion

In this dissertation I studied excellence in higher education in the form of additional challenging educational programmes (e.g., honours programmes) for selected (high-performing) students. In the previous chapters, I discussed what is currently known about the effects of excellence education in the Netherlands and have empirically studied its individual and organisational outcomes. In this closing chapter I reflect on the broader implications of the findings. I do so by answering the research questions, highlighting the academic contributions, indicating areas for further research, discussing societal reflections, and giving (policy) recommendations.

6.1 Answering the research questions

Connected to the knowledge gaps identified in Chapter 1, this dissertation is organised around four research questions, two on individual outcomes and two on organisational outcomes. After answering the questions on individual outcomes, I will give a broader reflection. The same is done for the questions on organisational outcomes.

1. Which type of honours students prefers which configuration of honours programmes?

The individual outcomes have been studied through measuring honours students' (Chapter 2) and employers' (Chapter 3) perceptions. Students' perceived benefits were studied through a survey (n=259), which included statements contrasting honours students with non-honours students, and by analysing educational preferences of different types of honours students. Students were grouped (albeit not mutually exclusive) according to Renzulli's (1978, p. 185) conception of giftedness: (1) task committed students, (2) above-average ability students, and (3) creative students. The types of honours students have varying desires for how excellence education is configured and how their education demands are addressed. Task committed honours students are interested in disciplinary honours programmes that have a student-centred approach. Above-average ability honours students demand a highly selective and small-scale honours programme that admits only the brightest students. Creative honours students are interested in a variety of multi- or interdisciplinary subjects, and are particularly interested in excellence education that requires additional effort.

The most pronounced difference between honours and non-honours students, were: (1) 'More willing to devote time and effort to subject to which the student is fully committed', (2) 'More motivated to succeed in a course and get a higher grade', (3) 'More ambitious regarding future post-education career', (4) 'Prefer diversity in subjects and curiosity aroused by broader range of topics', and (5) 'More able to understand complex topics and preference difficult and challenging topics'. The third statement is an indication of honours students' extrinsic motivation. We studied this in more detail through honours students' educational preferences.

The top five most desired aspects of an honours programme were: (1) 'formal acknowledgements for completion', (2) 'no additional costs', (3) 'allows to pursue more advanced educational alternatives', (4) 'allows to acquire a better job position in the labour market', and (5) 'small-scale learning environment, with a limited number of students and close and personal student-student and student-teacher relationships'. The first statement could be interpreted as students' desire to have a credential of their participation in excellence education, which in turn can be used as a signal that allows them to acquire a better job position (fourth highest scoring statement).

Looking in more depth at the types of honours students, and background variables, we observe that in particular, task committed honours students are interested in excellence education that provides participants with formal acknowledgement for completion and allows them to acquire a better job position in the labour market.

From the self reported difference between honours and non-honours students and preferred configuration of excellence education we conclude that preferred configurations depend on the honours student type (e.g., a highly selective and small-scale honours programme for above-average ability honours students). Moreover, we found that honours students on average demonstrate more extrinsic motivation than intrinsic motivation. In other words, their participation in excellence education is more motivated by extrinsic future considerations (e.g., employability for post-education career), than by the intrinsic satisfaction of learning (e.g., obtaining knowledge).

2. To what extent are international experiences, excellence education, and board membership considered signals of skills, attributes, or credentials in recruitment considerations of recruitment officers of employers?

The previous research question concluded that students perceive that their participation in excellence education will be rewarded on the labour market. To elaborate this finding, Chapter 3 reports on the study into employers' perceived individual benefits of doing excellence education. In this qualitative study (21 in depth interviews with employers), benefits – and the underlying theoretical mechanism - of three educational choices were compared and analysed. We found that in the recruitment stage, all three educational choices (i.e., international experiences, excellence education, and board membership) give relevant signals that are of benefit in employers' recruitment considerations. A board membership experience – compared to an international experience and participating in excellence education – provides graduates with most benefit. In other words, employers value a board membership most when recruiting recent university graduates. However, we did observe differences in sectors. Employers in the public domain (e.g., universities and national ministries) tend to value excellence education higher.

Turning to the considered signals linked to the observed benefit in the recruitment stage, the benefit of a board membership experience can be largely explained by the associated skills and attributes (i.e., human capital). In other words, graduates with board membership experience are valued by employers in the recruitment stage mainly for their skills and attributes. The same, but to a lesser extent can be said for international experience: the associated skills and attributes are the signals that give graduates benefits in recruitment considerations. However, this is less often observed for excellence education, where the credential of having completed the educational choice is the main signal. Hence, employers value the credential that is provided to students that complete excellence education, rather than the skills excellence education may provide. Furthermore, excellence education is more associated with attributes (e.g., perseverance), which exist irrespective of graduates participating in and completing the educational choice. Consequently, excellence education provides graduates with employability through signals of credentials and perceived attributes. In line with this is also the employers' perception that excellence education would lose some of the benefit it has in the recruitment stage when more graduates would have done excellence education.

Individual outcomes

Considering the outcomes of both studies, I conclude that both students and employers perceive excellence education as a positional good linked to graduate employability, mainly because excellence education provides a credential after completion. In other words, excellence education is perceived as providing a signal of employability to students. This signal is a strong motivation for students to participate in excellence education. At the same time, the signal is used in screening done by employers. That said, signals achieved through other educational choices – as well as other factors, such as the study discipline and prior work experiences – are often more important in employers' recruitment considerations.

3. To what extent are the testing grounds formed by excellence education in five Dutch higher education institutions, structural ambidextrous explorative units that create educational innovations?

In Chapter 4 I studied the extent to which excellence education functions as a testing ground for innovations. Using literature on structural ambidexterity, five elements emerged that are of importance to explorative units: (1) recognition by all actors (e.g., teachers, students, and administrators) as a testing ground, (2) a supportive organisational structure, (3) leadership that is embedded within the wider organisation, (4) leadership with a focus on explorative actions, and (5) supportive human capital aspects (e.g., culture, dedicated teachers active in regular organisation, and networks). Reflecting on excellence education at the five case studies (30 in depth interviews), I concluded that most elements are in place for excellence education to function as a testing ground for innovation. There are, however, two exceptions. First, policy makers on more central levels have limited interest in and oversight of innovations developed in excellence education, which suggests that leadership's attitude towards the testing ground can be improved. Second, the integration of excellence education within the broader organisation is constrained by the lack of connectivity of actors involved in excellence education to those not active. This could be, *inter alia*, improved by forming communities of teachers, in which innovations are more easily diffused. Consequently, the testing ground function could benefit from more strategic human resource management.

Considering the diffusion of innovations and the extent to which excellence education performs on the elements that are of importance to explorative units, I conclude that excellence education functions as a testing ground for educational innovations.

In fact, even if excellence education does not have an explicit aim in policy documents to be a testing ground, it still usually functions as such.

4. What are the diffusional effects, and its preceding processes, resulting from excellence education at five Dutch higher education institutions?

Using data collected at five case studies (30 in depth interviews), in Chapter 5 the actual diffusion effects that emerged from excellence education were explored. Diffusion effects were grouped in three types: primary (education), secondary (organisational) and tertiary (external) effects. Primary diffusion effects of excellence education, and the innovations developed in there, were visible in educational concepts / didactical methods, assessment forms, educational content, educational tools, and organisational aspects of education. A diffusion effect was also seen in the interaction between actors. In some cases honours students had a distinct role in regular education, for example, by being active in regular lectures, and in advising and helping regular students. Interactive effects were also achieved through honours teachers' continued involvement in regular education. Secondary effects on the organisation were observed concerning the work and learning environment, and on staff and networks. Positive effects include higher satisfaction and motivation of students and teachers, more activities of students on campus, and more networks between staff.²⁶ The tertiary effects relate to the attractiveness of the higher education institution. In particular the increased visibility, reputation, and attractiveness for prospective students.

When diffusion effects were achieved, teachers were the key actors in diffusion processes. Three factors are of importance to this observation: (1) honours teachers continue to be involved in the delivery of regular education, (2) honours teachers are intentionally involved in development, coordination or decision making of regular education, and (3) honours teachers have a role in the promotion of excellence education.

The diffusion effects resulting from excellence education are often small-scale, with a limited impact on the entire institution. Two causes of this outcome have been identified. First, it is a matter of visibility as actors – particularly those on a higher hierarchical or more central level – have limited insight into the effects of excellence education. Second, most of the effects are achieved by individual teach-

²⁶ Meant here are networks between academic staff, management staff, and administrative staff within higher education institutions.

ers. The role of students, administrators, policy makers, and management in achieving diffusion effects is limited. In the case studies these actors mostly appear to have a facilitating role, while for a broader diffusion of the institutions the inclusion of these actors could contribute to more impact on the entire institution.

The above highlights that diffusion effects are mainly achieved through the direct route (i.e., process in which diffusion happens through teachers). Policy instruments (i.e., the indirect route of diffusion) are mainly used to create and shape conditions of excellence education, but are not often used to achieve diffusion effects. Consequently, I conclude that there is limited steering on excellence education to develop broader effects on the institution as a whole. It appears that diffusion effects are largely left to individual teachers and to a degree of chance. The reliance on bottom-up processes, absence of steering instruments and limited diffusion effects shows that excellence education in the case studies have had a limited impact on making institutions learning organisations.

Organisational outcomes

My research into the organisational outcomes of excellence education has shown that innovations were developed through excellence education and were diffused to other parts of the organisation. These innovations can be grouped in innovations related to educational concepts / didactical methods (e.g., student-driven learning), assessment forms (e.g., students setting their own assessment criteria), educational content (e.g., personal leadership training), educational tools (e.g., self-defined behavioural codes), and organisational aspects (e.g., elements of a quality assurance system).

Excellence education has the elements that allow it to function as a testing ground for educational innovations, which in three of the five case studies was also formally envisioned at the inception. However, I conclude that the role of excellence education in making higher education institutions learning organisations should not be overestimated. The number of diffused innovations is rather limited, and the impact through diffusion effects that excellence education has on the whole organisation is marginal. It is in this context that the low degree of steering by institutions is remarkable because if the goal of excellence education is to be a testing ground for innovations that should lead to diffusion effects to the rest of the organisation, monitoring and policy steering would be expected to achieve the goal. Imaginable are regulations that, for example, asks those involved to report on diffused innovations or on diffusion effects, or even set quantitative targets to do so. Moreover, excellence education also has negative diffusion effects, which relate to a division in the student population (regular and honours), high investment costs, extrinsic

motivation of honours students, pressure on students to perform (i.e., performance pressure), and diversity of the approaches to excellence education due to decentralised steering.

6.2 Contribution of research to identified knowledge gaps

Considering the knowledge gaps that were identified in Chapter 1 and the outcomes presented in this dissertation, this section details how the research has contributed to the existing literature on excellence education. In relation to individual outcomes, the research presented in Chapter 2, aligns with Scager et al. (2012a) finding that there are different types of honours students. It added to our understanding by relating the types of students to the three-ring conception of giftedness and to what extent students' drive to participate in excellence education relates to obtaining knowledge and to future extrinsic rewards (e.g., employability). In connection to the motivation, the outcomes are in line with the finding of Allen et al. (2015) and Jacobs et al. (2021a), which concluded that honours students are both intrinsically and extrinsically motivated. An additional insight offered by our study (Chapter 2) is that honours students – especially task committed honours students – on average have a higher extrinsic than intrinsic motivation.

Also in relation to the individual outcomes of excellence education, the literature review (Chapter 1) showed that there was limited insight into the (non-cognitive) impact of having participated in excellence education. This applied both to objective or factual data on outcomes and on by students and employers perceived (subjective) impacts. The research presented in Chapter 2 (student perceptions) and 3 (employer perceptions) contribute to our understanding of perceived individual employability impacts on participating in excellence education. Novel in this respect, has been the attention paid to underlying mechanisms that promote students' employability. Honours students want excellence education to give them a distinct credential that could contribute to their chances on the labour market. Similarly, from the employers' perspective excellence education allows graduates – through their enhanced résumé – to acquire a job. This contrasts with in particular a board membership experience, where learned skills (i.e., human capital) give graduates an advantage on the labour market.

The outcomes contribute to our understanding of the mechanisms that lead to graduate employability. More specifically, it seems that the closer an educational choice is perceived to be to developing actual skills, the more likely it is that these are important signals in recruitment considerations, while if an educational choice is more associated with pre-existing attributes (e.g., perseverance and motivation, as

in the case of excellence education), benefits in employers' recruitment considerations are more likely to stem from credentials. The implication for the theories on graduate employability (i.a., human capital theory and signalling theory) is that the mechanisms they consider (e.g., knowledge, skills, attributes, credentials, signals), all have merit, but seem to apply context-dependant (e.g., skills for board membership experience). This finding could contribute to a future all encompassing theory on graduate employability.

With respect to organisational outcomes, the studies presented in Chapters 4 and 5 have validated the earlier finding that excellence education can function as a testing ground for educational innovation, and can contribute through diffusion effect to the whole organisation. What the studies have contributed to the identified knowledge gap in the literature on excellence education is (1) insight into what can be done – from an organisational and policy point of view – to improve the testing ground function and (2) more insight into the actual diffusion effects of excellence education. The studies observe that excellence education is an example of an explorative unit that can function as a testing ground for innovation that benefits the whole organisation. It does have some diffusion effects, but the impact on the whole organisation is limited. This observation is based on the limited number of concrete examples of developed innovations (primary effects) and the seemingly lack of policy instruments that could be utilised to monitor, create and support diffusion effects. Moreover, there appears to be information asymmetry between those directly involved in excellence education (i.e., particularly teachers) and those not involved (e.g., policy makers) resulting in a lack of oversight. To address the lack of oversight resulting in the absence of excellence education outcomes in the institutional policy cycle, I come to a paradox. The testing ground may function well with a high degree of autonomy, but this may also lead to a weak connection between the testing ground and the rest of the organisation. Consequently, more oversight and regulation may be needed to make excellence education contribute more to the exploitative side of the institution, while this may affect the functioning of the testing ground. Consequently, higher education institutions are challenged to find a balance between steering and autonomy.

6.3 Agenda for future research

This section suggests future research into outcomes of excellence education. The suggestions are based on the reflections described in this concluding chapter. The agenda for future research also considers the remaining knowledge gaps and limitations of the research presented in this dissertation.

By and large, the limitations of the studies presented in the chapters of this dissertation relate to the external validity of the outcomes. Meaning that the representativeness of the survey sample (Chapter 2), number of informants (Chapter 3) and number of case studies (Chapter 4 and 5), affect the generalisability of the found results. The representativeness can be improved by the inclusion of a larger (e.g., in relation to the research in Chapter 2, survey more honours students) or more focussed sample (e.g., in the case of the research in Chapter 3, inclusion of employers in one specific sector), which is certainly to be considered in future studies.

Turning to the remaining knowledge gaps with respect to the individual outcomes of excellence education (Chapter 2 and 3), it would – now that we have further insight into employability effects as perceived by students and employers (i.e., subjective), be of interest to have updated insight into objective employment outcomes. Are the perceptions of enhanced employability through excellence education confirmed when studying objective employment outcomes (e.g., time between graduation and work, type of work, salary, etc.)? It would be of interest to compare the outcomes of different educational choices (e.g., international experience and board membership) as this may give students additional insight into potential effects, while possibly also offering additional insight into underlying theoretical mechanisms.

Connected to organisational outcomes (Chapters 4 and 5), more attention could be paid to the motives and needs of individual teachers. This would contribute to our understanding of what encourages and hinders individual teachers to innovate and how this can be supported through policy instruments and leadership styles. Moreover, the study presented in Chapter 5 is a stocktaking of the diffusion effects of excellence education at a specific moment. With excellence education becoming more mature, new or more substantial diffusion effects can emerge and possibly be observed. Consequently, longitudinal research could tell us more about how the excellence education's testing ground as an exploration unit develops over time, and if improvements in the elements of the testing ground (e.g., integration) can indeed make the effects of the testing ground more visible throughout the organisation.

Related to the analytical framework (see Figure 1.2), the research presented in this dissertation has not accounted for a changing context, while it does recognise it as a potential factor. For example, demands in labour markets change, and this may affect the employability of graduates. When a specific discipline (e.g., ICT) is in more demand, the employability effect of having followed excellence education may be less prominent. To study such fluctuations, it would be interesting to model

and simulate changing benefits of educational choices over time in different labour market conditions.

In Chapters 1 and 5, I have discussed the potential impact of excellence education on the egalitarian nature of Dutch higher education system. This impact – also to guide the political discussion – is to be studied in more detail. For example by analysing if excellence education has triggered a differentiated reputational statuses of research universities and universities of applied sciences. Are higher education institutions that offer excellence education – as compared to those that do not – able to attract more or better performing prospective students? And, if so, to what extent is this correlated to or caused by the design of excellence education (e.g., disciplinary, or professionally focused honours programmes)?

Related to the efficiency question (i.e., the efficiency of excellence education as a public and private investment) raised in Chapter 1 and in the next section, it would be of interest to compare the effects of excellence education as a nationally promoted educational innovation initiative, to other similar initiatives, such as grants to develop educational innovations (e.g., from the National Comenius programme, or from institutional grants for educational innovation). All presumably lead to bottom-up innovations, but analysing which instrument achieves more sustained impact on individual, organisational and system level, could contribute to more insight into the efficiency of excellence education as an instrument to positively affect the broader organisation.

6.4 Societal reflections and recommendations

The research presented in this dissertation has implications for students, higher education institutions and the Dutch higher education system. These implications relate to the societal relevance of the research conducted. Where relevant, this section provides (policy) recommendations.

Starting with the reflection on the level of students, the research outcomes have implications for the optimisation of individual educational choices that can be taken while in higher education. Excellence education is connected to employability perceived by both students and employers. Hence, completing excellence education may have an impact on graduates' future career. However, it appears that the reason for enhanced employability is not so much the knowledge, skills, or attributes attained through excellence education, but rather the gained credential (see Chapter 3). The credential mechanism for employability appears to be less prominent in employers' evaluation of graduates having done a board membership period during their studies. For this educational choice, skills and attributes appear to play a more

substantial role, while also being the choice that seems to give most benefits in recruitment considerations. Consequently, students that are considering conducting activities beyond the regular curriculum that may impact their employability can take these outcomes into consideration. To ‘boost’ their employability through skills and attributes a board membership can be advisable, while those focused on gaining a credential may opt to do excellence education (particularly those that aim to for a career in the public sector).

In Chapter 2, three types of gifted students were identified: task committed students, above-average ability students, and creative students. Each has different wishes with respect to the content and organisation of excellence education. Moreover, their motivation to participate is different. While present in all students, particularly task committed students have extrinsic motivations to participate in excellence education. The implication for universities is to (continue to) keep students’ desire for excellence education to have an impact on their employability in mind when (re)designing their excellence education. Also considering that employers actually use excellence education as a credential in their evaluation of recent graduates, the employability aspect can be used to promote participation in excellence education. At the same time, the publicly funded universities have a moral responsibility towards society and to students’ development to prevent the reproduction of social inequalities, and can therefore be recommended to, first, monitor the inclusivity of excellence education (e.g., social-economic status, first generation students, etc.), and second, if needed consider policy instruments to ensure disadvantaged students can participate in excellence education (e.g., differentiating selection criteria).

Educational choices positively affect students’ employability (Chapter 3). This could lead to the recommendation for students to do as many educational choices as they possibly can. While this is probably true in many cases, it could lead to a situation where students in higher education increasingly supplement their regular education with numerous other activities to get an advantage on the labour market by distinguishing themselves from peers. The result will be a zero-sum game through signal inflation, resulting in (1) overall loss of value of educational choices (particularly international experience and excellence education, see Chapter 3) on the labour market because they are to a lesser extent signals of distinction, and (2) a disadvantage on the labour market for students that are unable to supplement their regular education through educational choices. At a disadvantage will be, for example, students that do not have the financial resources to study abroad or do an internship abroad, or must work part-time to finance their education, not allowing them to follow excellence education in evening hours or attend board meetings or

events. The outcome will be (or perhaps already is) that despite efforts to make higher education accessible for all, the employability outcomes of higher education are not equal. The urgency to reflect on these individual implications – as well as the broader implications for the reproduction of social inequalities – I find in the already unequal participation in educational choices. Fewer first-generation higher education students in the Netherlands participate in excellence education or gain board membership experiences (ResearchNed, 2020).

Related to the above, given that educational choices can give graduates a positional advantage on the labour market over other graduates, the implication on system level is that for some jobs a regular bachelor or master degree without having followed additional education choices (e.g., board membership, studying abroad, and excellence education) may not be sufficient anymore. While this is perhaps an externality of the massification of higher education, it does have implications for the durability of the egalitarian nature of Dutch higher education: is the public interest sufficiently ensured by (aiming for) equal access to higher education, while at the same time employment outcomes of education are unequal because of unequal access to – and opportunity to participate in – educational choices?

The zero-sum game mentioned above leads to signal inflation that students appear to be increasingly involved in. In short, students perceive following additional education as contributing to their employability, thus setting them apart from their peers. Assuming that the majority of higher education students experience these incentives to attain additional signals (knowledge, skills, attributes, credentials), and thus experience increased stress and performance pressure, their mental and physical well-being may become an increasing concern on system level (Dopmeijer, Nuijen, Busch, & Tak, 2021). Moreover, seeing that selection criteria set for entrance into excellence education in some cases also consider extracurricular activities prior to entrance into higher education (Jacobs, 2021b), the pressure to perform may also become more prominent in secondary (or even primary) education.²⁷ The political question here is to what extent this is a desirable situation, and what can be done to mitigate negative health effects that are connected to students experienced performance pressure.

The Dutch Ministry of Education can be recommended to consider the implications for the overall higher education system level with respect to the social inequalities in opportunities to participate in excellence education and other educational

²⁷ Note that continuous excellence tracks ('doorlopende leerlijnen') in all education sectors was recommended by the Sirius Audit Commission (Sirius Programma, 2015).

choices, the inequalities in graduates' employability that result from unequal participation, the impact of excellence education on the egalitarian nature of Dutch higher education, and the mental and physical well-being of students related to the incentive to obtain additional signals through educational choices.

Turning to the benefits for the whole organisation of having excellence education, in Chapters 4 and 5 I found that excellence education does function as a testing ground for innovations, but the diffusion effects – and with that the impact – on the whole organisation is limited. Most impact is achieved through individual teachers that are active in both excellence and regular education. Particularly examples beyond this level (e.g., on organisation of education) are more limited. The testing ground function is, however, given a prominent place in the rationalisation and legitimisation of offering excellence education (i.e., universities offer excellence education because the whole organisation stands to benefit). My research has two implications. Higher education institutions can be advised to be more realistic about the testing ground function, and either lower their expectations of the potential impact, or – using the insight offered by the structural ambidexterity analysis – improve the integration (i.e., leadership attitudes and connectedness of key actors) of excellence education within the institution. Doing so may make the testing ground function of excellence education more effective, thus substantiating the organisational legitimacy of offering excellence education. That said, and with the earlier mentioned paradox in mind, institutions increasing their oversight on excellence education may impact the way excellence education functions as a testing ground. In other words, finding a balance between steering and autonomy is advisable. To this end, higher education institutions can be recommended to monitor the balance, for example by periodically interviewing key actors (coordinators, honours teachers, study programme managers, students), and to make adjustments where and when necessary.

Reflecting on quality of education, excellence education is outside the scope of nationally regulated (external) quality assurance procedures. Also the extent to which excellence education is reviewed through internal quality assurance procedures is unclear. Consequently, there are few collective and comparable insights into the quality of excellence education.²⁸ Moreover, generating comparable insight requires a shared definition of excellence education and (nationally) accepted indicators to measure quality of excellence education. Given the variety in the designs of excellence education, a joint and comprehensive quality assurance framework

²⁸ The existing insights largely stem from the work of the Sirius Audit Commission (e.g., Sirius Programma, 2015).

for excellence education – that accounts for all varieties – may be impossible to create. Doing so on institutional level may be more feasible (as one case study institution described in Chapter 5 has done), yet imposing quality assurance regulations and procedures may affect the autonomy, and thus the functioning of excellence education as a testing ground (Van Eijl, Moesker & Eyckmans, 2017). Nonetheless, more external oversight of excellence education through quality assurance may be warranted because it is – in most cases – funded through public resources, which requires the resources to be spend effective and to have a guarantee that a degree of educational quality is achieved (De Boer, Kolster, & Westerheijden, 2019). Considering the autonomy concern and variety in designs of excellence education, how quality assurance arrangements for excellence education, following the example of the Sirius Audit Commission, can be set up is perhaps best discussed in the networks of Honours Deans in the Netherlands.

To expand on the topic of the efficiency of excellence education, I observed in Chapters 2 and 3 that excellence education has perceived individual effects on employability (i.e., private returns). Hence, participating students gain from participation and completion, however, not outspokenly more than other educational choices (international experience and board membership, see Chapter 3). On the organisational side (i.e., public returns), I observed in Chapters 4 and 5 the limited impact of having excellence education, while there is opportunity to gain more. The question then becomes whether resources spent on excellence education are efficient.²⁹ Participating students and teachers – as well as employers – may answer positively, while those that do not participate may be more inclined to be sceptical of excellence education's benefits. Yet, on system level it remains a political consideration, which besides economic efficiency is to judge the systemic impact of excellence education (e.g., egalitarian nature of higher education and potential reproduction of social inequalities).

Looking back at roughly 30 years of excellence education, and the boost it received after the Sirius subsidy programme (2008 to 2014), it is fair to say that excellence education – as well as related initiatives, such as university colleges and research masters – has indeed diversified the Dutch higher education system in form and in level. Moreover, this dissertation has shown that there are impacts on the individual

²⁹ Allen, et al., (2015) attempted to calculate the exploitation costs of excellence education on institutional level, but encountered difficulties to determine exact costs. Reasons for this are, *inter alia*, the diversity in the organisation of excellence education – even within higher education institutions – and unclear data on time spend on excellence education by teachers. They conclude that excellence education is (per student / EC) more expensive than regular education, but calculating exactly how much more expensive is rather infeasible.

level, but that there are opportunities for more impact on higher education institutions as a whole. That said, much of the anticipated impacts (see Chapter 1) remain unclear. Although rather unsatisfactory, I therefore conclude that to further our understanding of mechanisms, outcomes and impacts more theoretical and empirical research into excellence education is needed, while also considering different levels (individual, higher education institution, and higher education system), and other educational choices.

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Summary in English

Excellence in Higher Education: Individual, Organisational and Societal Outcomes of Excellence Education in The Netherlands

Renze Kolster

Although higher education as a public sector is often seen as relatively static, a closer look reveals constant development. In the past century, a major development has been the increasing number of students studying at higher education institutions. An even today there are still many first-generation students. The increased influx of students (i.e. massification of higher education) is, of course, accompanied by challenges. One of these is the desire to tailor higher education to the needs of individual students. In other words, students should have a choice in their education. For this reason, higher education was to be differentiated. This concerns, for example, an expansion of the type of higher education institutions (e.g. specialised institutions), adaptations of curricula (e.g. to better align higher education with professional practices), and innovation of teaching methods (e.g. replacement of traditional lectures, by working in project groups).

The introduction of excellence education in Dutch higher education in the 1990s is one of the developments leading to differentiated education. Excellence education provides students a challenging learning experience, in addition to their regular study program. After a selection process, motivated students with better than average study performance can participate in an excellence program that offers variety in content, form and level compared to their regular bachelor's or master's programme. These types of – often extra-curricular – excellence programs are also called honours programmes, talent programmes, or 'plus' programmes (here collectively referred to as excellence education).

The rise of excellence education in the Netherlands is related to the introduction of the bachelor / master system in 2002, the Sirius programme (2008 – 2014) of the Dutch Ministry of Education, Culture and Science (OCW), which made 60 million euros available to higher education institutions to promote excellence education, and the performance agreements (2013-2016) between OCW and higher education institutions in which student participation in excellence education was included as an indicator for educational quality.

In addition to excellence education, education provided by University Colleges and Research masters can also be seen as forms of education that focus on students who

can or want to do more than what is offered in regular higher education. The addition of these forms of education to the higher education system has brought about a change in the egalitarian nature of Dutch higher education. There is more level differentiation, comparable to – although less far-reaching – vertically differentiated higher education systems, such as in the United Kingdom, France and the United States.

Although the government no longer financially supports the provision of excellence education (as was done in the Sirius program and partly in the performance agreements), higher education institutions – which already offered excellence education – continued to do so. An assumption based on this observation is that students and higher education institutions see added value in participating in and offering excellence education. In this thesis, this assumption is studied through four research questions. The first two questions focus on the individual effects of excellence education, with a particular focus on what students and employers think about the added value of excellence education on the labour market. The last two questions examine the added value of excellence education – via the testing ground mechanism – on regular education and the regular organisation. Below I give a summary of the results for each research question.

1. Which type of honours students prefers which configuration of honours programmes?

This research question was investigated through a survey filled out by 259 honours students. Students with above average skills prefer selective and small-scale excellence education, creative students are interested in multi- or interdisciplinary subjects, and task-oriented honours students are interested in disciplinary education with a student-centred approach. More than the other types, the task-oriented honours students want excellence education to contribute to their employability. All honours students have a strong extrinsic motivation to participate in excellence education. This means that students have the perception that following and completing excellence education will give them an advantage on the labour market.

2. To what extent are international experiences, excellence education, and board membership considered signals of skills, attributes, or credentials in recruitment considerations of recruitment officers of employers?

Excellence education is one of the educational choices that students can make while following higher education. Other options include gaining an international experience (internship or part of a study), or participating in a board of an association linked to the higher education institution. With these educational choices, students

can differentiate their graduate profile with which they enter the labour market. Employers (represented by 21 recruiters) were asked in interviews which educational choice – in comparison – gives most advantage in the recruitment stage and why this is. While outcomes vary by sector, employers indicated that a board experience is the most beneficial in recruitment considerations. The underlying reason for the advantage – or the mechanisms – differ per educational choice. Board experience gives an advantage because employers value the skills acquired, while they are more likely to view excellence education as an indication of the person's personality (i.e. attributes) and they value the credential that honours students receive after completing an excellence programme.

3. To what extent are the testing grounds formed by excellence education in five Dutch higher education institutions, structural ambidextrous explorative units that create educational innovations?

Studies in the field of Business Administration suggest that companies can have exploitative and explorative functions. Companies that performs both functions, are called ambidextrous organisations. Departments that focus in particular on the exploratory function are called structural ambidextrous explorative units. Such a department must ensure the creation of innovations that, if successful, can find their way to the regular departments. Consider, for example, the development of new products and services. The concept of organisational ambidexterity was used to study the testing ground function of excellence education at five higher education institutions (30 interviewed teachers, policymakers and students). The conclusion is that excellence education does indeed function as an exploratory unit, but that this function can be improved through, *inter alia*, further integration with the regular organisation, thus allowing more organisational gains from excellence education.

4. What are the diffusional effects, and its preceding processes, resulting from excellence education at five Dutch higher education institutions?

In order to further investigate the testing ground function of excellence education, diffusion effects were studied at five higher education institutions (30 interviewed teachers, policymakers and students). We found diffusion effects on education (for example, teaching methods developed in excellence education that were diffused to regular education), on the organisation (for example, the creation of new relationship structures), and external effects on, for example, reputation and visibility of the institution. The diffusion process mainly takes place through lecturers who are involved in both excellence and regular education. Policy instruments are rarely

specifically designed to promote diffusion effects, or to support the diffusion process.

With regard to the individual outcomes of excellence education, I observe that both students and employers regard excellence education as a credential that offers an advantage on the labour market. For many students, this assumed advantage is a motivation to participate in excellence education. And employers use excellence education as a credential to select promising applicants during the recruitment phase, although the extent to which they do this varies by sector and type of job. That said, excellence education is certainly not the only factor that plays a role in employers' recruitment considerations. Other educational choices, the regular study program and work experience gained, also play – and often a greater – role.

With regard to the organisational outcomes of excellence education, I conclude that there are observable effects, for example in the dissemination of teaching methods and concepts. Partly on the basis of this, the conclusion is that excellence education functions as a testing ground for educational innovations. However, the role of excellence in education in making higher education institutions learning organisations should not be overestimated. The number of innovations that are diffused and the impact on the organisation are limited. I see a role for policy instruments to increase the diffusion effects.

The outcomes of the studies described above have various societal implications. First, excellence education has a link with the employability of participating students. It can give them an advantage in the recruitment phase; they are more likely to get a foot in the door. This means that students who were not eligible to follow excellence or who were eligible, but were unable to participate due to circumstances (for example, due to work obligations), will be at a disadvantage for some positions after graduation. The societal implication is that access to higher education is to some extent equal (everyone who qualifies can enrol in Dutch higher education), but that the outcomes of higher education (i.e. employability) are not equal for everyone. Of importance in this respect is that fewer first-generation higher education students participate in excellence education.

Second, the observation that students participate in excellence education as one reason to distinguish themselves from other students implies that students have a motivation to acquire additional signals (knowledge, skills, attributes, credentials). If a majority of students experience this motivation, the perceived stress and pressure to perform in higher education will increase. The social implication is that the

mental and physical well-being of students at a system level requires attention and must continue to be monitored.

Thirdly, the emergence of educational forms that differentiate in level and apply a form of selection for this purpose (in addition to excellence education, also University Colleges and Research Masters), has implications for the egalitarian nature of Dutch higher education. This requires further research, as well as a social reflection on the desirability.

Finally, the studies in this thesis provide insight into the efficiency of excellence education. Following and completing excellence education has an individual employability effect, in other words there are private benefits. After all, students want excellence education to give them an advantage on the labour market and the interviewed employers confirm that excellence education can have this. The other studies in this thesis focused on organisational outcomes; the public benefits. I found that excellence education – via the testing ground function – has a limited impact on the entire organisation and that there is an opportunity – for example through the use of targeted policy instruments – to gain more. This brings us to the question: are private and public investments in excellence education effective? Students and teachers participating in excellence education will probably answer this question positively, while those that do not participate may be more inclined to be sceptical of excellence education's benefits. What can also be taken into account in the efficiency question is the desirability of the impact of excellence education on system level (for example, the egalitarian nature of Dutch higher education), thus making this a political consideration.

Looking back at roughly 30 years of excellence education, is fair to say that excellence education has indeed diversified education offered by Dutch universities and universities of applied sciences. It also had an impact on an individual level, while at the organisational level there is an opportunity to gain more. Yet, to further our insight into the effects and impacts of excellence education, it is nevertheless necessary to conduct more research, for example into the costs and benefits, the underlying mechanisms, and objective employment outcomes – also in comparison with other educational choices that students can make.

Samenvatting in het Nederlands

Excellentie in het hoger onderwijs: individuele, organisatorische en maatschappelijke uitkomsten van excellentieonderwijs in Nederland

Renze Kolster

Hoewel hoger onderwijs als publieke sector vaak wordt gezien als vrij onbeweeglijk, is er bij een nadere blik toch veel ontwikkeling. In de vorige eeuw zijn er veel studenten bijgekomen, en ook nu nog zijn er veel eerst-generatie studenten te vinden op universiteiten. De toegenomen instroom van studenten (d.w.z. ‘massification of higher education’) gaat uiteraard gepaard met uitdagingen. Eén ervan is de wens om hoger onderwijs aan te laten sluiten op de behoeften van individuele studenten. Oftewel, studenten zouden iets te kiezen moeten hebben. Om deze reden moest (en moet) het hoger onderwijs worden gedifferentieerd. Het gaat hier bijvoorbeeld om een uitbereiding van het type hogeronderwijsinstellingen (bijvoorbeeld gespecialiseerde hogescholen), aanpassingen van curricula (bijvoorbeeld om hoger onderwijs beter te laten aansluiten met de beroepspraktijk), en vernieuwing van onderwijsmethoden (bijvoorbeeld vervanging van de traditionele hoorcolleges, door werken in projectgroepen).

De introductie van excellentieonderwijs in het Nederlandse hoger onderwijs in de jaren 90 is één van de ontwikkelingen die zorgt voor gedifferentieerd onderwijs. Excellentieonderwijs is bedoeld voor studenten die op zoek zijn naar een uitdaging, naast hun reguliere studieprogramma. Gemotiveerde studenten met beter dan gemiddelde studieprestaties kunnen na een selectieproces deelnemen aan een excellentieprogramma, dat ten opzichte van hun reguliere bachelor of masterprogramma, variëteit biedt in inhoud, vorm en niveau. Dit soort – vaak extra curriculaire – programma’s worden ook honoursprogramma’s, talentprogramma’s, of ‘plus’ programma’s genoemd.

De opkomst van excellentieonderwijs in Nederland hangt samen met de introductie van het bachelor / master system in 2002, het Siriusprogramma (2008 – 2014) van het Ministerie van Onderwijs, Cultuur en Wetenschap (OCW) dat 60 miljoen Euro beschikbaar stelde aan hogeronderwijsinstellingen om excellentieonderwijs te ontwikkelen, en de prestatieafspraken (2013-2016) tussen OCW en hogeronderwijsinstellingen waarin studentenparticipatie aan excellentieonderwijs als indicator voor onderwijskwaliteit werd opgenomen.

Naast excellentieonderwijs kunnen ook het onderwijs verzorgd door University Colleges en in Research masters gezien worden als vormen van onderwijs die zich richten op studenten die meer kunnen of willen dan hetgeen hen wordt aangeboden in het reguliere hoger onderwijs. De toevoeging van deze vormen van onderwijs aan het Nederlandse hogeronderwijsbestel heeft gezorgd voor verandering in de egalitaire aard van het hoger onderwijs. Er is nu meer differentiatie in niveau, vergelijkbaar met – hoewel minder vergaand – verticaal gedifferentieerde hoger onderwijs systemen zoals in het Verenigd Koninkrijk Frankrijk en de Verenigde Staten.

Ondanks dat de overheid hogeronderwijsinstellingen het aanbieden van excellentieonderwijs niet meer financieel ondersteund (zoals wel gedaan in het Siriusprogramma en deels in de prestatieafspraken), zijn de universiteiten en hogescholen – die al excellentieonderwijs aanboden – daarmee doorgedaan. Een aanname op basis van deze constatering is dat studenten en hogeronderwijsinstellingen een meerwaarde zien in het deelnemen aan en aanbieden van excellentieonderwijs. In dit proefschrift wordt deze aanname onderzocht door vier onderzoeksvragen. De eerste twee vragen richten zich op de individuele effecten van excellentieonderwijs, waarbij vooral gelet is op wat studenten en werkgevers denken over de toegevoegde waarde van excellentieonderwijs op de arbeidsmarkt. De laatste twee vragen gaan in op de meerwaarde van excellentieonderwijs – via het proeftuinmechanisme – op het reguliere onderwijs en op de reguliere organisatie van hogeronderwijsinstellingen. Hieronder geef ik een korte samenvatting van de uitkomsten per onderzoeksvraag.

1. Welke type honoursstudenten prefereren welke configuratie van honoursprogramma?

Deze onderzoeksvraag is onderzocht door 259 honoursstudenten via een survey te bevragen. Bovengemiddeld vaardige studenten geven de voorkeur aan selectief en kleinschalig excellentieonderwijs, creatieve studenten zijn geïnteresseerd in multi- of interdisciplinaire vakken, en taakgerichte honoursstudenten zijn geïnteresseerd in disciplinair onderwijs met een studentgerichte benadering. Meer dan de andere typen willen de taakgerichte honoursstudenten dat excellentieonderwijs bijdraagt aan hun employability. Alle honoursstudenten hebben een grote extrinsieke motivatie om deel te nemen aan excellentieonderwijs. Dit betekent dat studenten de perceptie hebben dat het volgen en afronden van excellentieonderwijs hen een voordeel zal geven op de arbeidsmarkt.

2. In welke mate worden internationale ervaring, excellentieonderwijs en bestuurservaring gezien als signalen gerelateerd aan vaardigheden, attributen, of kwalificaties, in wervingsoverwegingen van werkgevers?

Excellentieonderwijs is één van de onderwijskeuzes die studenten kunnen maken tijdens het volgen van hoger onderwijs. Andere keuzes zijn onder andere het opdoen van internationale ervaring (stage of deel van een studie) of deelname aan een bestuur van een aan de hogeronderwijsinstelling geallieerde vereniging. Met deze onderwijskeuzes kunnen studenten hun profiel waarmee ze na afstuderen op de arbeidsmarkt komen differentiëren. Werkgevers (vertegenwoordigd door 21 'recruiters') zijn in interviews gevraagd welke onderwijskeuze – in vergelijking – het meeste voordeel geeft in de wervingsfase en waarom dit zo is. Hoewel de uitkomsten verschillen per sector, geeft een bestuurservaring volgens de werkgevers het meeste voordeel in wervingsoverwegingen. De achterliggende reden voor het voordeel in wervingsoverwegingen – oftewel de mechanismen – verschillen per onderwijskeuzes. Bestuurservaring geeft een voordeel omdat de werkgevers de opgedane vaardigheden waarderen, terwijl zij excellentieonderwijs vaker zien als een indicatie van hoe de persoon is (d.w.z. persoonlijkheidsattributen) en zij waarderen de kwalificatie die honoursstudenten krijgen na afronding van een excellentieprogramma.

3. In welke mate zijn de proeftuinen die voortkomen uit excellentieonderwijs georganiseerd door vijf Nederlandse hogeronderwijsinstellingen, 'structural ambidextrous explorative units' vanuit waaruit onderwijsinnovaties ontstaan?

Literatuur uit de bedrijfskunde stelt dat bedrijven uitbatende ('exploitive') en verkennende ('explorative') functies kunnen hebben. Als er sprake is van een situatie waarin een bedrijf zowel de uitbatende en verkennende functie uitvoert, spreekt men over tweehandige ('ambidextrous') organisaties. Afdelingen die zich in het bijzonder richten op de verkennende functie worden 'structural ambidextrous explorative units' genoemd. Deze afdeling moeten zorgen voor het creëren van innovaties, die indien succesvol een weg kunnen vinden naar de reguliere bedrijfsvoering. Denk bijvoorbeeld aan de ontwikkeling van nieuwe producten en diensten. Dit kader is gebruikt om de proeftuinfunctie van excellentieonderwijs bij vijf hogeronderwijsinstellingen (30 geïnterviewden docenten, beleidsmakers en studenten) te bestuderen. De conclusie is dat excellentieonderwijs inderdaad functioneert als een verkennende afdeling, maar dat deze functie, onder andere door verdere integratie met de reguliere organisatie, kan worden verbeterd zodat er meer uit excellentieonderwijs kan worden gehaald.

4. Wat zijn de uitstralingseffecten, en de voorgaande processen, van excellentieonderwijs bij vijf Nederlandse hogeronderwijsinstellingen?

Om de proeftuinfunctie van excellentieonderwijs nader te onderzoeken zijn de uitstralingseffecten onderzocht bij vijf hogeronderwijsinstellingen (30 geïnterviewden docenten, beleidsmakers en studenten). Wij vonden uitstralingseffecten op onderwijs (bijvoorbeeld in excellentieonderwijs ontwikkelde onderwijsmethoden die in het reguliere onderwijs terecht zijn gekomen), op de organisatie (bijvoorbeeld creatie van nieuwe relatiestructuren) en externe effecten (verhoogde reputatie en zichtbaarheid van de instelling). Terugkijkend op het uitstralingsproces zien we dat dit vooral plaatsvindt via docenten die betrokken zijn bij excellentie en regulier onderwijs. Beleidsinstrumenten zijn zelden specifiek ontworpen om uitstralingseffecten – en voorafgaande proces – te bevorderen.

Wat betreft de individuele uitkomsten van excellentieonderwijs stel ik vast dat zowel studenten als werkgevers excellentieonderwijs zien aan een kwalificatie die voordeel geeft op de arbeidsmarkt. Voor veel studenten is dit aangenomen voordeel een motivatie om deel te nemen aan excellentieonderwijs. En werkgevers gebruiken excellentieonderwijs als kwalificatie om in de wervingfase een eerste schifting te maken van kansrijke sollicitanten, hoewel de mate waarin zij dit doen verschilt per sector en type baan. Let wel, excellentieonderwijs is zeker niet de enige factor die een rol speelt in wervingsoverwegingen van werkgevers. Andere onderwijskeuzes, het reguliere studieprogramma en opgedane werkervaring spelen eveneens – en vaak een grotere – rol.

Ten aanzien van de organisatorische uitkomsten van excellentieonderwijs concludeer ik dat er uitstralingseffecten zichtbaar zijn, bijvoorbeeld in het verspreiden van onderwijsmethoden en concepten. Mede op basis hiervan is de conclusie dat excellentieonderwijs functioneert als een proeftuin voor onderwijsinnovaties. De rol van excellentieonderwijs in het ontwikkelen van hogeronderwijsinstellingen tot lerende organisaties moet echter niet worden overschat. Het aantal innovaties dat wordt uitgestraald en de impact op de organisatie zijn klein. Ik zie een rol voor beleidsinstrumenten om de uitstralingseffecten te laten toenemen.

De uitkomsten van de hierboven beschreven studies hebben verschillende maatschappelijke implicaties. Ten eerste, excellentieonderwijs heeft een link met de employability van deelnemende studenten. Het kan hen een voorsprong geven in de wervingfase; ze krijgen eerder een voet tussen de deur. Dit betekent dat studenten die niet in aanmerking kwamen om excellentie te volgen of wel in aanmerking

kwamen, maar door omstandigheden (bijvoorbeeld door bijbaan) niet konden deelnemen, na afstuderen voor sommige functies op een achterstand staan. De maatschappelijke implicatie is dat toegang tot hoger onderwijs in zekere mate gelijk is (iedereen die zich kwalificeert kan zich inschrijven in het hoger onderwijs), maar dat de uitkomsten van hoger onderwijs (d.w.z. employability), niet voor iedereen gelijk zijn. Hier hangt mee samen dat reeds bekend is dat minder eerste-generatie hoger onderwijs studenten deelnemen aan excellentieonderwijs.

Ten tweede, de constatering dat studenten deelnemen aan excellentieonderwijs met als één van de redenen om zich te onderscheiden van andere studenten, impliceert dat studenten een motivatie hebben om additionele signalen (kennis, vaardigheden, attributen, kwalificaties) op te doen. Indien een meerderheid van studenten deze motivatie voelt, zal de ervaren stress en prestatiedruk in het hoger onderwijs toenemen. De maatschappelijke implicatie is dat het mentale en fysieke welzijn van studenten op systeemniveau aandacht vraagt en gemonitord moet blijven worden.

Ten derde, de opkomst van onderwijsvormen die differentiëren in niveau en daarvoor een vorm van selectie toepassen (naast excellentieonderwijs, ook University Colleges en Research Masters), heeft naast de hierboven beschreven mogelijke gevolgen voor differentiatie in employability en prestatiedruk, implicaties voor de egalitaire aard van het Nederlandse hoger onderwijs. Dit vraagt om nader onderzoek, en tevens om een maatschappelijke reflectie op de wenselijkheid.

Tot slot, de studies in dit proefschrift geven inzicht in de doelmatigheid van excellentieonderwijs. Het volgen en afronden van excellentieonderwijs heeft een individueel employability effect, oftewel er zijn private baten. Immers, studenten wensen dat excellentieonderwijs hen een voordeel geeft op de arbeidsmarkt en de geïnterviewde werkgevers bevestigen dat excellentieonderwijs dit kan hebben. De andere onderzoeken in dit proefschrift richtte zich op de uitkomsten van excellentieonderwijs op de organisatie; de publieke baten. Ik stelde hier vast dat excellentieonderwijs – via de proeftuinfunctie – een beperkte impact heeft op de gehele organisatie en dat er kans is – bijvoorbeeld via het inzetten van gerichte beleidsinstrumenten – om er meer uit te halen. Dit brengt ons op de vraag: zijn de private en publieke investeringen in excellentieonderwijs doelmatigheid? Aan excellentieonderwijs deelnemende studenten en docenten zullen deze vraag wellicht bevestigend beantwoorden, terwijl niet deelnemende studenten en docenten sceptischer zullen zijn over de baten van excellentieonderwijs. Wat in de doelmatigheid ook meegewogen kan worden is de wenselijkheid van de impact op systeemniveau van excellentieonderwijs (bijvoorbeeld de egalitaire aard van het Nederlandse hoger onderwijs). Dit geeft aan dat de doelmatigheidsvraag ook vooral een politieke afweging is.

Samenvattend en terugkijkend op zo'n 30 jaar excellentieonderwijs, is het op zijn plaats om beamen dat excellentieonderwijs en gerelateerde initiatieven een impact hebben gehad op de diversiteit in het onderwijsaanbod van universiteiten en hogescholen. Tevens op individueel niveau heeft excellentieonderwijs impact gerealiseerd. Op organisatie niveau is er gelegenheid om meer uit excellentie te halen. Om meer inzicht te krijgen op de effecten en impact van excellentieonderwijs is het desalniettemin noodzakelijk om meer onderzoek te verrichten, bijvoorbeeld naar de kosten en baten, de onderliggende mechanismen, en feitelijke werkgelegenheidsuitkomsten – ook in vergelijking met andere onderwijskeuzes die studenten kunnen maken.

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EXCELLENCE IN HIGHER EDUCATION

INDIVIDUAL, ORGANISATIONAL AND SOCIETAL OUTCOMES OF EXCELLENCE EDUCATION IN THE NETHERLANDS

Excellence education, in the form of honours, talent or plus programmes, is a relatively new, but broadly adopted, educational form in Dutch higher education. As not much is known about its effects, this dissertation aims to contribute to our understanding in two ways. First, in terms of individual employability related outcomes of excellence education, both from the perspective of participating students and from the perspective of employers. Are students extrinsically motivated to participate? And does excellence education give recent graduates benefits in employers' recruitment considerations?

The second aim relates to organisational effects. To what extent is excellence education a testing ground for education innovations, and to what extent are innovations diffused to the entire higher education institution?

The results show that excellence education does indeed have perceived effects on graduates' employability. With respect to the organisation, some diffusion effects were observed, but more can be gained

